



## Control panel GEA Omni™

## Communication Guide

805050\_5

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# 1 COMMUNICATION INTERFACES

The GEA Omni™ provides a flexible communications interface for integration with supervisory systems not supplied by GEA. The specific addresses of all applicable data points and operating parameters for systems integrator use are shown in the table at the end of this document (Chapter 2, Page 32). Both read and write operations make it possible for a supervisory system to not only monitor the operation of equipment controlled by the GEA Omni™, but also provide the ability to remotely control the equipment while the GEA Omni™ continues to provide independent monitoring of all safety limits, such as pressure and temperature safety limits for protection of the system and its components, like the compressor. If a problem is detected the GEA Omni™ will cause an independent shutdown of the compressor.

Two types of communication interfaces are available for use within a GEA Omni™-based control system: *Ethernet* and *Serial* communications. The following is a listing of each widely-used, industry standard protocol that is supported by the GEA Omni™ for supervisory system communications, making the panel directly compatible with the existing system in almost any plant.

The panel also supports multiple communications protocols simultaneously, so one supervisory system can communicate via EtherNet/IP communications with the GEA Omni while another supervisory system is communicating using Modbus TCP commands, both over the same LAN connection and through the GEA Omni™'s LAN Ethernet port.

Similarly, one supervisory system such as a DCS can communicate with the GEA Omni™ panel through the RS-485 connection using Modbus RTU serial communications protocol while a Rockwell PLC is communicating using EtherNet/IP communications via the GEA Omni™'s LAN Ethernet port.



## Hint!

**In order to write parameters to the GEA Omni™ for a particular device, like a compressor or condenser, a so called viewport parameter must be used to select that particular device before writing the parameter(s). See section for details on the viewport addresses. This function is not supported by Profibus-DP and ProfiNET communication.**

However, multiple connections over the RS-485 connection are not possible, and depending on the panel application, the connection might not be available for the customer.

## Extended data communication (interfaces)

The GEA Omni™ is equipped with a serial RS-485 and an Ethernet interface as a standard.

These interfaces support the following protocols:

1. Modbus TCP
2. EtherNet/IP
3. Modbus RTU
4. Allen-Bradley DF1

The following protocols are optional and make use of a Gateway (interface converter).

1. Profibus-DP
2. ProfiNET

The communication interfaces can be used by the customer to read out the following values:

- All analog values (pressures, temperatures, etc.)
- Remaining timers
- Active warning and shutdown messages

- Status messages
- Changed settings

Furthermore, the package can be remotely controlled by transmitting commands over the network.

1.1 Ethernet

Every GEA Omni™ panel IPC has one 10/100/1000 BaseT Ethernet port (RJ-45 type connector) for connection to a plant Local Area Network (LAN). Each panel has its own user-adjustable IP address, making it possible to connect GEA Omni™ panels into a highly secure, plant-wide managed communications network with multiple types of supervisory systems (PLCs, DCSs, SCADAs, etc.).

Connected to a LAN with proper security and firewall capability, every GEA Omni™ panel can also be made accessible to/from the “outside world” through a secure Internet connection such as a VPN. GEA does not generally provide the expertise needed for this type of network setup. Each user must obtain this support from their local IT Department or from a reputable and experienced IT and networking service.

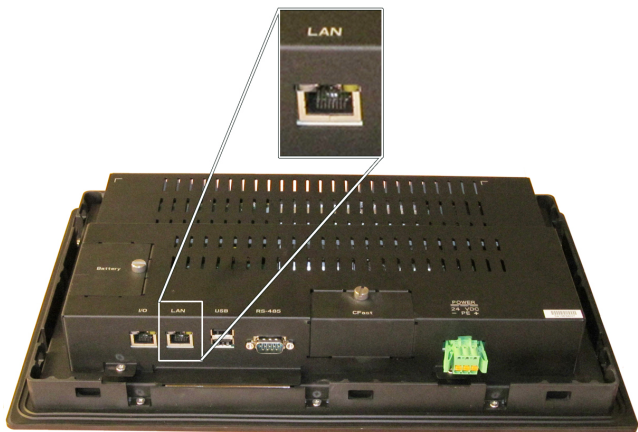


fig.1: Ethernet (LAN) interface for Modbus TCP and EtherNet/IP

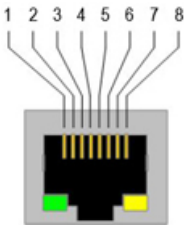


fig.2: Ethernet pin assignment

| Pin | 10BaseT,<br>100BaseTX | 1000BaseT |
|-----|-----------------------|-----------|
| 1   | TX+                   | D1+       |
| 2   | TX-                   | D1-       |
| 3   | RX+                   | D2-       |
| 4   | -                     | D3+       |
| 5   | -                     | D3-       |
| 6   | RX-                   | D2+       |
| 7   | -                     | D4+       |
| 8   | -                     | D4-       |

1.1.1 Modbus TCP

Modbus TCP is a common industrial communication protocol, which is used by various manufacturers of control systems. Using this protocol, the GEA Omni™ can be directly integrated into the Modbus TCP network.

Only the integrated Ethernet port (LAN) provides support for Modbus TCP communication.

The GEA Omni™ acts as a server to communicate with other control devices and as a client to read/write data from other control panels.

The following is a step by step instruction guide on how to connect, poll, and verify valid communications with a GEA Omni™ panel via Modbus using a third party tool called ModScan32. The software can be downloaded at <http://www.win-tech.com/>.

After you’ve finished installing ModScan32, you can connect to the GEA Omni™ device by selecting *Connection* → *Connect* in the menu bar as shown below.

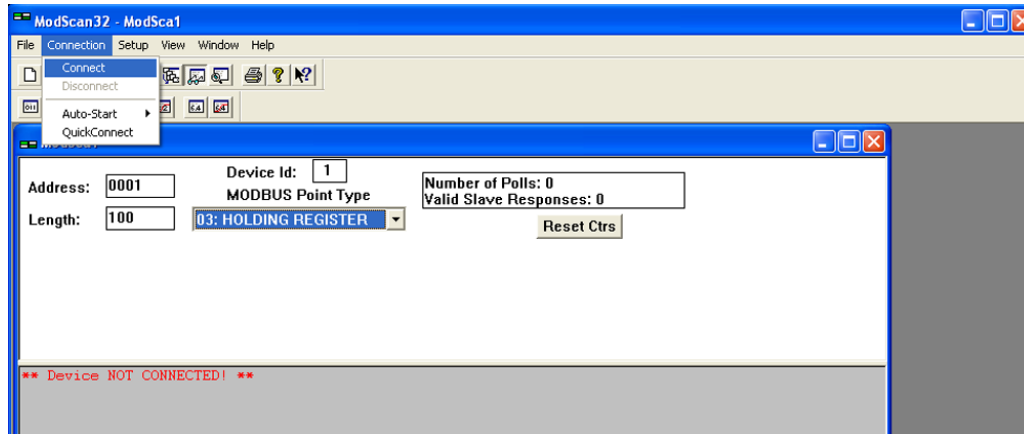


fig.3: Connecting to the GEA Omni™ device

Select *Remote Modbus TCP Server* from the *Connect Using* drop down list. Enter the *IP Address* of the GEA Omni™ panel that you will be connecting to and the *Service Port* should be left at the default (502). Click [OK] to connect.

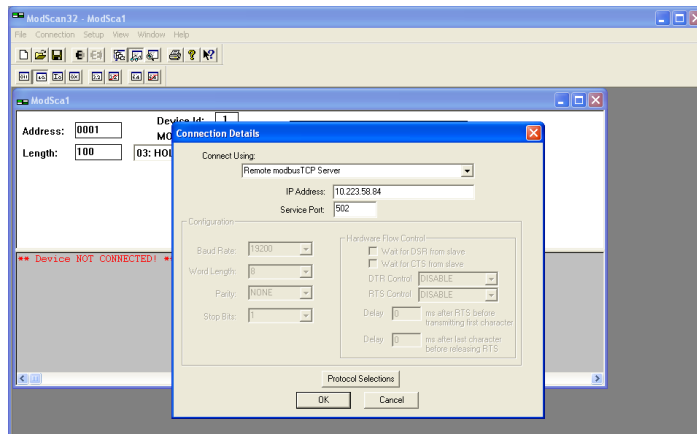


fig.4: The Connection details window

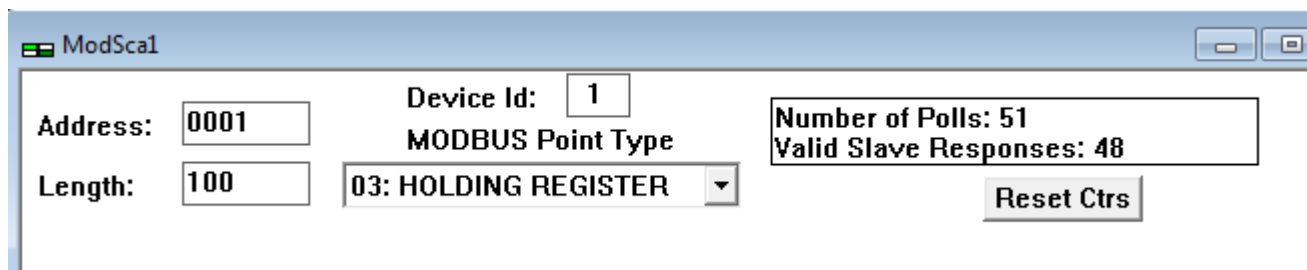


fig.5: The ModScan32 Interface

The numbers received via communication will be scaled based upon how many decimal points they have. For example, a number with 100x scaling, such as 59.59, will be sent as 5959.

The choice of pressure or temperature units used is user adjustable on the GEA Omni™ panel. The GEA Omni™ control panel performs all scaling functions prior to the data being sent over the network based on the units selected in the panel. It is important to note that pressure units which are in a vacuum will be displayed in units that may be different than those expressed as a positive pressure based on the units chosen. The GEA

Omni™ scales and displays all pressures as “Gauge” Pressure. For example: A pressure expressed in PSI units would be displayed as PSI when the pressure is positive and inHg when the pressure is negative (-14.7 PSIA = -29.9 inHg). The proper nomenclature (PSI or inHg) can be determined by analyzing the sign of the value returned.

A 16 bit number without the sign being used is from 0 to  $2^{16}$  power which is 65536 decimal. When the sign is used, the most significant bit is set and the number goes from a negative -32768 to positive +32767 which splits half of the numbers as positive and the other as negative. The following table shows how the numbers change when the number transitions from positive through 0 to become negative. The ‘\$’ symbol below denotes numbers that are entered in hexadecimal.

| Actual Number | Binary Signed | Unsigned Number |
|---------------|---------------|-----------------|
| +32767        | \$7FFF        | 32767           |
| +32766        | \$7FFE        | 32766           |
| ...           | ...           | ...             |
| ...           | ...           | ...             |
| 2             | \$0002        | 2               |
| 1             | \$0001        | 1               |
| 0             | \$0000        | 0               |
| -1            | \$FFFF        | 65535           |
| -2            | \$FFFE        | 65534           |
| ...           | ...           | ...             |
| -6            | \$FFFA        | 65530           |
| ...           | ...           | ...             |
| -32765        | \$8001        | 32769           |
| -32766        | \$8000        | 32768           |

For example:

For a number expressed as -0.6 = communications would convert it to -6 expressed as a signed number which is (\$FFFA) as a signed binary integer. If the number is converted as a 16 bit number (without using the sign) the same \$FFFA = 65530 which is incorrect, i.e. all numbers are signed.



- a. Right Click the ? and select *New Tag*.

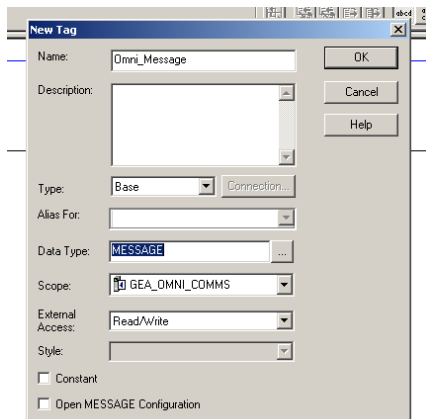


fig.8: Changing an MSG tag name

- b. Name the tag and click *OK*.

4. Click the ellipses on the MSG command to open the message configuration screen.

- a. Select *SLC Typed Read* from the message type drop down list

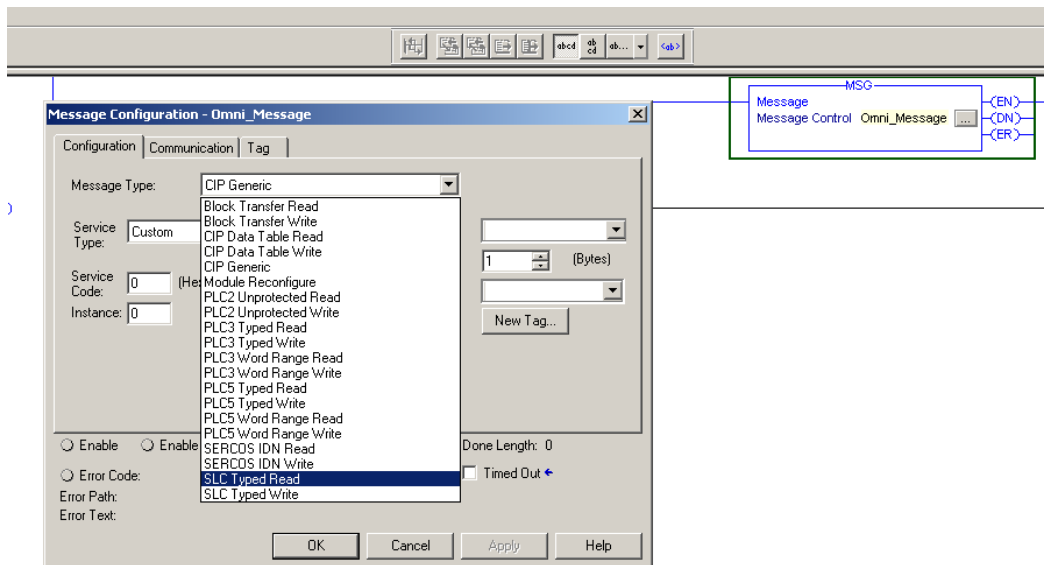


fig.9: Selecting an MSG type

- b. Refer to the GEA Omni™ I/O addressing table to locate the appropriate N address of the desired data. In this example, N106:3 is the address of the compressor control set point.
- c. Set the *Number of Elements* to 1.

- d. Click *New Tag...* to create a new tag that will store the data read from the Omni panel. Tags must be of *DINT* type to receive data from the GEA Omni™ panel.



**Hint!**

If the *Number of Elements* is set to greater than one, the *MSG* command will read sequential addresses from the GEA Omni™ panel. An array tag will be required to store the received data.

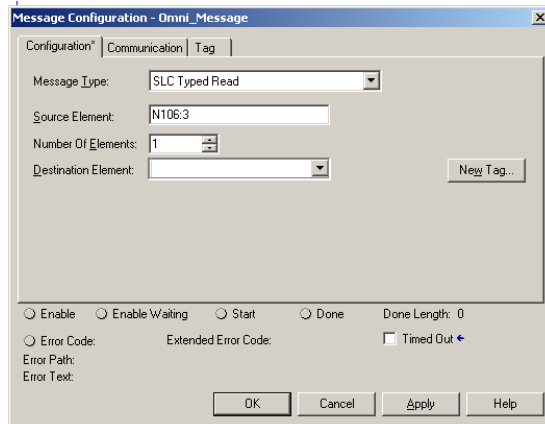


fig.10: The Message Configuration window

- e. Select the *Communication* tab. In the *Path:* field, type [Ethernet module name], 2, [Omni panel IP address].

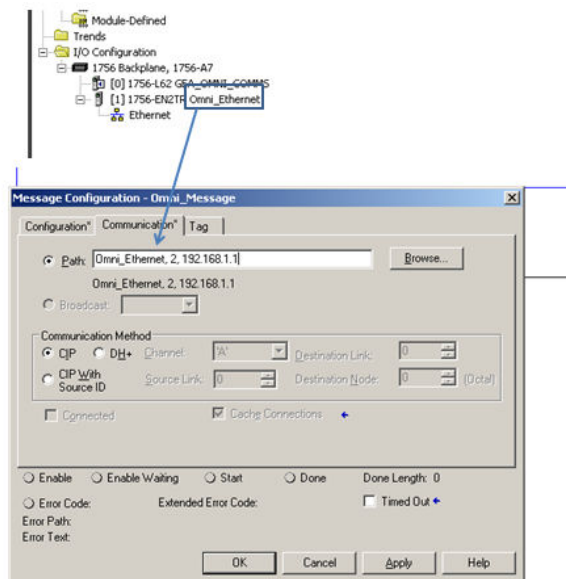


fig.11: Setting the Communication path

5. Click **OK** and download and run the program. The data received from the GEA Omni™ panel should be visible in the tag created for the destination element. The data collected below is from a compressor configured to control on Suction Pressure as Temperature with a set point of 12.5°C.

| Name         | Value | Force Mask | Style   | Data Type | Description |
|--------------|-------|------------|---------|-----------|-------------|
| Omni_Message | {...} | {...}      |         | MESSAGE   |             |
| Omni_Data    | 125   |            | Decimal | DINT      |             |

fig.12: Sample data display

6. To write to a specific address, follow these instructions and select *SLC Typed Write* for the message type.

Message Configuration - Omni\_Message

Configuration | Communication | Tag

Message Type: SLC Typed Write

Source Element: Omni\_Data [New Tag...]

Number Of Elements: 1

Destination Element: N106.3

☐ Enable ☐ Enable/Waiting ☐ Start ☐ Done Done Length: 0

☐ Error Code: Extended Error Code: ☐ Timed Out

Error Path:  
Error Text:

OK Cancel Apply Help

fig.13: Configuring a message to write to a Modbus Address

### 1.1.2.2 Allen-Bradley SLC 5/05 PLC Ethernet Communication Example

1. Open RSLogix 500 and create a new project.
2. Add an new MSG instruction to a rung for *Read/Write Message*. Set the following properties:
  - *Type* to *Peer-To-Peer*,
  - *Read/Write* to desired function,
  - *Target Device* to *500CPU*,
  - *Local/Remote* to *Local*,
  - *Control Block* to the desired file number to hold message status data.

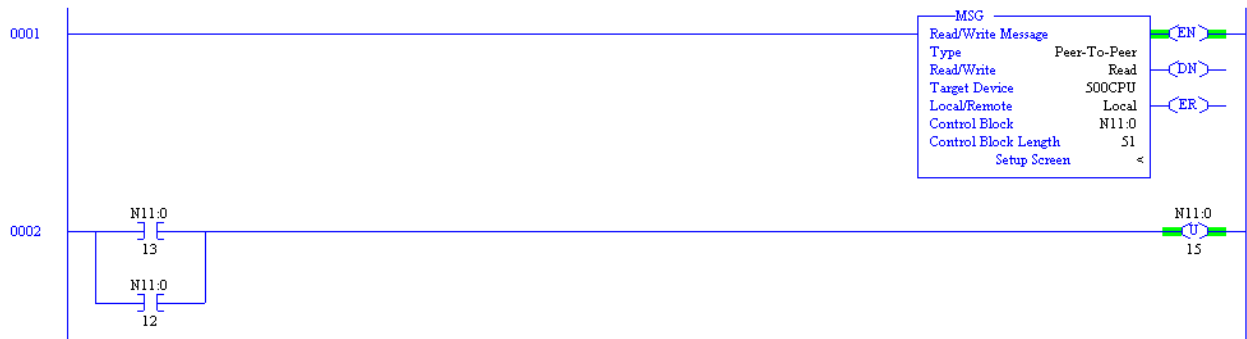


fig.14: Adding an MSG instruction rung

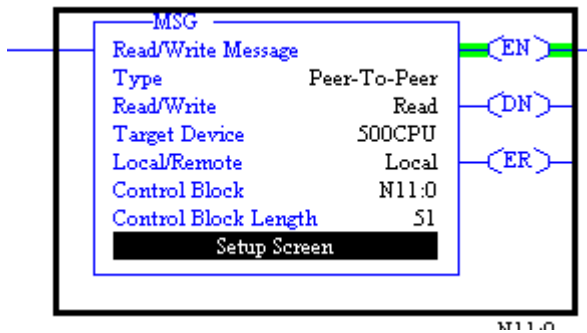


fig.15: Read/Write message properties

3. Click the *Setup Screen* and set the following:
  - *Data Table Address* to the desired address to store the data in the PLC,
  - *Size in Elements* to the number of data values to read/write,
  - *Channel* to *1*,
  - *Message Timeout* to the desired timeout,
  - *Data Table Address* to the address to read/write in the GEA Omni™,
  - *Ethernet (IP) Address* to the IP Address of the GEA Omni™,

- *MultiHop*’ to *No*.

The address definitions can be found in in the *Data Addresses* table (Chapter 2, Page 32).

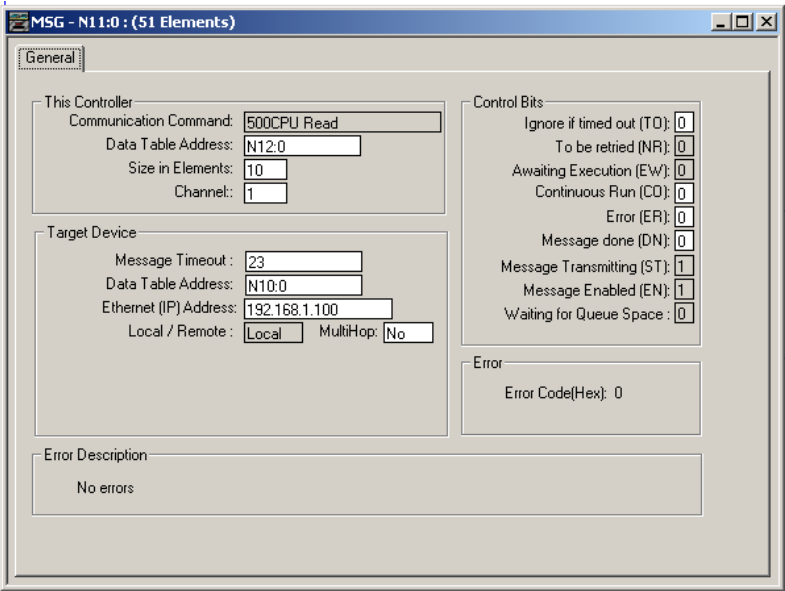


fig.16: MSG Setup Screen

1.1.2.3 Allen-Bradley FactoryTalk View Ethernet Communication Example

Setup and Configuration of software as tested:

|                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Allen Bradley Software Factory Talk Studio Me | Revision - 6.10                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Allen Bradley RSLinx Classic                  | Revision - 2.59.01                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Desktop Computer IP address                   | 192.168.1.101 (Wired Ethernet port activated)                                                                                                                                                                                                                                                                                                                                                                                                                               |
| GEA Omni™ IP Address                          | <div>192.168.1.1</div> <div><ul style="list-style-type: none"><li>• GEA Omni™ panel is viewed as a SLC 505 product using AB Ethernet format.</li><li>• Reference the Omni panel Ethernet IP addressing instructions below</li><li>• Testing per FactoryTalk Studio ME, FactoryTalk Studio SE software may be similar in design in OPC creation using RSLinx Classic</li><li>• Ethernet Subnet Mask must be similar between GEA Omni™ panels and workstation</li></ul></div> |

1. Open or create a new FactoryTalk View project.
2. Add an OPC Server to the project
  - a. Right Click Project Name.
  - b. Select *Add New Server* → *OPC Data Server...*

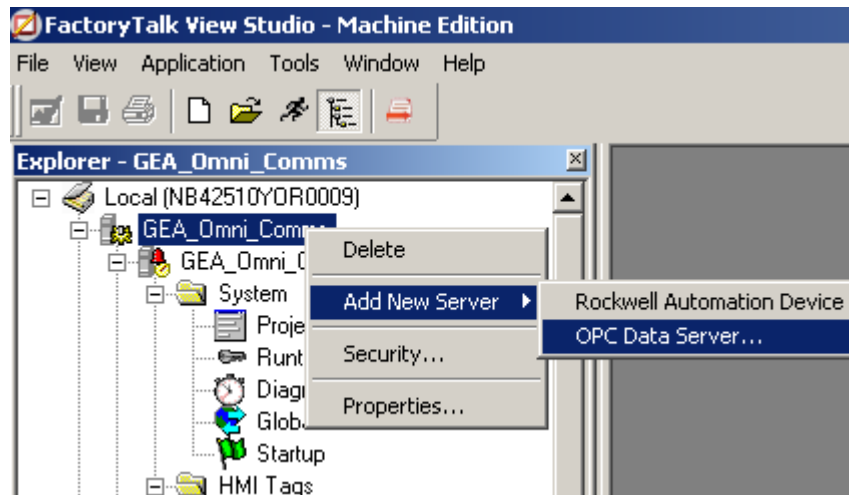


fig.17: Adding an OPC Server

- c. Configure the server with a name and the following settings:

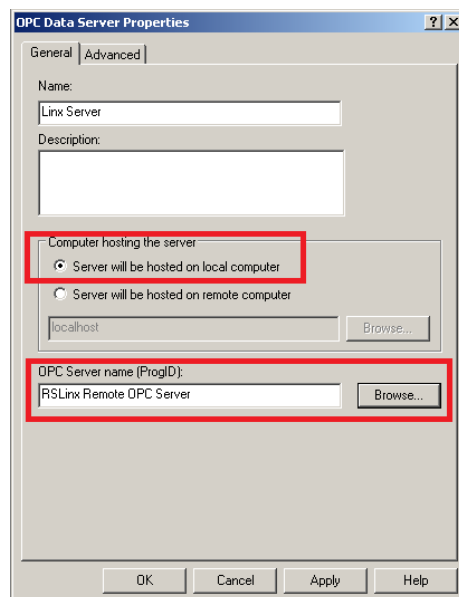


fig.18: Configuring a Server

- d. Click *OK*.

- e. Verify the Server has been created in the project explorer.

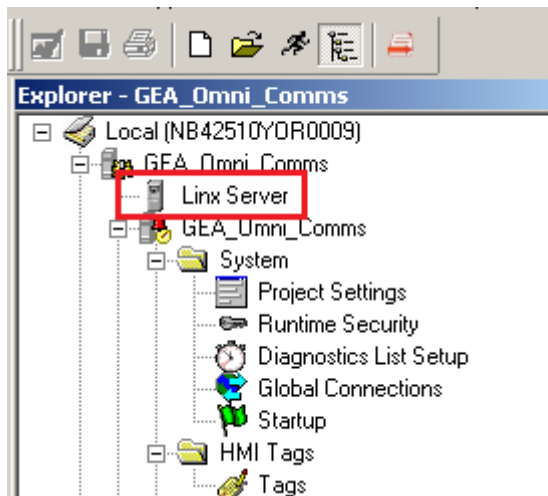


fig.19: Verifying the server has been created

3. Open RSLinx Classic.
4. Configure a new ethernet driver.
  - a. Open the *Communications* drop down list and select *Configure Drivers....*

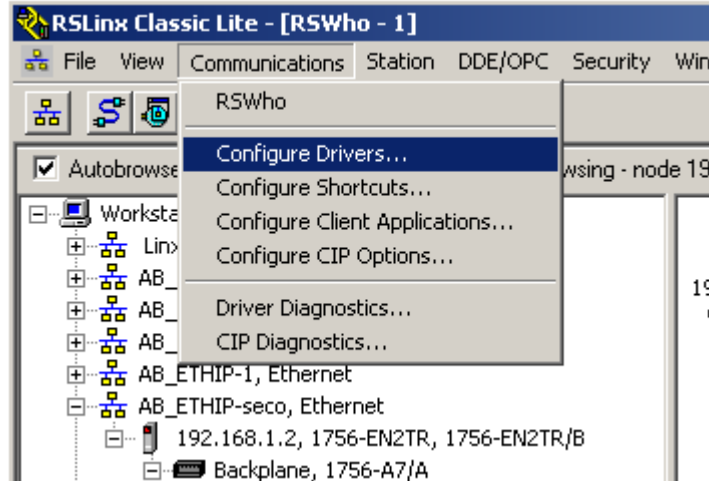


fig.20: Accessing the Configure Drivers options

- b. Select *Ethernet devices* from the pull down menu and select *Add New...*

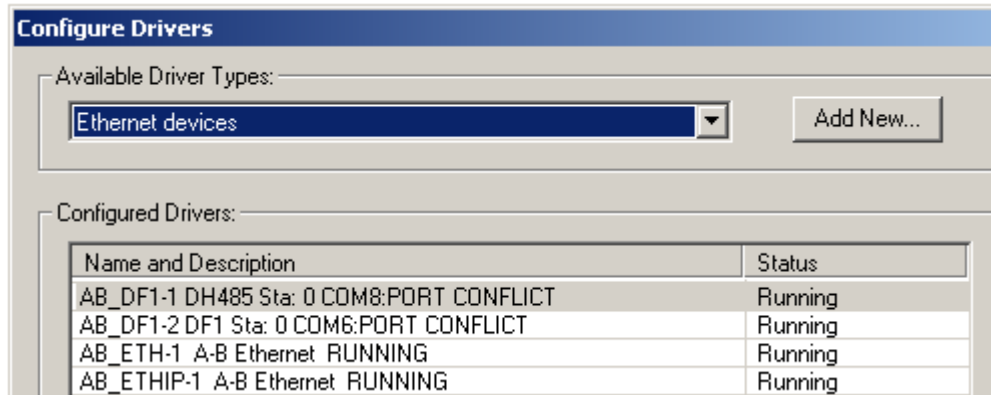


fig.21: Adding a new Ethernet Device

- c. Give the driver a name and click *OK*.

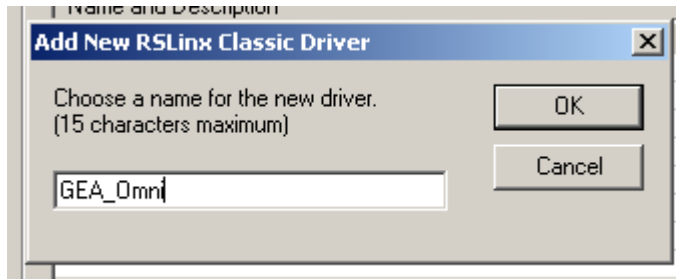


fig.22: Naming the driver

- d. Enter the IP Address of the GEA Omni™ panel. Click *OK*.

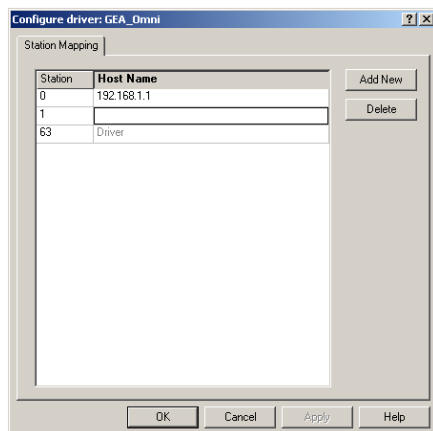


fig.23: Entering the driver IP address

- e. Verify the driver has been created by locating the GEA Omni™ panel in RSWho.

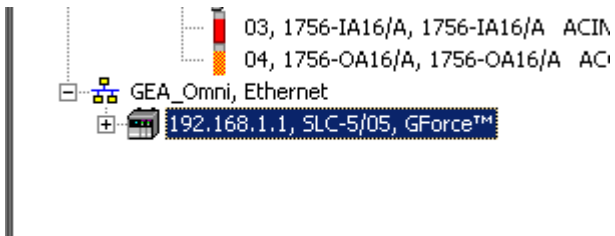


fig.24: Verifying the driver has been created

5. Create an OPC Topic in RSLinx Classic.

- a. In the *DDE/OPC* drop down list, select *Topic Configuration*.

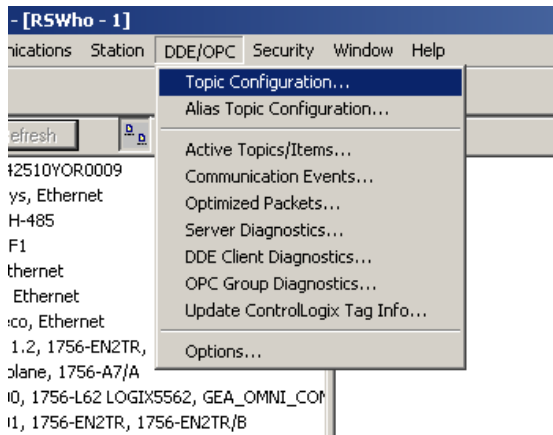


fig.25: Accessing the 'Topic Configuration' options

- b. Select the GEA Omni™ panel from the Data Source.
- c. Click *New*.
- d. Name the Topic and click *Yes* when asked to update the topic.



**Hint!**

**This name will be used to address the panel in FactoryTalk View.**

- e. When properly set up, the GEA Omni™ panel should be highlighted when the topic is selected.

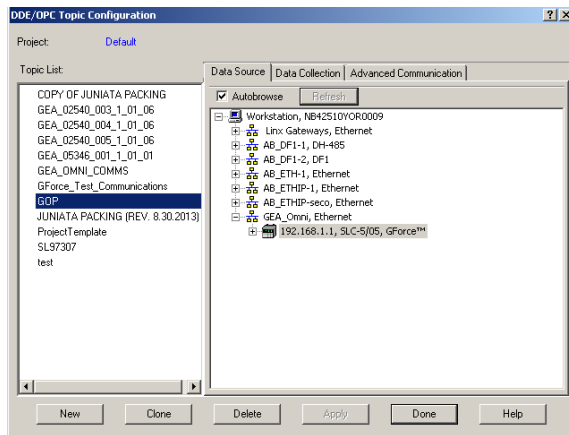


fig.26: Verifying the topic is properly configured

- f. RSLinx/OPC Server setup is complete.
6. Read data from GEA Omni™ panel from FactoryTalk View.
  7. Return to FactoryTalk View.
    - a. At this point a working knowledge of FactoryTalk Studio is assumed. For help on creating a FactoryTalk View project, refer to Allen Bradley document viewme-um004\_-en-e.
    - b. Create a display with a numeric indicator.
    - c. Open the *Connections* tab of the *Numeric Display properties* box.
    - d. Reference the I/O addressing table for the N address of the desired data. This example is reading N106:3, the control set point of the compressor.
    - e. In the Tag/Expression field for the Numeric Display Value, enter "{::[Name of OPC Topic Created Previously]N address of required data}".

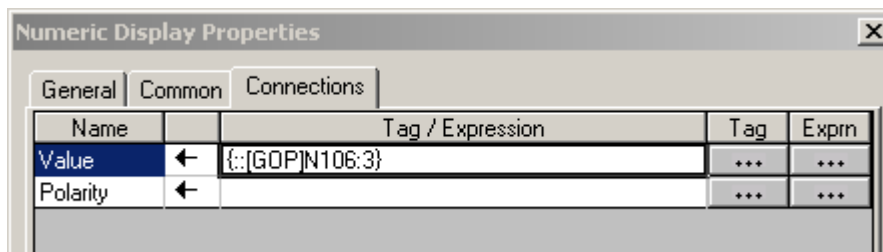


fig.27: Configuring the FactoryTalk numeric display

- f. Close the *Numeric Display Properties* box.
- g. Test the connection by pressing the play button in FactoryTalk View Studio.

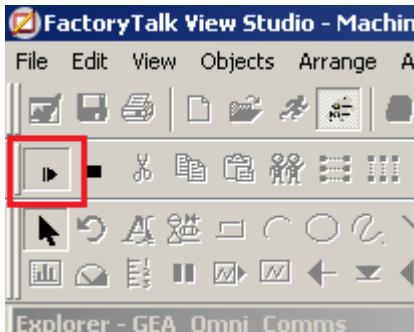


fig.28: Testing the FactoryTalk connection

The numeric display should display the data read from the GEA Omni™ panel.

In this example, the data being read is the control set point of a compressor configured to control on Suction Pressure as Temperature with a set point of 3.2°C.

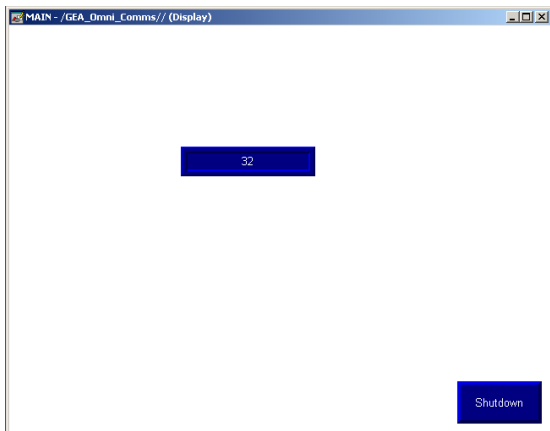


fig.29: Sample numeric display

### 1.1.3 ProfiNET

ProfiNET is the successor of Profibus using Ethernet technology instead of serial technology for communication. Using this protocol, the GEA Omni™ can be integrated into the ProfiNET network via a gateway.



#### Hint!

**To set up a network with ProfiNET, all users must be connected to each other with a Ethernet cable.**

The notes in the "Communication interfaces" (Chapter 1, Page 7) must be noted and observed regarding the connectors and data. A gateway is installed for the ProfiNET link. The gateway behaves like a ProfiNET server (I/O device) at the customer end. An additional feature of the ProfiNET application is the advantage of freely selectable bus addresses, the transmission speed and other ProfiNET settings, which are transferred from the ProfiNET client (controller) to the gateway.



#### Hint!

**The GSDML file provided by the manufacturer is to be used in the project planning.**

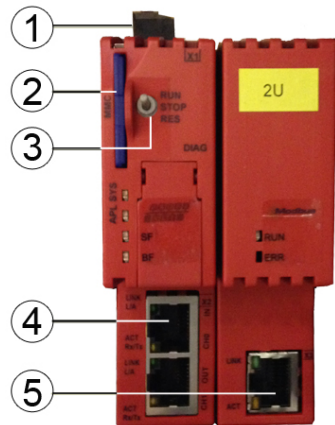


fig.30: Example of a ProfiNET Gateway

|   |                                                                                        |
|---|----------------------------------------------------------------------------------------|
| 1 | Voltage: 24 VDC                                                                        |
| 2 | MMC, SD slot                                                                           |
| 3 | Operating mode (RUN must be active)                                                    |
| 4 | ProfiNET connection to the customer (female)                                           |
| 5 | Connection to the I/O interface of the GEA Omni™ (see electrical drawings for details) |

To connect to the gateway a special ProfiNET connector must be used. This connector is supplied with the gateway if the option ProfiNET communication is chosen.

1.2 Serial

There are many supervisory systems in existence that are based only on serial communications and do not have Ethernet communications capability. For these systems, the GEA Omni™ provides compatibility through an RS-485 connector on the IPC. Modbus RTU and Allen-Bradley DF1 are available through this port for the required communications.

One typical example of an application using the RS-485 connection is the use of this same RS-485 port for direct communications between a GEA Omni™ panel on a compressor skid and the compressor’s Benshaw Motor Starter. This method of connecting to the motor starter, in addition to the normal hard-wired start/stop signals for the compressor and oil pump motors, is superior for monitoring actual motor voltages, currents, and power usage as well as motor speed in variable-speed applications, and for monitoring and managing warnings and shutdowns generated by the starter.

The RS-485 connection may also be used for direct communication between a GEA Omni™ panel on a reciprocating compressor package and a Thermomaster for monitoring each individual cylinder head temperature.



Hint!

Communicating with a Benshaw Starter or Thermomaster and with a supervisory system at the same time via this RS-485 connection is NOT possible. When communicating with a supervisory system, the GEA Omni™ must always be a server; however, when communicating with the Benshaw Starter or Thermomaster the GEA Omni™ must be acting as a client, which will cause conflicts on the RS-485 network if used for both at the same time.

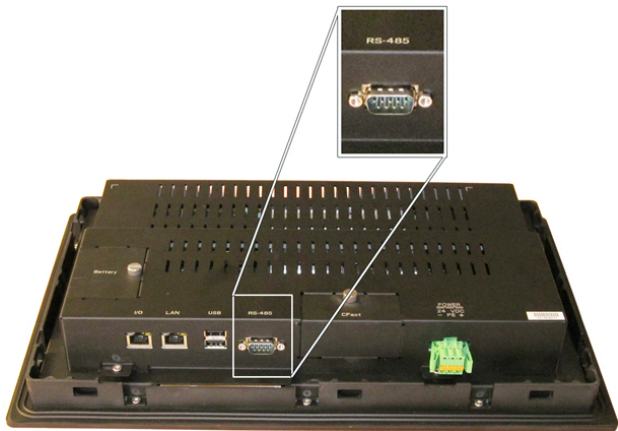


fig.31: RS-485 interface for Modbus RTU, Allen-Bradley DF1, Benshaw motor starter and Thermomaster

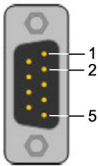


fig.32: RS-485 pin assignment

|   |                               |
|---|-------------------------------|
| 1 | DATA-, Transmit data negative |
| 2 | DATA+, Transmit data positive |
| 5 | GND, Ground                   |

## 1.2.1 Modbus RTU

Modbus RTU is a widely used protocol. Using this protocol, the GEA Omni™ can be directly integrated into a Modbus RTU network.

To set up a network with Modbus RTU, all the users must be connected to each other with a bus cable.

Only the integrated port type Type DE9 (D-SUB 9-pin, RS-485) is supported for the Modbus communication.

Data transmission is effected by means of a Modbus RTU connection with the GEA Omni™ acting as the Modbus RTU server.

Serial communication settings are adjustable via the GEA Omni™ panel.

GEA Omni™, acting as a Modbus RTU server, is only possible when no Benshaw motor starter or Thermomaster communication is used.

### 1.2.1.1 Benshaw Motor Starter

GEA Omni™, acting as a Modbus RTU client, can control Benshaw motor starters via Modbus RTU RS-485 communication.

The control will handle starting, stopping and the variable speed control of the motor, if applicable.

The control can also view and modify internal motor starter parameters.

### 1.2.1.2 Thermomaster

GEA Omni™ includes the Thermomaster functionality for GEA reciprocating compressors.

The Thermomaster I/O box must be ordered with Modbus RTU RS-485 communication, so it can be connected to the GEA Omni™ directly.

The control will handle monitoring of all cylinder head temperatures and shutdown of the compressor motor to protect the reciprocating compressor for high cylinder head temperatures caused by running outside the field of application. In this way damage can be prevented or limited to a minimum. The shutdown value can be set for each cylinder individually.

### 1.2.1.3 Modbus RTU Communication Example

The following example will demonstrate how interface with the GEA Omni™ panel via Modbus using a Modbus Master utility such as ModScan, ModPoll, or any other similar program.

1. Configure the GEA Omni™ Panel for Modbus RTU serial communications.
  - a. Choose the *Panel Settings* tab on the left side of the screen.
  - b. Choose the *Network* tab on the top of the screen.

- c. Select the desired Modbus network settings.

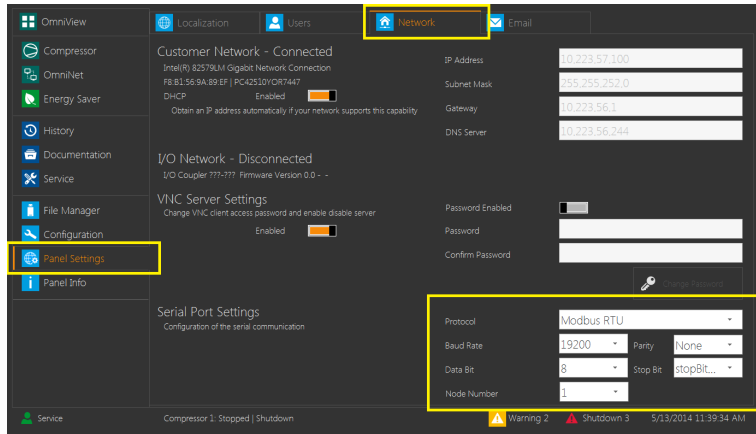


fig.33: Configuring the GEA Omni for Modbus RTU communication

2. Open the Modbus polling utility (ModScan32 in this example).
3. Set the device ID to match the GEA Omni™ panel's *Node Number*.
4. Configure the polling utility to read holding registers.

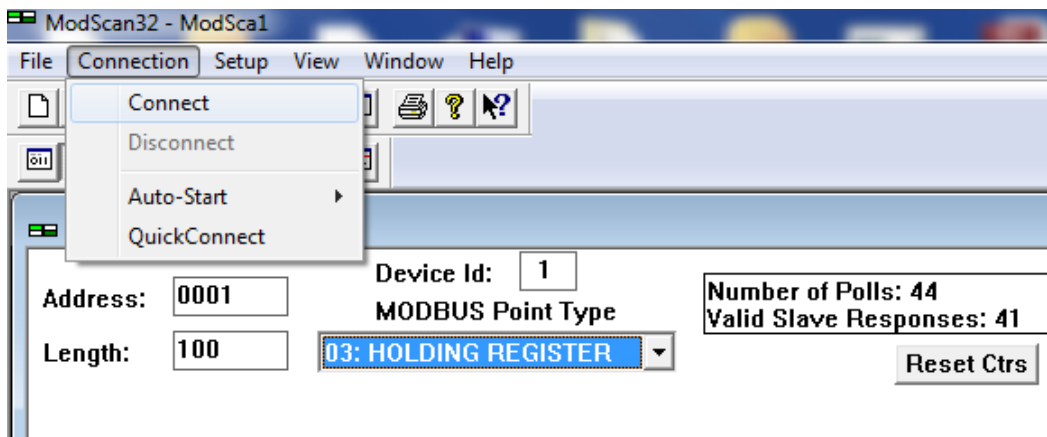


fig.34: Connecting the Modbus polling utility to the GEA Omni

5. Select *Connection* → *Connect*.

6. Configure the connection to match the GEA Omni™ panel's serial network settings and click OK.

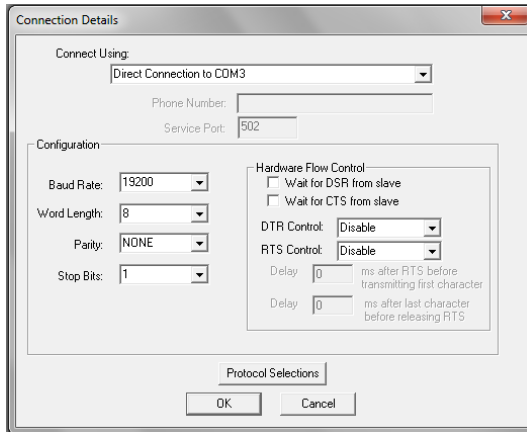


fig.35: The Connection Details window

7. If successful, the Modbus polling utility should begin to read data from the GEA Omni™ panel. Registers 40027, 40028, and 40029 are the Hours, Minutes, and Seconds of the panel's internal clock. These can be used to quickly determine a successful connection.

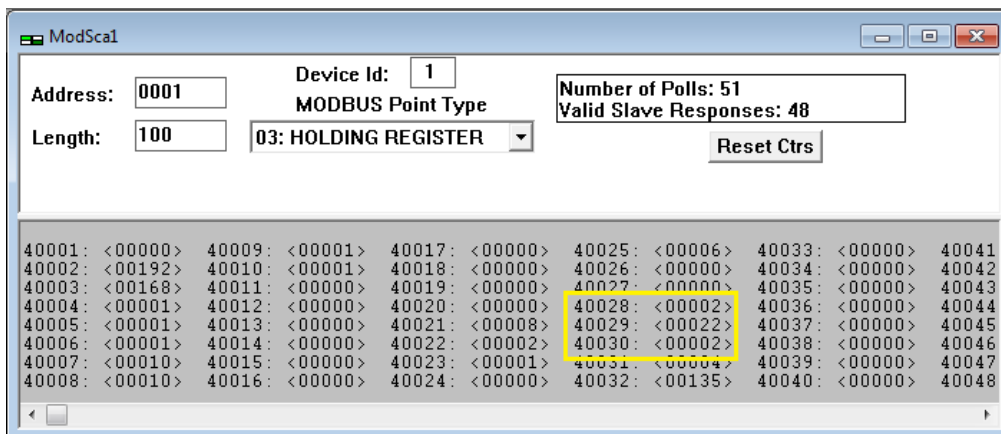


fig.36: Verifying a successful connection

## 1.2.2 Allen-Bradley DF1

GEA Omni™, acting as an Allen-Bradley DF1 server, is only possible when no Modbus RTU communication is used.

GEA Omni™ panels can connect as a server on an RS-485, Allen-Bradley DF1 network.

The controlling devices on this network can command the GEA Omni™ panel to control the connected compressors/systems.

Serial communication settings are adjustable via the GEA Omni™ panel.

### 1.2.2.1 Allen-Bradley ControlLogix PLC DF-1 Messaging Communication Example

1. Configure the GEA Omni™ panel's serial port for DF-1 Communications.
  - a. Go to *Panel Settings* → *Network*.
  - b. Set *Protocol* to *Allen Bradley DF1*. Configure the serial port settings to match your application/ network requirements.

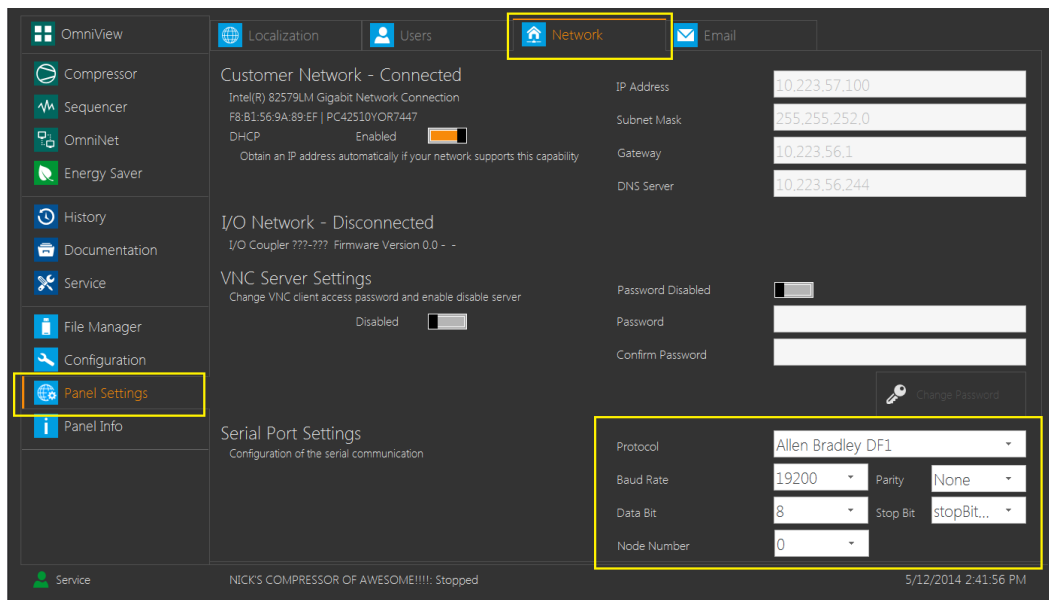


fig.37: Configuring the GEA Omni™ for DF-1 communication

2. Open or create an RSLogix5000 program.
3. Open the processor properties window.

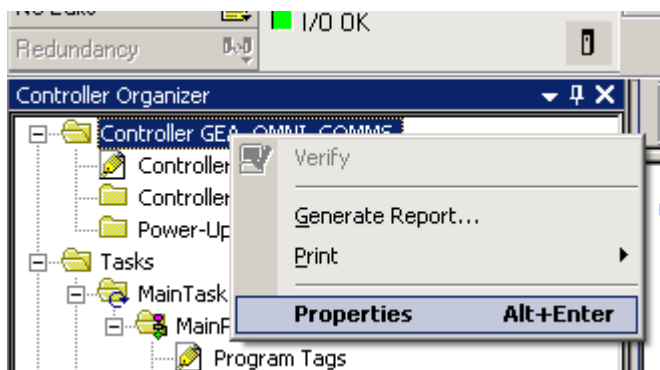


fig.38: Accessing the processor properties

4. Click the *Serial Port* tab. *Mode* must be set to *System*. Configure the baud rate, data bits, parity, and stop bits to match the GEA Omni™ panel's configuration. Leave the rest of the options as default.

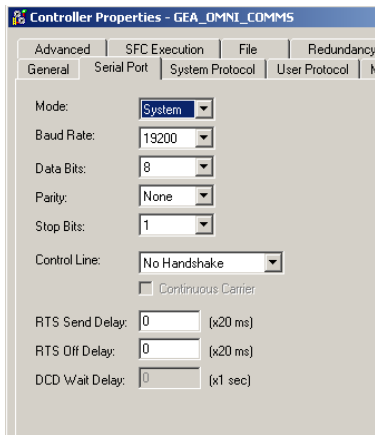


fig.39: Configuring the 'Serial Port' properties

5. Click the *System Protocol* tab. Protocol must be set to *DF1 Point to Point*. Ensure the GEA Omni™ panel's *Node Address* and the Processor's *Station Address* are not the same.

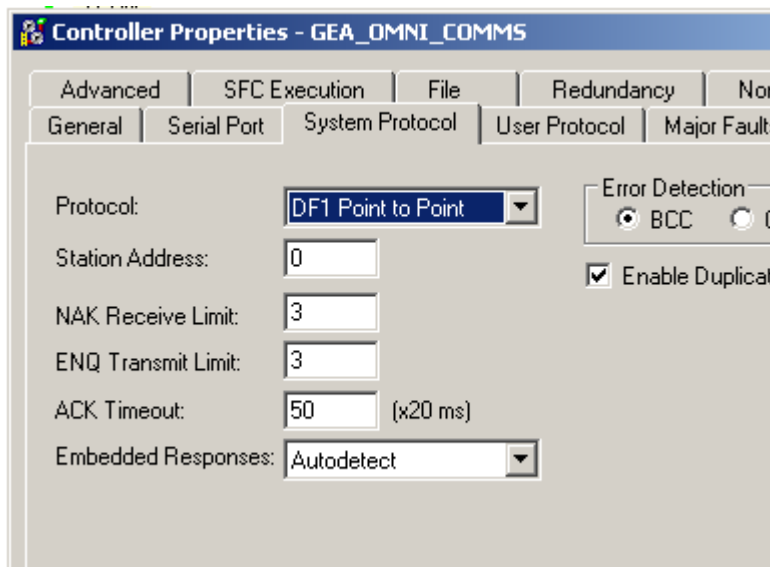


fig.40: Configuring the 'System Protocol' properties

6. Refer to Ethernet Messaging example (Section 1.1.2.1, Page 11) for inserting a MSG command into the ladder logic.
7. Configure the MSG command as in the Ethernet Messaging example (Section 1.1.2.1, Page 11), with the following exceptions:
  - a. The *Source Element* must be of type *INT*.

- b. The Path must be configured with the following setting 2, [Omni Panel Node Address].

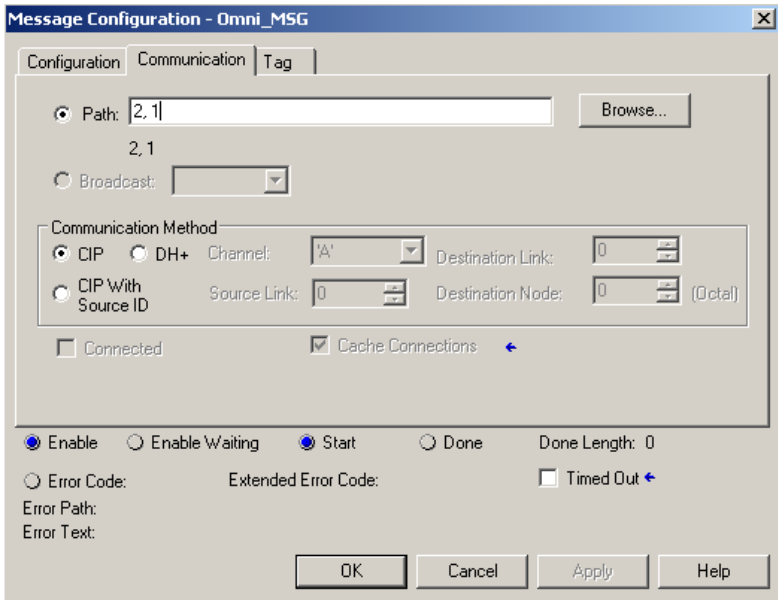


fig.41: Configuring the communication path for DF-1

- 8. Follow the rest of the Ethernet Messaging example to download and verify communications.

### 1.2.3 Profibus DP

Profibus DP is a bus system developed by Siemens. Using this protocol, the GEA Omni™ can be integrated into the Profibus DP network via a gateway.



#### Hint!

**To set up a network with Profibus DP, all users must be connected to each other with a bus cable.**

The notes in the "Communication interfaces" (Chapter 1, Page 7) must be noted and observed regarding the connectors and data. A gateway is installed for the Profibus DP link. The gateway behaves like a Profibus DP server at the customer end. An additional feature of the Profibus DP application is the advantage of freely selectable bus addresses. The transmission speed and other Profibus DP settings are transferred from the Profibus DP client (supplied by the customer) to the gateway.



#### Hint!

**The GSD file provided by the manufacturer is to be used in the project planning.**

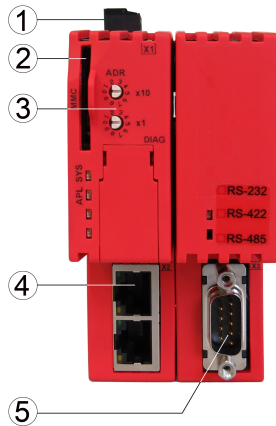


fig.42: Example of a Profibus DP Gateway

|                                                                                  |                                                                                |
|----------------------------------------------------------------------------------|--------------------------------------------------------------------------------|
| 1 Voltage: 24 VDC                                                                |                                                                                |
| 2 MMC, SD slot                                                                   |                                                                                |
| 3 Bus address configuration                                                      |                                                                                |
| 4 Connection to the I/O interface of the GEA Omni™ (see el.drawings for details) |                                                                                |
| 5 Profibus DP connection to the customer (female)                                |                                                                                |
|                                                                                  | 3 Rx/ Tx+ Receive/ Transmit data positive                                      |
|                                                                                  | 4 CNTR-P Control signal for repeater (direction control)                       |
|                                                                                  | 5 ISO GND Data ground                                                          |
|                                                                                  | 6 VP Power supply positive 5V for terminating resistor. Maximum current 100 mA |
|                                                                                  | 8 Rx/Tx- Receive/ Transmit data negative<br>Metal shield on PE                 |

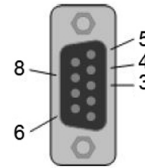


fig.43: Profibus DP pin assignment

To connect to the gateway a special Profibus DP connector must be used. This connector is supplied with the gateway if the option Profibus DP communication is chosen.

## 2 DATA ADDRESSES

### 2.1 Signal Coupling Profibus DP and ProfiNET

The data exchange between the local GEA Omni™ control devices and the primary control system is performed according to Profibus-DP-Master-Slave-procedure with the GEA Omni™ control devices acting as the slave's or ProfiNET - Client - Server - procedure in case of ProfiNET.

For the Profibus DP- and ProfiNET-coupling, the following tables show the prescribed data structures of the coupling signals as well as the protocol structure to be used.

The GEA Omni™ Slave/ Server provides words / Bytes for the Master/ Client can receive words / Bytes from the Master/ Client.

| Explanation of the series description in all following tables |                                 |                                                                                 |
|---------------------------------------------------------------|---------------------------------|---------------------------------------------------------------------------------|
| Series                                                        | is standing for ...             |                                                                                 |
| SP1                                                           | Single stage packages           | GEA Grasso SP1                                                                  |
|                                                               | Single stage chiller            | GEA Grasso BluAstrum<br>GEA Grasso BluAir<br>GEA Grasso FX P                    |
| SP2                                                           | Two stage packages              | GEA Grasso SP2                                                                  |
| SPduo                                                         | DuoPack packages                | GEA Grasso SPduo                                                                |
|                                                               | DuoPack chiller<br>DualPackages | GEA Grasso FX P duo                                                             |
| RC1                                                           | Single stage packages           | GEA Grasso 1RC Packages                                                         |
|                                                               | Single stage chiller            | GEA Grasso Ingenium compact plus<br>GEA Grasso BluGenium<br>GEA Grasso FX GC PP |
| RC2                                                           | Two stage packages              | GEA Grasso 2RC Packages                                                         |
| RCduo                                                         | DuoPack packages                | GEA Grasso RCduo Packages                                                       |
|                                                               | DuoPack chiller<br>DualPackages | GEA Grasso FX GC PP duo                                                         |

SP: package/ chiller with screw compressor(s)

RC: package/ chiller with reciprocating compressor(s)

| Series       |       | GEA Omni™ to Master/ Client | GEA Omni™ from Master/ Client |
|--------------|-------|-----------------------------|-------------------------------|
| SP1/ 1RC     | Words | 80                          | 8                             |
|              | Bytes | 160                         | 16                            |
| SP2/ 2RC     | Words | 120                         | 8                             |
|              | Bytes | 240                         | 16                            |
| SPduo/ RCduo | Words | 120                         | 8                             |
|              | Bytes | 240                         | 16                            |

SP: package/ chiller with screw compressor(s)

RC: package/ chiller with reciprocating compressor(s)

#### Profibus DP Protocol structure

Data transmission is carried out by means of a Profibus DP-Master-Slave-connection, with the GEA Omni™ control acting as the slave.

The customer is free to select the slave's address. This address must be set on the Profibus Gateway using a DIL-switch.

The bus settings for communication between the master and slave can also be freely selected.

The maximum communication speed of the Profibus Gateway is 12 Mbit/s.

#### ProfiNET Protocol structure

Data transmission is carried out by means of a ProfiNET-Client-Server-connection, with the GEA Omni™ control acting as the server.

The customer is free to select the server IP address. This address is configured and transferred by the client.



#### Hint!

The addresses can be freely selected and are specified with the Profibus DP master or ProfiNET client configuration. The table shows a possible configuration.

| SP1 - Standard configuration for Profibus DP/ ProfiNET Gateway (Profibus DP/ ProfiNET master/ client side): |        |                                   |           |           |
|-------------------------------------------------------------------------------------------------------------|--------|-----------------------------------|-----------|-----------|
| Slot                                                                                                        | DP ID* | Description                       | I address | O address |
| 1                                                                                                           | 175    | 16 Byte OUT (output consistently) | --        | 0 ... 15  |
| 2                                                                                                           | 64     | 32 Byte IN (input consistently)   | 0 ... 31  | --        |
| 3                                                                                                           | 64     | 32 Byte IN (input consistently)   | 32 ... 63 | --        |

**SP1 - Standard configuration for Profibus DP/ ProfiNET Gateway (Profibus DP/ ProfiNET master/ client side):**

| Slot | DP ID* | Description                     | I address   | O address |
|------|--------|---------------------------------|-------------|-----------|
| 4    | 64     | 32 Byte IN (input consistently) | 64 ... 95   | --        |
| 5    | 64     | 32 Byte IN (input consistently) | 96 ... 127  | --        |
| 6    | 64     | 32 Byte IN (input consistently) | 128 ... 159 | --        |

\* for Profibus DP only

**SP2 / SPduo - Standard configuration for Profibus DP/ ProfiNET Gateway (Profibus DP/ ProfiNET master/ client side):**

| Slot | DP ID* | Description                       | I address   | O address |
|------|--------|-----------------------------------|-------------|-----------|
| 1    | 175    | 16 Byte OUT (output consistently) | --          | 0 ... 15  |
| 2    | 64     | 32 Byte IN (input consistently)   | 0 ... 31    | --        |
| 3    | 64     | 32 Byte IN (input consistently)   | 32 ... 63   | --        |
| 4    | 64     | 32 Byte IN (input consistently)   | 64 ... 95   | --        |
| 5    | 64     | 32 Byte IN (input consistently)   | 96 ... 127  | --        |
| 6    | 64     | 32 Byte IN (input consistently)   | 128 ... 159 | --        |
| 7    | 64     | 32 Byte IN (input consistently)   | 160 ... 191 | --        |
| 8    | 64     | 32 Byte IN (input consistently)   | 192 ... 223 | --        |
| 9    | 159    | 16 Byte IN (input consistently)   | 224 ... 239 | --        |

\* for Profibus DP only

**Hint!**

Further information on the Gateway can be found in the manual, which is included with the control documentation. Changes within the master/ client configuration will be activated as soon as the Gateway has been switched OFF and ON again!

### 2.1.1 Data word structure

| Profibus data word structure |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Bit No                       | 15 | 14 | 13 | 12 | 11 | 10 | 9  | 8  | 7  | 6  | 5  | 4  | 3  | 2  | 1  | 0  |
| Low Byte<br>"n"              | .7 | .6 | .5 | .4 | .3 | .2 | .1 | .0 |    |    |    |    |    |    |    |    |
| High Byte<br>"n + 1"         |    |    |    |    |    |    |    |    | .7 | .6 | .5 | .4 | .3 | .2 | .1 | .0 |

### 2.1.2 Explanation of the "Life bit"

To detect communication failures between master/ client and slave/ server two life bits are sent by the GEA Omni (slave/ server to the master/ client).

**The 1<sup>st</sup> life bit** is sent into the **system data word** of "Transmitted Data to Master/ Client". This bit is the inverted life bit, sent by the GEA Omni to the master/ client.

This life bit is synchronised with the communication.

It is blinking only, if the master active returns a 1 to 1 copy of the life bit received from the GEA Omni.

The GEA Omni inverts this bit again and returns it to the master/ client.

As soon as the life bit does not return to the slave/ server (e.g. cable disconnected or master/ client in stop), a communication failure is activated on the slave/ server.



#### Hint!

**This procedure is activated only if an operation mode is selected, at which the GEA Omni has to react to signals from the master/ client control.**

**Otherwise, the 1<sup>st</sup> life bit is *not* evaluated by the GEA Omni and an existing communication failure will *not* be displayed!**

**The 2<sup>nd</sup> life bit** sent into the **system data word** of "Transmitted Data to Master/ Client" consists of a pulsating bit with a slow frequency.

This life bit is **not** synchronised with the communication.

The master/ client, reading data only without returning data to the slave/ server, can evaluate this bit.

### 2.1.3 Received data from Master/ Client



#### Hint!

**Please see tables on next pages.**

| Received data from Master/ Client (1 - 8) - Address offset<br>If no units are transferred to the GEA Omni, default units of GEA Omni will be used. |                               |                       |                                     |     |     |       |     |     |       |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|-----------------------|-------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Received word                                                                                                                                      |                               | Modbus Address Offset | Range of transmitted data           | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 1.                                                                                                                                                 | Control word - 16 Single-bits |                       |                                     |     |     |       |     |     |       |  |
|                                                                                                                                                    | 0 (1.0)                       | 8150.0                | Life bit                            | X   |     |       |     |     |       |  |
|                                                                                                                                                    |                               | 18375.0               |                                     |     | X   |       |     |     |       |  |
|                                                                                                                                                    |                               | 18628.0               |                                     |     |     | X     |     |     |       |  |
|                                                                                                                                                    | 1 (1.1)                       | 8150.1                | Remote On                           | X   |     |       |     |     |       |  |
|                                                                                                                                                    |                               | 18375.1               |                                     |     | X   |       |     |     |       |  |
|                                                                                                                                                    |                               | 18628.1               |                                     |     |     | X     |     |     |       |  |
|                                                                                                                                                    | 2 (1.2)                       | 8150.2                | Remote LESS capacity                | X   |     |       |     |     |       |  |
|                                                                                                                                                    |                               | 18375.2               |                                     |     | X   |       |     |     |       |  |
|                                                                                                                                                    |                               | 18628.2               |                                     |     |     | X     |     |     |       |  |
|                                                                                                                                                    | 3 (1.3)                       | 8150.3                | Remote MORE capacity                | X   |     |       |     |     |       |  |
|                                                                                                                                                    |                               | 18375.3               |                                     |     | X   |       |     |     |       |  |
|                                                                                                                                                    |                               | 18628.3               |                                     |     |     | X     |     |     |       |  |
|                                                                                                                                                    | 4 (1.4)                       | 8150.4                | Remote reset                        | X   |     |       |     |     |       |  |
|                                                                                                                                                    |                               | 18375.4               |                                     |     | X   |       |     |     |       |  |
|                                                                                                                                                    |                               | 18628.4               |                                     |     |     | X     |     |     |       |  |
|                                                                                                                                                    | 5 (1.5)                       | 8150.5                | Remote switch-over to 2nd Set-point | X   |     |       |     |     |       |  |

| Received data from Master/ Client ( 1 - 8) - Address offset<br>If no units are transferred to the GEA Omni, default units of GEA Omni will be used. |         |                                        |                                                 |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------------------------------|-------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Received word                                                                                                                                       |         | Modbus Address Offset                  | Range of transmitted data                       | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 6 (1.6)                                                                                                                                             | 8150.6  | Remote Start Permissive of compressor  | Remote master/BMS                               | X   |     |       |     |     |       |  |
|                                                                                                                                                     | 18375.6 |                                        |                                                 |     | X   |       |     |     |       |  |
|                                                                                                                                                     | 18628.6 |                                        |                                                 |     |     | X     |     |     |       |  |
| 7 (1.7)                                                                                                                                             | 8150.7  | Remote Emergency Stop                  | Remote master/BMS                               | X   |     |       |     |     |       |  |
|                                                                                                                                                     | 18375.7 |                                        |                                                 |     | X   |       |     |     |       |  |
|                                                                                                                                                     | 18628.7 |                                        |                                                 |     |     | X     |     |     |       |  |
| 8 (0.0)                                                                                                                                             | 8150.8  | Remote compressor blocked              | First Signal: Compressor blocked                | X   |     |       |     |     |       |  |
| 9 (0.1)                                                                                                                                             |         | Remote compressor blocked              | First Signal:<br>Remote switch-over stand alone |     |     |       |     |     |       |  |
|                                                                                                                                                     |         |                                        | Second Signal:<br>Compressor blocked            |     |     |       |     |     |       |  |
| 10 (0.2)                                                                                                                                            |         | Remote one of both compressors blocked | -                                               |     |     |       |     |     |       |  |
| 11 (0.3)                                                                                                                                            | 8150.11 | Power consumption limit active         | -                                               | X   |     |       |     |     |       |  |
| 12 (0.4)                                                                                                                                            | 8150.12 | Reserve                                | -                                               |     |     |       |     |     |       |  |
| 13 (0.5)                                                                                                                                            | 8150.13 | Reserve                                | -                                               |     |     |       |     |     |       |  |
| 14 (0.6)                                                                                                                                            | 8150.14 | Reserve                                | -                                               |     |     |       |     |     |       |  |
| 15 (0.7)                                                                                                                                            | 8150.15 | Reserve                                | -                                               |     |     |       |     |     |       |  |
| 2.                                                                                                                                                  |         | Remote set point                       | Value * 10 <sup>-2</sup> (pressure)             | X   |     |       |     |     |       |  |

| Received data from Master/ Client (1 - 8) - Address offset<br>If no units are transferred to the GEA Omni, default units of GEA Omni will be used. |                       |                                                                                                               |     |     |       |     |     |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------------------------------------------------------------------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Received word                                                                                                                                      | Modbus Address Offset | Range of transmitted data                                                                                     | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
|                                                                                                                                                    | 18376                 | Value * 10 <sup>-1</sup> (temperature)<br>Value * 10 <sup>0</sup> (percent)                                   |     | X   |       |     |     |       |
|                                                                                                                                                    | 18629                 |                                                                                                               |     |     | X     |     |     |       |
| 3.                                                                                                                                                 | 8139                  | Remote process value<br>Value * 10 <sup>-2</sup> (pressure)<br>Value * 10 <sup>-1</sup> (temperature)         | X   |     |       |     |     |       |
|                                                                                                                                                    | 18377                 |                                                                                                               |     | X   |       |     |     |       |
|                                                                                                                                                    | 18630                 |                                                                                                               |     |     | X     |     |     |       |
| 4.                                                                                                                                                 |                       | Reserve                                                                                                       |     |     |       |     |     |       |
| 5.                                                                                                                                                 |                       | Remote set point power consumption limitation (kW)                                                            | X   |     |       |     |     |       |
| 6.                                                                                                                                                 |                       | Reserve                                                                                                       |     |     |       |     |     |       |
| 7.                                                                                                                                                 | 0020                  | Communication pressure units<br>see Communication Guidelines<br>GEA Omni, Section 2.2,<br>Page 78             | X   | X   | X     |     |     |       |
| 8.                                                                                                                                                 | 0021                  | Communication temperature units<br>Spare<br>see Communication Guidelines<br>GEA Omni, Section 2.2,<br>Page 78 | X   | X   | X     |     |     |       |

## 2.1.4 Transmitted data to Master/ Client

**Hint!**

**Please see tables on the next pages.**

| Transmitted data to Master/ Client - System word (1) - Address offset |                       |                                                                                                     |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------|-----------------------|-----------------------------------------------------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                      | Modbus Address Offset | Signal description / Range of the transmitted data                                                  | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| <b>1. System WORD - 16 Single-bits, incl. "Life bit"</b>              |                       |                                                                                                     |     |     |       |     |     |       |  |
| 0 (1.0)                                                               | 23000.0               | Time pulse (synchronous)<br>1. Life bit to control the communication                                | X   | X   | X     |     |     |       |  |
| 1 (1.1)                                                               | 23001.0               | Time pulse (1 Hz, asynchronous)<br>2. Life bit for monitoring communication - always pulses at 1 Hz | X   | X   | X     |     |     |       |  |
| 2 (1.2)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 3 (1.3)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 4 (1.4)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 5 (1.5)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 6 (1.6)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 7 (1.7)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 8 (0.0)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 9 (0.1)                                                               |                       |                                                                                                     |     |     |       |     |     |       |  |
| 10 (0.2)                                                              |                       |                                                                                                     |     |     |       |     |     |       |  |
| 11 (0.3)                                                              |                       |                                                                                                     |     |     |       |     |     |       |  |
| 12 (0.4)                                                              |                       |                                                                                                     |     |     |       |     |     |       |  |
| 13 (0.5)                                                              |                       |                                                                                                     |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - System word (1) - Address offset |          |                       |                                                    |     |     |       |     |       |
|-----------------------------------------------------------------------|----------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-------|
| Transmitted word                                                      |          | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2   |
|                                                                       | 14 (0.6) |                       |                                                    |     |     |       |     | RCduo |
|                                                                       | 15 (0.7) |                       |                                                    |     |     |       |     |       |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| <b>2. Shutdown data WORD 1 - 16 Single-bits</b>                                   |                       |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                           | 6722.3                | Low Suction Pressure                               | X   |     | X     |     |     |       |  |
|                                                                                   |                       | Low Suction Pressure, HP single stage only         |     | X   |       |     |     |       |  |
| 1 (1.1)                                                                           | 6722.2                | High Suction Pressure                              |     |     |       | X   |     |       |  |
|                                                                                   |                       | High Suction Pressure, HP single stage only        |     | X   |       |     |     |       |  |
| 2 (1.2)                                                                           | 6724.0                | Low Suction Superheat                              | X   |     | X     |     |     |       |  |
|                                                                                   |                       | Low Suction Superheat, HP single stage only        |     | X   |       |     |     |       |  |
| 3 (1.3)                                                                           | 6724.1                | High Suction Superheat                             | X   |     | X     |     |     |       |  |
|                                                                                   |                       | High Suction Superheat, HP single stage only       |     | X   |       |     |     |       |  |
| 4 (1.4)                                                                           | 6722.7                | High Discharge Pressure (HP/ Compr.1)              | X   | X   | X     |     |     |       |  |
| 5 (1.5)                                                                           | 6724.2                | Low Discharge Superheat (HP/ Compr.1)              | X   | X   | X     |     |     |       |  |
| 6 (1.6)                                                                           | 6724.3                | High Discharge Superheat (HP/ Compr.1)             | X   | X   | X     |     |     |       |  |
| 7 (1.7)                                                                           | 6723.0                | High Oil Differential Pressure                     | X   | X   | X     |     |     |       |  |
| 8 (0.0)                                                                           | 6723.1                | Low Oil Differential Pressure                      | X   | X   | X     |     |     |       |  |
| 9 (0.1)                                                                           | 6723.2                | High Oil Filter Differential                       | X   | X   | X     |     |     |       |  |
| 10 (0.2)                                                                          | 6722.9                | High Discharge Temperature (HP/ Compr.1)           | X   | X   | X     |     |     |       |  |
| 11 (0.3)                                                                          | 6722.14               | High Oil Temperature                               | X   | X   | X     |     |     |       |  |
| 12 (0.4)                                                                          | 6722.15               | Low Oil Temperature                                | X   | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                                       |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|---------------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset                 | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 13 (0.5)                                                                          | 6722.10                               | High Oil Separator Temperature                     | X   |     |       |     |     |       |  |
| 14 (0.6)                                                                          | 6722.11                               | Low Oil Separator Temperature                      | X   |     |       |     |     |       |  |
| 15 (0.7)                                                                          | 6722.0                                | High Motor Current (HP/ Compr.1)                   | X   | X   | X     |     |     |       |  |
| 3.                                                                                | Shutdown data WORD 2 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                           | 6722.1                                | Low Motor Current (HP/ Compr.1)                    | X   | X   | X     |     |     |       |  |
| 1 (1.1)                                                                           | 6722.4                                | High Motor Speed (HP/ Compr.1)                     | X   | X   | X     |     |     |       |  |
| 2 (1.2)                                                                           | 6722.5                                | Low Motor Speed (HP/ Compr.1)                      | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                           | 6726.1                                | Low Pressure Differential                          | X   | X   | X     |     |     |       |  |
| 4 (1.4)                                                                           | 6724.8                                | Low Outlet Temperature                             | X   |     |       |     |     |       |  |
| 5 (1.5)                                                                           | 6723.14                               | No Oil Flow Detected                               | X   |     |       |     |     |       |  |
| 6 (1.6)                                                                           | 6725.2                                | Low Oil Flow                                       | X   |     |       |     |     |       |  |
| 7 (1.7)                                                                           | 6722.12                               | High Oil Level                                     | X   |     |       |     |     |       |  |
| 8 (0.0)                                                                           | 6722.13                               | Low Oil Level                                      | X   |     |       |     |     |       |  |
| 9 (0.1)                                                                           |                                       | Reserve shutdown 2.10                              |     |     |       |     |     |       |  |
| 10 (0.2)                                                                          |                                       | Separator Level too high                           |     |     |       |     |     |       |  |
| 11 (0.3)                                                                          |                                       | Eco Level too high                                 |     |     |       |     |     |       |  |
| 12 (0.4)                                                                          | 6822.0                                | Emergency Stop Input                               | X   | X   | X     |     |     |       |  |
| 13 (0.5)                                                                          | 6822.1                                | Emergency stop over network                        | X   | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
|                                                                                   | 14 (0.6)              | Compressor Motor Protection (HP/ Compr.1)          | X   | X   | X     |     |     |       |  |
|                                                                                   | 15 (0.7)              | Compressor Illegal Interlock (HP/ Compr.1)         | X   | X   | X     |     |     |       |  |
| <b>4. Shutdown data WORD 3 - 16 Single-bits</b>                                   |                       |                                                    |     |     |       |     |     |       |  |
|                                                                                   | 0 (1.0)               | Illegal Compressor Motor Current (HP/ Compr.1)     | X   | X   | X     |     |     |       |  |
|                                                                                   | 1 (1.1)               | Loss Of Compressor Interlock (HP/ Compr.1)         | X   | X   | X     |     |     |       |  |
|                                                                                   | 2 (1.2)               | Oil Pump Illegal Interlock (HP/ Compr.1)           | X   | X   | X     |     |     |       |  |
|                                                                                   | 3 (1.3)               | Oil Pump 2 Illegal Interlock                       | X   |     | X     |     |     |       |  |
|                                                                                   | 4 (1.4)               | Oil Pump Loss of Interlock                         | X   |     | X     |     |     |       |  |
|                                                                                   | 5 (1.5)               | Oil Pump Circulation                               | X   |     | X     |     |     |       |  |
|                                                                                   | 6 (1.6)               | Secondary Refrigerant Flow                         |     |     |       |     |     |       |  |
|                                                                                   | 7 (1.7)               | Auxiliary Shutdown 1                               | X   | X   | X     |     |     |       |  |
|                                                                                   | 8 (0.0)               | Low Auxiliary Safety Pressure                      | X   |     |       |     |     |       |  |
|                                                                                   | 9 (0.1)               | Power Reset Abort Shutdown                         | X   | X   | X     |     |     |       |  |
|                                                                                   | 10 (0.2)              | Gas Leak Detection Input                           | X   | X   | X     |     |     |       |  |
|                                                                                   | 11 (0.3)              | Capacity Slide Failed To Unload (HP/ Compr.1)      | X   | X   | X     |     |     |       |  |
|                                                                                   | 12 (0.4)              | Pump Down too long                                 | X   |     |       |     |     |       |  |
|                                                                                   | 13 (0.5)              | Zero Load                                          | X   | X   | X     |     |     |       |  |
|                                                                                   | 14 (0.6)              | Sensor Failure                                     | X   | X   | X     |     |     |       |  |

| Transmitted data to Master/Client - Shutdown data words (2 - 9) - Address offset |                                       |                                                       |     |     |       |     |     |       |  |
|----------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                 | Modbus Address Offset                 | Signal description / Range of the transmitted data    | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
|                                                                                  | 15 (0.7)                              | VTrac Damage Shutdown                                 | X   | X   | X     |     |     |       |  |
| 5.                                                                               | Shutdown data WORD 4 - 16 Single-bits |                                                       |     |     |       |     |     |       |  |
|                                                                                  | 0 (1.0)                               | Lost Communication With Gateway                       | X   | X   | X     |     |     |       |  |
|                                                                                  | 1 (1.1)                               | Life-Bit Time Communication With Gateway              | X   | X   | X     |     |     |       |  |
|                                                                                  | 2 (1.2)                               | Discharge Check Valve Failed To Open                  | X   |     |       |     |     |       |  |
|                                                                                  | 3 (1.3)                               | Discharge Check Valve Failed To Close                 | X   |     |       |     |     |       |  |
|                                                                                  | 4 (1.4)                               | No Compressor Sequencer Shutdown                      | X   | X   | X     |     |     |       |  |
|                                                                                  | 5 (1.5)                               | No Condenser Sequencer Shutdown                       | X   | X   | X     |     |     |       |  |
|                                                                                  | 6 (1.6)                               | Loss of Communication Speed Drive (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
|                                                                                  | 7 (1.7)                               | Loss of Communication Fixed Drive                     | X   | X   | X     |     |     |       |  |
|                                                                                  | 8 (0.0)                               | High Motor Winding Temperature L1 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
|                                                                                  | 9 (0.1)                               | High Motor Winding Temperature L2 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
|                                                                                  | 10 (0.2)                              | High Motor Winding Temperature L3 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
|                                                                                  | 11 (0.3)                              | High Motor Bearing Temperature DE side (HP/ Compr.1)  | X   | X   | X     |     |     |       |  |
|                                                                                  | 12 (0.4)                              | High Motor Bearing Temperature NDE side (HP/ Compr.1) | X   | X   | X     |     |     |       |  |
|                                                                                  | 13 (0.5)                              | Reserve shutdown 4.14                                 |     |     |       |     |     |       |  |
|                                                                                  | 14 (0.6)                              | Reserve shutdown 4.15                                 |     |     |       |     |     |       |  |
|                                                                                  | 15 (0.7)                              | Shutdown active                                       |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| <b>6. Shutdown data WORD 5 - 16 Single-bits</b>                                   |                       |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                           |                       | Reserve shutdown 5.1                               |     |     |       |     |     |       |  |
| 1 (1.1)                                                                           |                       | Reserve shutdown 5.2                               |     |     |       |     |     |       |  |
| 2 (1.2)                                                                           |                       | Reserve shutdown 5.3                               |     |     |       |     |     |       |  |
| 3 (1.3)                                                                           |                       | Reserve shutdown 5.4                               |     |     |       |     |     |       |  |
| 4 (1.4)                                                                           |                       | Reserve shutdown 5.5                               |     |     |       |     |     |       |  |
| 5 (1.5)                                                                           |                       | Reserve shutdown 5.6                               |     |     |       |     |     |       |  |
| 6 (1.6)                                                                           |                       | Reserve shutdown 5.7                               |     |     |       |     |     |       |  |
| 7 (1.7)                                                                           |                       | Reserve shutdown 5.8                               |     |     |       |     |     |       |  |
| 8 (0.0)                                                                           |                       | Reserve shutdown 5.9                               |     |     |       |     |     |       |  |
| 9 (0.1)                                                                           |                       | Reserve shutdown 5.10                              |     |     |       |     |     |       |  |
| 10 (0.2)                                                                          |                       | Reserve shutdown 5.11                              |     |     |       |     |     |       |  |
| 11 (0.3)                                                                          |                       | Reserve shutdown 5.12                              |     |     |       |     |     |       |  |
| 12 (0.4)                                                                          |                       | Reserve shutdown 5.13                              |     |     |       |     |     |       |  |
| 13 (0.5)                                                                          |                       | Reserve shutdown 5.14                              |     |     |       |     |     |       |  |
| 14 (0.6)                                                                          |                       | Reserve shutdown 5.15                              |     |     |       |     |     |       |  |
| 15 (0.7)                                                                          |                       | Reserve shutdown 5.16                              |     |     |       |     |     |       |  |
| <b>7. Shutdown data WORD 6 - 16 Single-bits</b>                                   |                       |                                                    |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                       |                                                     |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset | Signal description / Range of the transmitted data  | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 0 (1.0)                                                                           | 7001.0                | Wire Break Suction pressure                         | X   | X   | X     |     |     |       |  |
|                                                                                   |                       | Wire Break Suction pressure, HP single stage only   | X   | X   |       |     |     |       |  |
| 1 (1.1)                                                                           | 7001.1                | Wire Break Discharge pressure                       | X   | X   | X     |     |     |       |  |
|                                                                                   |                       | Wire Break Discharge pressure, HP single stage only | X   | X   |       |     |     |       |  |
| 2 (1.2)                                                                           | 7001.2                | Wire Break Oil pressure                             | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                           | 7001.3                | Wire Break Pressure oil filter                      | X   | X   | X     |     |     |       |  |
| 4 (1.4)                                                                           | 7001.4                | Wire Break Discharge temperature (HP/ Compr.1)      | X   | X   | X     |     |     |       |  |
| 5 (1.5)                                                                           | 7001.5                | Wire Break Oil temperature                          | X   | X   | X     |     |     |       |  |
| 6 (1.6)                                                                           | 7001.6                | Wire Break Primary slide position (HP/ Compr.1)     | X   | X   | X     |     |     |       |  |
| 7 (1.7)                                                                           | 7001.7                | Wire Break Motor speed (HP/ Compr.1)                | X   | X   | X     |     |     |       |  |
| 8 (0.0)                                                                           | 7001.8                | Wire Break Motor current (HP/ Compr.1)              | X   | X   | X     |     |     |       |  |
| 9 (0.1)                                                                           | 7001.9                | Wire Break outlet temperature                       | X   | X   | X     |     |     |       |  |
| 10 (0.2)                                                                          | 7001.10               | Wire Break Liquid separator level                   | X   | X   | X     |     |     |       |  |
| 11 (0.3)                                                                          | 7001.11               | Wire Break ECO level                                | X   | X   | X     |     |     |       |  |
| 12 (0.4)                                                                          | 7001.12               | Wire Break reserve 6.13                             |     |     |       |     |     |       |  |
| 13 (0.5)                                                                          | 7001.13               | Wire Break reserve 6.14                             |     |     |       |     |     |       |  |
| 14 (0.6)                                                                          | 7001.14               | Wire Break reserve 6.15                             |     |     |       |     |     |       |  |
| 15 (0.7)                                                                          | 7001.15               | Wire Break reserve 6.16                             |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Shutdown data words (2 - 9) - Address offset |                                              |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|----------------------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset                        | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| <b>8</b>                                                                          | <b>Shutdown data WORD 7 - 16 Single-bits</b> |                                                    |     |     |       |     |     |       |  |
|                                                                                   | 0 (1.0)                                      | Low Suction Pressure (LP/ Compr.2)                 |     | X   | X     |     |     |       |  |
|                                                                                   | 1 (1.1)                                      | Low Suction Superheat (LP/ Compr.2)                |     | X   | X     |     |     |       |  |
|                                                                                   | 2 (1.2)                                      | High Suction Superheat (LP/ Compr.2)               |     | X   | X     |     |     |       |  |
|                                                                                   | 3 (1.3)                                      | High Discharge Pressure (LP/ Compr.2)              |     | X   | X     |     |     |       |  |
|                                                                                   | 4 (1.4)                                      | High Oil Differential Pressure (LP/ Compr.2)       |     | X   | X     |     |     |       |  |
|                                                                                   | 5 (1.5)                                      | High Discharge Temperature (LP/ Compr.2)           |     | X   | X     |     |     |       |  |
|                                                                                   | 6 (1.6)                                      | High Motor Current (LP/ Compr.2)                   |     | X   | X     |     |     |       |  |
|                                                                                   | 7 (1.7)                                      | Low Motor Current (LP/ Compr.2)                    |     | X   | X     |     |     |       |  |
|                                                                                   | 8 (0.0)                                      | High Motor Speed (LP/ Compr.2)                     |     | X   | X     |     |     |       |  |
|                                                                                   | 9 (0.1)                                      | Low Motor Speed (LP/ Compr.2)                      |     | X   | X     |     |     |       |  |
|                                                                                   | 10 (0.2)                                     | Low Differential Pressure (LP/ Compr.2)            |     | X   | X     |     |     |       |  |
|                                                                                   | 11 (0.3)                                     | Compr.Motor Protection (LP/ Compr.2)               |     | X   | X     |     |     |       |  |
|                                                                                   | 12 (0.4)                                     | Illegal Compressor Motor Interlock (LP/ Compr.2)   |     | X   | X     |     |     |       |  |
|                                                                                   | 13 (0.5)                                     | Illegal Compressor Motor Current (LP/ Comp 2)      |     | X   | X     |     |     |       |  |
|                                                                                   | 14 (0.6)                                     | Loss of Compressor Interlock (LP/ Comp 2)          |     | X   | X     |     |     |       |  |
|                                                                                   | 15 (0.7)                                     | Auxiliary shutdown 2                               |     | X   | X     |     |     |       |  |
| <b>9</b>                                                                          | <b>Shutdown data WORD 8 - 16 Single-bits</b> |                                                    |     |     |       |     |     |       |  |

| Transmitted data to Master/Client - Shutdown data words (2 - 9) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|----------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                 | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 0 (1.0)                                                                          | 6732.6                | Capacity Slide failed to unload (LP/ Comp 2)       |     | X   | X     |     |     |       |  |
| 1 (1.1)                                                                          |                       | Reserve shutdown 8.2                               |     |     |       |     |     |       |  |
| 2 (1.2)                                                                          |                       | Reserve shutdown 8.3                               |     |     |       |     |     |       |  |
| 3 (1.3)                                                                          |                       | Reserve shutdown 8.4                               |     |     |       |     |     |       |  |
| 4 (1.4)                                                                          |                       | Reserve shutdown 8.5                               |     |     |       |     |     |       |  |
| 5 (1.5)                                                                          |                       | Reserve shutdown 8.6                               |     |     |       |     |     |       |  |
| 6 (1.6)                                                                          |                       | Reserve shutdown 8.7                               |     |     |       |     |     |       |  |
| 7 (1.7)                                                                          |                       | Reserve shutdown 8.8                               |     |     |       |     |     |       |  |
| 8 (0.0)                                                                          | 7002.0                | Wire Break Suction Pressure (LP/ Comp 2)           |     | X   | X     |     |     |       |  |
| 9 (0.1)                                                                          | 7002.1                | Wire Break Discharge Pressure (LP/ Comp 2)         |     | X   | X     |     |     |       |  |
| 10 (0.2)                                                                         | 7002.2                | Wire Break Oil Supply (LP/ Comp 2)                 |     | X   | X     |     |     |       |  |
| 11 (0.3)                                                                         | 7002.4                | Wire Break Discharge Temperature (LP/ Comp 2)      |     | X   | X     |     |     |       |  |
| 12 (0.4)                                                                         | 7002.6                | Wire Break Primary Slide Position (LP/ Comp 2)     |     | X   | X     |     |     |       |  |
| 13 (0.5)                                                                         | 7002.7                | Wire Break Motor Speed (LP/ Comp 2)                |     | X   | X     |     |     |       |  |
| 14 (0.6)                                                                         | 7002.8                | Wire Break Motor Current (LP/ Comp 2)              |     | X   | X     |     |     |       |  |
| 15 (0.7)                                                                         |                       | Reserve shutdown 8.16                              |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Warning data words (10 - 15) - Address offset |                                      |                                                    |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                   | Modbus Address Offset                | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 10.                                                                                | Warning data WORD 1 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |
|                                                                                    | 0 (1.0)                              | High Suction Pressure                              | X   |     | X     |     |     |       |  |
|                                                                                    | 1 (1.1)                              | Low Suction Pressure                               | X   |     | X     |     |     |       |  |
|                                                                                    |                                      | Low Suction Pressure, HP single stage only         |     | X   |       |     |     |       |  |
|                                                                                    | 2 (1.2)                              | High Discharge Pressure (HP/ Compr.1)              | X   | X   | X     |     |     |       |  |
|                                                                                    | 3 (1.3)                              | High Oil Differential Pressure                     | X   | X   | X     |     |     |       |  |
|                                                                                    | 4 (1.4)                              | Low Oil Differential Pressure                      | X   | X   | X     |     |     |       |  |
|                                                                                    | 5 (1.5)                              | High Oil Filter Differential                       | X   | X   | X     |     |     |       |  |
|                                                                                    | 6 (1.6)                              | High Discharge Temperature (HP/ Compr.1)           | X   | X   | X     |     |     |       |  |
|                                                                                    | 7 (1.7)                              | High Oil Temperature                               | X   | X   | X     |     |     |       |  |
|                                                                                    | 8 (0.0)                              | Low Oil Temperature                                | X   | X   | X     |     |     |       |  |
|                                                                                    | 9 (0.1)                              | High Oil Separator Temperature                     | X   |     |       |     |     |       |  |
|                                                                                    | 10 (0.2)                             | Low Oil Separator Temperature                      | X   |     |       |     |     |       |  |
|                                                                                    | 11 (0.3)                             | High Outlet Temperature                            | X   |     |       |     |     |       |  |
|                                                                                    | 12 (0.4)                             | Low Outlet Temperature                             | X   | X   | X     |     |     |       |  |
|                                                                                    | 13 (0.5)                             | High Inlet Temperature                             | X   |     | X     |     |     |       |  |
|                                                                                    | 14 (0.6)                             | Low Inlet Temperature                              | X   |     | X     |     |     |       |  |
|                                                                                    | 15 (0.7)                             | High Motor Current (HP/ Compr.1)                   | X   | X   | X     |     |     |       |  |

| Transmitted data to Master/Client - Warning data words (10 - 15) - Address offset |                                      |                                                    |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                  | Modbus Address Offset                | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 11.                                                                               | Warning data WORD 2 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |
|                                                                                   | 0 (1.0)                              | High Motor Speed (HP/ Compr.1)                     | X   | X   | X     |     |     |       |  |
|                                                                                   | 1 (1.1)                              | Low Motor Speed (HP/ Compr.1)                      | X   | X   | X     |     |     |       |  |
|                                                                                   | 2 (1.2)                              | Suction Pressure Load Limit                        | X   | X   | X     |     |     |       |  |
|                                                                                   | 3 (1.3)                              | Suction Pressure Force Unload                      | X   | X   | X     |     |     |       |  |
|                                                                                   | 4 (1.4)                              | Discharge Pressure Load Limit (HP/ Compr.1)        | X   | X   | X     |     |     |       |  |
|                                                                                   | 5 (1.5)                              | Discharge Pressure Force Unload (HP/ Compr.1)      | X   | X   | X     |     |     |       |  |
|                                                                                   | 6 (1.6)                              | Outlet Temperature Load Limit                      | X   | X   | X     |     |     |       |  |
|                                                                                   | 7 (1.7)                              | Outlet Temperature Force Unload                    | X   | X   | X     |     |     |       |  |
|                                                                                   | 8 (0.0)                              | Motor Current Load Limit (HP/ Compr.1)             | X   | X   | X     |     |     |       |  |
|                                                                                   | 9 (0.1)                              | Motor Current Force Unload (HP/ Compr.1)           | X   | X   | X     |     |     |       |  |
|                                                                                   | 10 (0.2)                             | Low Oil Level                                      | X   | X   | X     |     |     |       |  |
|                                                                                   | 11 (0.3)                             | Reserve warning 2.12                               |     |     |       |     |     |       |  |
|                                                                                   | 12 (0.4)                             | High Oil Level                                     | X   | X   | X     |     |     |       |  |
|                                                                                   | 13 (0.5)                             | Oil Pump 1 Loss of Interlock Auxiliary             | X   |     | X     |     |     |       |  |
|                                                                                   | 14 (0.6)                             | Oil Pump 2 Loss of Interlock Auxiliary             | X   |     | X     |     |     |       |  |
|                                                                                   | 15 (0.7)                             | Refrigerant Sensor High Warning                    | X   |     |       |     |     |       |  |
| 12.                                                                               | Warning data WORD 3 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Warning data words (10 - 15) - Address offset |                                      |                                                       |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                   | Modbus Address Offset                | Signal description / Range of the transmitted data    | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 0 (1.0)                                                                            | 7096.2                               | VTrac No Communications                               | X   | X   | X     |     |     |       |  |
| 1 (1.1)                                                                            | 7096.1                               | VTrac Warning                                         | X   | X   | X     |     |     |       |  |
| 2 (1.2)                                                                            | 6730.1                               | Loss Of Remote Start Signal                           | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                            | 7056.0                               | Condenser Loss of Interlock                           | X   | X   | X     |     |     |       |  |
| 4 (1.4)                                                                            |                                      | Secondary Refrigerant Pump Loss of Interlock          |     |     |       |     |     |       |  |
| 5 (1.5)                                                                            |                                      | Secondary Refrigerant Flow Warning                    |     |     |       |     |     |       |  |
| 6 (1.6)                                                                            | 7056.2                               | Condenser High Discharge Pressure                     | X   |     | X     |     |     |       |  |
| 7 (1.7)                                                                            | 7056.3                               | Condenser Low Discharge Pressure                      | X   |     | X     |     |     |       |  |
| 8 (0.0)                                                                            | 6828.2                               | Auxiliary Warning                                     | X   |     |       |     |     |       |  |
| 9 (0.1)                                                                            | 6828.10                              | Sensor Failure                                        | X   | X   | X     |     |     |       |  |
| 10 (0.2)                                                                           | 6731.10                              | High Motor Winding Temperature L1 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
| 11 (0.3)                                                                           | 6731.11                              | High Motor Winding Temperature L2 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
| 12 (0.4)                                                                           | 6731.12                              | High Motor Winding Temperature L3 (HP/ Compr.1)       | X   | X   | X     |     |     |       |  |
| 13 (0.5)                                                                           | 6731.8                               | High Motor Bearing Temperature DE side (HP/ Compr.1)  | X   | X   | X     |     |     |       |  |
| 14 (0.6)                                                                           | 6731.9                               | High Motor Bearing Temperature NDE side (HP/ Compr.1) | X   | X   | X     |     |     |       |  |
| 15 (0.7)                                                                           | 8616.0                               | Warning active                                        | X   | X   | X     |     |     |       |  |
| 13.                                                                                | Warning data WORD 4 - 16 Single-bits |                                                       |     |     |       |     |     |       |  |
|                                                                                    | 0 (1.0)                              | Reserve warning 4.1                                   |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Warning data words (10 - 15) - Address offset |                                      |                                                    |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                   | Modbus Address Offset                | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 1 (1.1)                                                                            |                                      | Reserve warning 4.2                                |     |     |       |     |     |       |  |
| 2 (1.2)                                                                            |                                      | Reserve warning 4.3                                |     |     |       |     |     |       |  |
| 3 (1.3)                                                                            |                                      | Reserve warning 4.4                                |     |     |       |     |     |       |  |
| 4 (1.4)                                                                            |                                      | Reserve warning 4.5                                |     |     |       |     |     |       |  |
| 5 (1.5)                                                                            |                                      | Reserve warning 4.6                                |     |     |       |     |     |       |  |
| 6 (1.6)                                                                            |                                      | Reserve warning 4.7                                |     |     |       |     |     |       |  |
| 7 (1.7)                                                                            |                                      | Reserve warning 4.7                                |     |     |       |     |     |       |  |
| 8 (0.0)                                                                            |                                      | Reserve warning 4.8                                |     |     |       |     |     |       |  |
| 9 (0.1)                                                                            |                                      | Reserve warning 4.10                               |     |     |       |     |     |       |  |
| 10 (0.2)                                                                           |                                      | Reserve warning 4.11                               |     |     |       |     |     |       |  |
| 11 (0.3)                                                                           |                                      | Reserve warning 4.12                               |     |     |       |     |     |       |  |
| 12 (0.4)                                                                           |                                      | Reserve warning 4.13                               |     |     |       |     |     |       |  |
| 13 (0.5)                                                                           |                                      | Reserve warning 4.14                               |     |     |       |     |     |       |  |
| 14 (0.6)                                                                           |                                      | Reserve warning 4.15                               |     |     |       |     |     |       |  |
| 15 (0.7)                                                                           |                                      | Reserve warning 4.16                               |     |     |       |     |     |       |  |
| 14.                                                                                | Warning data WORD 5 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |
|                                                                                    | 0 (1.0)                              | Wire Break Warning Suction temperature             | X   |     |       | X   |     |       |  |
|                                                                                    | 1 (1.1)                              | Wire Break Warning Oil separator temperature       | X   |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Warning data words (10 - 15) - Address offset |                                      |                                                                |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                   | Modbus Address Offset                | Signal description / Range of the transmitted data             | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 2 (1.2)                                                                            | 7006.2                               | Wire Break Warning Secondary slide / Vi position (HP/ Compr.1) | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                            | 7006.3                               | Wire Break Warning Process pressure / process temperature      | X   | X   | X     |     |     |       |  |
| 4 (1.4)                                                                            | 7006.4                               | Wire Break Warning External set point                          | X   | X   | X     |     |     |       |  |
| 5 (1.5)                                                                            | 7006.5                               | Wire Break Warning ECO pressure                                | X   | X   | X     |     |     |       |  |
| 6 (1.6)                                                                            | 7006.6                               | Wire Break Warning ECO temperature                             | X   | X   | X     |     |     |       |  |
| 7 (1.7)                                                                            | 7006.7                               | Wire Break Warning inlet temperature                           | X   |     | X     |     |     |       |  |
| 8 (0.0)                                                                            | 7006.8                               | Wire Break Warning Condenser inlet temperature                 | X   |     | X     |     |     |       |  |
| 9 (0.1)                                                                            | 7006.9                               | Wire Break Warning Condenser outlet temperature                | X   |     | X     |     |     |       |  |
| 10 (0.2)                                                                           | 7006.10                              | Wire break Motor Winding Temperature L1 (HP/ Compr.1)          | X   | X   | X     |     |     |       |  |
| 11 (0.3)                                                                           | 7006.11                              | Wire break Motor Winding Temperature L2 (HP/ Compr.1)          | X   | X   | X     |     |     |       |  |
| 12 (0.4)                                                                           | 7006.12                              | Wire break Motor Winding Temperature L3 (HP/ Compr.1)          | X   | X   | X     |     |     |       |  |
| 13 (0.5)                                                                           | 7006.13                              | Wire break Motor Bearing Temperature DE side (HP/ Compr.1)     | X   | X   | X     |     |     |       |  |
| 14 (0.6)                                                                           | 7006.14                              | Wire break Motor Bearing Temperature NDE side (HP/ Compr.1)    | X   | X   | X     |     |     |       |  |
| 15 (0.7)                                                                           | 7006.15                              | Reserve warning 5.16                                           |     |     |       |     |     |       |  |
| 15.                                                                                | Warning data WORD 6 - 16 Single-bits |                                                                |     |     |       |     |     |       |  |
|                                                                                    | 0 (1.0)                              | Reserve warning 6.1                                            |     |     |       |     |     |       |  |
|                                                                                    | 1 (1.1)                              | Reserve warning 6.2                                            |     |     |       |     |     |       |  |
|                                                                                    | 2 (1.2)                              | Reserve warning 6.3                                            |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Warning data words (10 - 15) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                   | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 3 (1.3)                                                                            |                       | Reserve warning 6.4                                |     |     |       |     |     |       |  |
| 4 (1.4)                                                                            |                       | Reserve warning 6.5                                |     |     |       |     |     |       |  |
| 5 (1.5)                                                                            |                       | Reserve warning 6.6                                |     |     |       |     |     |       |  |
| 6 (1.6)                                                                            |                       | Reserve warning 6.7                                |     |     |       |     |     |       |  |
| 7 (1.7)                                                                            |                       | Reserve warning 6.8                                |     |     |       |     |     |       |  |
| 8 (0.0)                                                                            |                       | Reserve warning 6.9                                |     |     |       |     |     |       |  |
| 9 (0.1)                                                                            |                       | Reserve warning 6.10                               |     |     |       |     |     |       |  |
| 10 (0.2)                                                                           |                       | Reserve warning 6.11                               |     |     |       |     |     |       |  |
| 11 (0.3)                                                                           |                       | Reserve warning 6.12                               |     |     |       |     |     |       |  |
| 12 (0.4)                                                                           |                       | Reserve warning 6.13                               |     |     |       |     |     |       |  |
| 13 (0.5)                                                                           |                       | Reserve warning 6.14                               |     |     |       |     |     |       |  |
| 14 (0.6)                                                                           |                       | Reserve warning 6.15                               |     |     |       |     |     |       |  |
| 15 (0.7)                                                                           |                       | Reserve warning 6.16                               |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Status words (16 - 20) - Address offset |                       |                                                    |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                             | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| <b>16. Status WORD 1 - 16 Single-bits</b>                                    |                       |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                      | 8699.0                | Stop Mode (HP / Compressor 1)                      | X   | X   | X     |     |     |       |  |
| 1 (1.1)                                                                      | 8700.0                | Start Mode (HP / Compressor 1)                     | X   | X   | X     |     |     |       |  |
| 2 (1.2)                                                                      | 8701.0                | Remote / Two Stage / Duo Mode (HP / Compressor 1)  | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                      | 8708.0                | Auto Mode (HP / Compressor 1)                      | X   | X   | X     |     |     |       |  |
| 4 (1.4)                                                                      | 8706.0                | Hold Mode (HP / Compressor 1)                      | X   | X   | X     |     |     |       |  |
| 5 (1.5)                                                                      | 8625.0                | Load Solenoid (HP / Compressor 1)                  | X   | X   | X     |     |     |       |  |
| 6 (1.6)                                                                      | 8626.0                | Unload Solenoid (HP / Compressor 1)                | X   | X   | X     |     |     |       |  |
| 7 (1.7)                                                                      | 8709.0                | External Mode (Compressor 1)                       | X   |     |       |     |     |       |  |
| 8 (0.0)                                                                      | 8703.0                | Starting State (HP / Compressor 1)                 | X   | X   | X     |     |     |       |  |
| 9 (0.1)                                                                      | 8704.0                | Running State (HP / Compressor 1)                  | X   | X   | X     |     |     |       |  |
| 10 (0.2)                                                                     | 8705.0                | Stopping State (HP / Compressor 1)                 | X   | X   | X     |     |     |       |  |
| 11 (0.3)                                                                     | 8702.0                | Stopped State (HP / Compressor 1)                  | X   | X   | X     |     |     |       |  |
| 12 (0.4)                                                                     |                       | Slide to Minimum (HP / Compressor 1)               |     |     |       |     |     |       |  |
| 13 (0.5)                                                                     | 8618.0                | No Warning (HP / Compressor 1)                     | X   | X   | X     |     |     |       |  |
| 14 (0.6)                                                                     | 8617.0                | No Shutdown (HP / Compressor 1)                    | X   | X   | X     |     |     |       |  |
| 15 (0.7)                                                                     |                       |                                                    |     |     |       |     |     |       |  |
| <b>17. Status WORD 2 - 16 Single-bits</b>                                    |                       |                                                    |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Status words (16 - 20) - Address offset |                                |                                                    |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                             | Modbus Address Offset          | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 0 (1.0)                                                                      | 8699.1                         | Stop Mode (LP / Compressor 2)                      |     | X   | X     |     |     |       |  |
| 1 (1.1)                                                                      | 8700.1                         | Start Mode (Compressor 2)                          |     | X   | X     |     |     |       |  |
| 2 (1.2)                                                                      | 8701.1                         | Remote / Two Stage / Duo Mode (LP / Compressor 2)  |     | X   | X     |     |     |       |  |
| 3 (1.3)                                                                      | 8708.1                         | Auto Mode (LP / Compressor 2)                      |     | X   | X     |     |     |       |  |
| 4 (1.4)                                                                      | 8706.1                         | Hold Mode (LP / Compressor 2)                      |     | X   | X     |     |     |       |  |
| 5 (1.5)                                                                      | 8625.1                         | Load Solenoid (LP / Compressor 2)                  |     | X   | X     |     |     |       |  |
| 6 (1.6)                                                                      | 8626.1                         | Unload Solenoid (LP / Compressor 2)                |     | X   | X     |     |     |       |  |
| 7 (1.7)                                                                      | 8709.1                         | External Mode (LP / Compressor 2)                  |     | X   |       |     |     |       |  |
| 8 (0.0)                                                                      | 8703.1                         | Starting State (LP / Compressor 2)                 |     | X   | X     |     |     |       |  |
| 9 (0.1)                                                                      | 8704.1                         | Running State (LP / Compressor 2)                  |     | X   | X     |     |     |       |  |
| 10 (0.2)                                                                     | 8705.1                         | Stopping State (LP / Compressor 2)                 |     | X   | X     |     |     |       |  |
| 11 (0.3)                                                                     | 8702.1                         | Stopped State (LP / Compressor 2)                  |     | X   | X     |     |     |       |  |
| 12 (0.4)                                                                     |                                | Slide to Minimum (LP / Compressor 2)               |     |     |       |     |     |       |  |
| 13 (0.5)                                                                     | 8618.1                         | No Warning (LP / Compressor 2)                     |     | X   | X     |     |     |       |  |
| 14 (0.6)                                                                     | 8617.1                         | No Shutdown (LP / Compressor 2)                    |     | X   | X     |     |     |       |  |
| 15 (0.7)                                                                     |                                |                                                    |     |     |       |     |     |       |  |
| 18.                                                                          | Status WORD 3 - 16 Single-bits |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                      | 17823.0                        | Stop Mode (Package)                                |     | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - Status words (16 - 20) - Address offset |                                |                                                    |                                                                |     |       |     |     |       |  |
|------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------|----------------------------------------------------------------|-----|-------|-----|-----|-------|--|
| Transmitted word                                                             | Modbus Address Offset          | Signal description / Range of the transmitted data | SP1                                                            | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 1 (1.1)                                                                      | 17809.0                        | Start Mode (Package)                               |                                                                | X   | X     |     |     |       |  |
| 2 (1.2)                                                                      | 17810.0                        | Remote Mode (Package)                              |                                                                | X   | X     |     |     |       |  |
| 3 (1.3)                                                                      | 17817.0                        | Auto Mode (Package)                                |                                                                | X   | X     |     |     |       |  |
| 4 (1.4)                                                                      | 17815.0                        | Hold Mode (Package)                                |                                                                | X   | X     |     |     |       |  |
| 5 (1.5)                                                                      |                                | Load Solenoid (Package)                            |                                                                |     |       |     |     |       |  |
| 6 (1.6)                                                                      |                                | Unload Solenoid (Package)                          |                                                                |     |       |     |     |       |  |
| 7 (1.7)                                                                      | 17818.0                        | External Mode (Package)                            |                                                                | X   | X     |     |     |       |  |
| 8 (0.0)                                                                      | 17811.0                        | Stopped State (Package)                            |                                                                | X   | X     |     |     |       |  |
| 9 (0.1)                                                                      | 17813.0                        | Running State (Package)                            |                                                                | X   | X     |     |     |       |  |
| 10 (0.2)                                                                     |                                | Disabled State (Package)                           |                                                                |     |       |     |     |       |  |
| 11 (0.3)                                                                     |                                | Pull Down State (Package)                          |                                                                |     |       |     |     |       |  |
| 12 (0.4)                                                                     | 17853.0                        | HP Only State (Package)                            |                                                                | X   |       |     |     |       |  |
| 13 (0.5)                                                                     |                                |                                                    |                                                                |     |       |     |     |       |  |
| 14 (0.6)                                                                     |                                |                                                    |                                                                |     |       |     |     |       |  |
| 15 (0.7)                                                                     |                                |                                                    |                                                                |     |       |     |     |       |  |
| 19.                                                                          | Status WORD 4 - 16 Single-bits |                                                    |                                                                |     |       |     |     |       |  |
|                                                                              | 0 (1.0)                        | 6730.8                                             | Limitation Suction Pressure Force Unload (HP / Compressor 1)   | X   | X     | X   |     |       |  |
|                                                                              | 1 (1.1)                        | 6730.14                                            | Limitation Discharge Pressure Force Unload (HP / Compressor 1) | X   | X     | X   |     |       |  |

| Transmitted data to Master/ Client - Status words (16 - 20) - Address offset |                                |                                                                |     |     |       |     |     |       |  |
|------------------------------------------------------------------------------|--------------------------------|----------------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                             | Modbus Address Offset          | Signal description / Range of the transmitted data             | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 2 (1.2)                                                                      | 6730.10                        | Limitation Motor Current Force Unload (HP / Compressor 1)      | X   | X   | X     |     |     |       |  |
| 3 (1.3)                                                                      | 6730.12                        | Limitation Outlet Temperature Force Unload (HP / Compressor 1) | X   |     | X     |     |     |       |  |
| 4 (1.4)                                                                      | 6740.8                         | Limitation Suction Pressure Force Unload (LP / Compressor 2)   |     | X   | X     |     |     |       |  |
| 5 (1.5)                                                                      | 6740.14                        | Limitation Discharge Pressure Force Unload (LP / Compressor 2) |     | X   | X     |     |     |       |  |
| 6 (1.6)                                                                      | 6740.10                        | Limitation Motor Current Force Unload (LP / Compressor 2)      |     | X   | X     |     |     |       |  |
| 7 (1.7)                                                                      | 6740.12                        | Limitation Outlet Temperature Force Unload (LP / Compressor 2) |     | X   | X     |     |     |       |  |
| 8 (0.0)                                                                      |                                |                                                                |     |     |       |     |     |       |  |
| 9 (0.1)                                                                      |                                |                                                                |     |     |       |     |     |       |  |
| 10 (0.2)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 11 (0.3)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 12 (0.4)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 13 (0.5)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 14 (0.6)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 15 (0.7)                                                                     |                                |                                                                |     |     |       |     |     |       |  |
| 20.                                                                          | Status WORD 5 - 16 Single-bits |                                                                |     |     |       |     |     |       |  |
| 0 (1.0)                                                                      |                                | Remaining Time Limitation Active                               |     |     |       |     |     |       |  |
| 1 (1.1)                                                                      |                                |                                                                |     |     |       |     |     |       |  |
| 2 (1.2)                                                                      |                                |                                                                |     |     |       |     |     |       |  |

| Transmitted data to Master/ Client - Status words (16 - 20) - Address offset |                       |                                                    |     |     |       |     |     |       |
|------------------------------------------------------------------------------|-----------------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                             | Modbus Address Offset | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 3 (1.3)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 4 (1.4)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 5 (1.5)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 6 (1.6)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 7 (1.7)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 8 (0.0)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 9 (0.1)                                                                      |                       |                                                    |     |     |       |     |     |       |
| 10 (0.2)                                                                     |                       |                                                    |     |     |       |     |     |       |
| 11 (0.3)                                                                     |                       |                                                    |     |     |       |     |     |       |
| 12 (0.4)                                                                     |                       |                                                    |     |     |       |     |     |       |
| 13 (0.5)                                                                     |                       |                                                    |     |     |       |     |     |       |
| 14 (0.6)                                                                     |                       |                                                    |     |     |       |     |     |       |
| 15 (0.7)                                                                     |                       |                                                    |     |     |       |     |     |       |

| Transmitted data to Master/ Client - Digital input words (21 - 24) - Address offset |                                        |                |                                                    |                     |     |       |     |     |       |
|-------------------------------------------------------------------------------------|----------------------------------------|----------------|----------------------------------------------------|---------------------|-----|-------|-----|-----|-------|
| Transmitted word                                                                    | Modbus Address Offset                  | I/O Definition | Signal description / Range of the transmitted data | SP1                 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 21.                                                                                 | Digital inputs WORD 1 - 16 Single-bits |                |                                                    |                     |     |       |     |     |       |
|                                                                                     | 0 (1.0)                                | 25000.0        | 1:1DI-1                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 1 (1.1)                                | 25000.1        | 1:1DI-2                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 2 (1.2)                                | 25000.2        | 1:1DI-3                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 3 (1.3)                                | 25000.3        | 1:1DI-4                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 4 (1.4)                                | 25000.4        | 1:1DI-5                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 5 (1.5)                                | 25000.5        | 1:1DI-6                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 6 (1.6)                                | 25000.6        | 1:1DI-7                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 7 (1.7)                                | 25000.7        | 1:1DI-8                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 8 (0.0)                                | 25000.8        | 1:2DI-1                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 9 (0.1)                                | 25000.9        | 1:2DI-2                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 10 (0.2)                               | 25000.10       | 1:2DI-3                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 11 (0.3)                               | 25000.11       | 1:2DI-4                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 12 (0.4)                               | 25000.12       | 1:2DI-5                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 13 (0.5)                               | 25000.13       | 1:2DI-6                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 14 (0.6)                               | 25000.14       | 1:2DI-7                                            | see circuit diagram | X   | X     | X   |     |       |
|                                                                                     | 15 (0.7)                               | 25000.15       | 1:2DI-8                                            | see circuit diagram | X   | X     | X   |     |       |
| 22.                                                                                 | Digital inputs WORD 2 - 16 Single-bits |                |                                                    |                     |     |       |     |     |       |

| Transmitted data to Master/ Client - Digital input words (21 - 24) - Address offset |                                        |                |                                                    |                     |     |       |     |     |       |
|-------------------------------------------------------------------------------------|----------------------------------------|----------------|----------------------------------------------------|---------------------|-----|-------|-----|-----|-------|
| Transmitted word                                                                    | Modbus Address Offset                  | I/O Definition | Signal description / Range of the transmitted data | SP1                 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 0 (1.0)                                                                             | 25001.0                                | 1:3DI-1        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 1 (1.1)                                                                             | 25001.1                                | 1:3DI-2        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 2 (1.2)                                                                             | 25001.2                                | 1:3DI-3        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 3 (1.3)                                                                             | 25001.3                                | 1:3DI-4        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 4 (1.4)                                                                             | 25001.4                                | 1:3DI-5        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 5 (1.5)                                                                             | 25001.5                                | 1:3DI-6        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 6 (1.6)                                                                             | 25001.6                                | 1:3DI-7        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 7 (1.7)                                                                             | 25001.7                                | 1:3DI-8        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 8 (0.0)                                                                             | 25001.8                                | 1:4DI-1        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 9 (0.1)                                                                             | 25001.9                                | 1:4DI-2        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 10 (0.2)                                                                            | 25001.10                               | 1:4DI-3        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 11 (0.3)                                                                            | 25001.11                               | 1:4DI-4        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 12 (0.4)                                                                            | 25001.12                               | 1:4DI-5        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 13 (0.5)                                                                            | 25001.13                               | 1:4DI-6        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 14 (0.6)                                                                            | 25001.14                               | 1:4DI-7        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 15 (0.7)                                                                            | 25001.15                               | 1:4DI-8        | see circuit diagram                                | X                   | X   | X     |     |     |       |
| 23.                                                                                 | Digital inputs WORD 3 - 16 Single-bits |                |                                                    |                     |     |       |     |     |       |
|                                                                                     | 0 (1.0)                                | 25100.0        | 2:1DI-1                                            | see circuit diagram | X   | X     |     |     |       |

| Transmitted data to Master/Client - Digital input words (21 - 24) - Address offset |                                        |                |                                                    |                     |     |       |     |     |       |
|------------------------------------------------------------------------------------|----------------------------------------|----------------|----------------------------------------------------|---------------------|-----|-------|-----|-----|-------|
| Transmitted word                                                                   | Modbus Address Offset                  | I/O Definition | Signal description / Range of the transmitted data | SP1                 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 1 (1.1)                                                                            | 25100.1                                | 2:1DI-2        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 2 (1.2)                                                                            | 25100.2                                | 2:1DI-3        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 3 (1.3)                                                                            | 25100.3                                | 2:1DI-4        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 4 (1.4)                                                                            | 25100.4                                | 2:1DI-5        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 5 (1.5)                                                                            | 25100.5                                | 2:1DI-6        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 6 (1.6)                                                                            | 25100.6                                | 2:1DI-7        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 7 (1.7)                                                                            | 25100.7                                | 2:1DI-8        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 8 (0.0)                                                                            | 25100.8                                | 2:2DI-1        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 9 (0.1)                                                                            | 25100.9                                | 2:2DI-2        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 10 (0.2)                                                                           | 25100.10                               | 2:2DI-3        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 11 (0.3)                                                                           | 25100.11                               | 2:2DI-4        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 12 (0.4)                                                                           | 25100.12                               | 2:2DI-5        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 13 (0.5)                                                                           | 25100.13                               | 2:2DI-6        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 14 (0.6)                                                                           | 25100.14                               | 2:2DI-7        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 15 (0.7)                                                                           | 25100.15                               | 2:2DI-8        | see circuit diagram                                |                     | X   | X     |     |     |       |
| 24.                                                                                | Digital inputs WORD 4 - 16 Single-bits |                |                                                    |                     |     |       |     |     |       |
|                                                                                    | 0 (1.0)                                | 25101.0        | 2:3DI-1                                            | see circuit diagram |     | X     |     |     |       |
|                                                                                    | 1 (1.1)                                | 25101.1        | 2:3DI-2                                            | see circuit diagram |     | X     |     |     |       |

| Transmitted data to Master/ Client - Digital input words (21 - 24) - Address offset |                       |                |                                                    |     |     |       |     |     |       |
|-------------------------------------------------------------------------------------|-----------------------|----------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                                    | Modbus Address Offset | I/O Definition | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 2 (1.2)                                                                             | 25101.2               | 2:3DI-3        | see circuit diagram                                |     | X   | X     |     |     |       |
| 3 (1.3)                                                                             | 25101.3               | 2:3DI-4        | see circuit diagram                                |     | X   | X     |     |     |       |
| 4 (1.4)                                                                             | 25101.4               | 2:3DI-5        | see circuit diagram                                |     | X   | X     |     |     |       |
| 5 (1.5)                                                                             | 25101.5               | 2:3DI-6        | see circuit diagram                                |     | X   | X     |     |     |       |
| 6 (1.6)                                                                             | 25101.6               | 2:3DI-7        | see circuit diagram                                |     | X   | X     |     |     |       |
| 7 (1.7)                                                                             | 25101.7               | 2:3DI-8        | see circuit diagram                                |     | X   | X     |     |     |       |
| 8 (0.0)                                                                             | 25101.8               | 2:4DI-1        | see circuit diagram                                |     | X   | X     |     |     |       |
| 9 (0.1)                                                                             | 25101.9               | 2:4DI-2        | see circuit diagram                                |     | X   | X     |     |     |       |
| 10 (0.2)                                                                            | 25101.10              | 2:4DI-3        | see circuit diagram                                |     | X   | X     |     |     |       |
| 11 (0.3)                                                                            | 25101.11              | 2:4DI-4        | see circuit diagram                                |     | X   | X     |     |     |       |
| 12 (0.4)                                                                            | 25101.12              | 2:4DI-5        | see circuit diagram                                |     | X   | X     |     |     |       |
| 13 (0.5)                                                                            | 25101.13              | 2:4DI-6        | see circuit diagram                                |     | X   | X     |     |     |       |
| 14 (0.6)                                                                            | 25101.14              | 2:4DI-7        | see circuit diagram                                |     | X   | X     |     |     |       |
| 15 (0.7)                                                                            | 25101.15              | 2:4DI-8        | see circuit diagram                                |     | X   | X     |     |     |       |

| Transmitted data to Master/Client - Digital output words (25 - 28) - Address offset |                                                |                |                                                    |     |     |       |     |     |       |
|-------------------------------------------------------------------------------------|------------------------------------------------|----------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                                    | Modbus Address Offset                          | I/O Definition | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| <b>25.</b>                                                                          | <b>Digital outputs WORD 1 - 16 Single-bits</b> |                |                                                    |     |     |       |     |     |       |
|                                                                                     | 0 (1.0)                                        | 25010.0        | 1:1DO-1<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 1 (1.1)                                        | 25010.1        | 1:1DO-2<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 2 (1.2)                                        | 25010.2        | 1:1DO-3<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 3 (1.3)                                        | 25010.3        | 1:1DO-4<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 4 (1.4)                                        | 25010.4        | 1:1DO-5<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 5 (1.5)                                        | 25010.5        | 1:1DO-6<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 6 (1.6)                                        | 25010.6        | 1:1DO-7<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 7 (1.7)                                        | 25010.7        | 1:1DO-8<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 8 (0.0)                                        | 25010.8        | 1:2DO-1<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 9 (0.1)                                        | 25010.9        | 1:2DO-2<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 10 (0.2)                                       | 25010.10       | 1:2DO-3<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 11 (0.3)                                       | 25010.11       | 1:2DO-4<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 12 (0.4)                                       | 25010.12       | 1:2DO-5<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 13 (0.5)                                       | 25010.13       | 1:2DO-6<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 14 (0.6)                                       | 25010.14       | 1:2DO-7<br>see circuit diagram                     | X   | X   | X     |     |     |       |
|                                                                                     | 15 (0.7)                                       | 25010.15       | 1:2DO-8<br>see circuit diagram                     | X   | X   | X     |     |     |       |
| <b>26</b>                                                                           | <b>Digital outputs WORD 2 - 16 Single-bits</b> |                |                                                    |     |     |       |     |     |       |

| Transmitted data to Master/ Client - Digital output words (25 - 28) - Address offset |                                         |                |                                                    |     |     |       |     |     |       |
|--------------------------------------------------------------------------------------|-----------------------------------------|----------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                                     | Modbus Address Offset                   | I/O Definition | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 0 (1.0)                                                                              | 25011.0                                 | 1:3DO-1        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 1 (1.1)                                                                              | 25011.1                                 | 1:3DO-2        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 2 (1.2)                                                                              | 25011.2                                 | 1:3DO-3        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 3 (1.3)                                                                              | 25011.3                                 | 1:3DO-4        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 4 (1.4)                                                                              | 25011.4                                 | 1:3DO-5        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 5 (1.5)                                                                              | 25011.5                                 | 1:3DO-6        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 6 (1.6)                                                                              | 25011.6                                 | 1:3DO-7        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 7 (1.7)                                                                              | 25011.7                                 | 1:3DO-8        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 8 (0.0)                                                                              | 25011.8                                 | 1:4DO-1        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 9 (0.1)                                                                              | 25011.9                                 | 1:4DO-2        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 10 (0.2)                                                                             | 25011.10                                | 1:4DO-3        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 11 (0.3)                                                                             | 25011.11                                | 1:4DO-4        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 12 (0.4)                                                                             | 25011.12                                | 1:4DO-5        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 13 (0.5)                                                                             | 25011.13                                | 1:4DO-6        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 14 (0.6)                                                                             | 25011.14                                | 1:4DO-7        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 15 (0.7)                                                                             | 25011.15                                | 1:4DO-8        | see circuit diagram                                | X   | X   | X     |     |     |       |
| 27.                                                                                  | Digital outputs WORD 3 - 16 Single-bits |                |                                                    |     |     |       |     |     |       |
| 0 (1.0)                                                                              | 25110.0                                 | 2:1DO-1        | see circuit diagram                                |     | X   | X     |     |     |       |

| Transmitted data to Master/Client - Digital output words (25 - 28) - Address offset |                                         |                |                                                    |     |     |       |     |     |       |  |
|-------------------------------------------------------------------------------------|-----------------------------------------|----------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                                    | Modbus Address Offset                   | I/O Definition | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 1 (1.1)                                                                             | 25110.1                                 | 2:1DO-2        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 2 (1.2)                                                                             | 25110.2                                 | 2:1DO-3        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 3 (1.3)                                                                             | 25110.3                                 | 2:1DO-4        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 4 (1.4)                                                                             | 25110.4                                 | 2:1DO-5        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 5 (1.5)                                                                             | 25110.5                                 | 2:1DO-6        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 6 (1.6)                                                                             | 25110.6                                 | 2:1DO-7        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 7 (1.7)                                                                             | 25110.7                                 | 2:1DO-8        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 8 (0.0)                                                                             | 25110.8                                 | 2:2DO-1        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 9 (0.1)                                                                             | 25110.9                                 | 2:2DO-2        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 10 (0.2)                                                                            | 25110.10                                | 2:2DO-3        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 11 (0.3)                                                                            | 25110.11                                | 2:2DO-4        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 12 (0.4)                                                                            | 25110.12                                | 2:2DO-5        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 13 (0.5)                                                                            | 25110.13                                | 2:2DO-6        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 14 (0.6)                                                                            | 25110.14                                | 2:2DO-7        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 15 (0.7)                                                                            | 25110.15                                | 2:2DO-8        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 28.                                                                                 | Digital outputs WORD 4 - 16 Single-bits |                |                                                    |     |     |       |     |     |       |  |
| 0 (1.0)                                                                             | 25111.0                                 | 2:3DO-1        | see circuit diagram                                |     | X   | X     |     |     |       |  |
| 1 (1.1)                                                                             | 25111.1                                 | 2:3DO-2        | see circuit diagram                                |     | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - Digital output words (25 - 28) - Address offset |                       |                |                                                    |     |     |       |     |     |       |
|--------------------------------------------------------------------------------------|-----------------------|----------------|----------------------------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                                     | Modbus Address Offset | I/O Definition | Signal description / Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 2 (1.2)                                                                              | 25111.2               | 2:3DO-3        | see circuit diagram                                |     | X   | X     |     |     |       |
| 3 (1.3)                                                                              | 25111.3               | 2:3DO-4        | see circuit diagram                                |     | X   | X     |     |     |       |
| 4 (1.4)                                                                              | 25111.4               | 2:3DO-5        | see circuit diagram                                |     | X   | X     |     |     |       |
| 5 (1.5)                                                                              | 25111.5               | 2:3DO-6        | see circuit diagram                                |     | X   | X     |     |     |       |
| 6 (1.6)                                                                              | 25111.6               | 2:3DO-7        | see circuit diagram                                |     | X   | X     |     |     |       |
| 7 (1.7)                                                                              | 25111.7               | 2:3DO-8        | see circuit diagram                                |     | X   | X     |     |     |       |
| 8 (0.0)                                                                              | 25111.8               | 2:4DO-1        | see circuit diagram                                |     | X   | X     |     |     |       |
| 9 (0.1)                                                                              | 25111.9               | 2:4DO-2        | see circuit diagram                                |     | X   | X     |     |     |       |
| 10 (0.2)                                                                             | 25111.10              | 2:4DO-3        | see circuit diagram                                |     | X   | X     |     |     |       |
| 11 (0.3)                                                                             | 25111.11              | 2:4DO-4        | see circuit diagram                                |     | X   | X     |     |     |       |
| 12 (0.4)                                                                             | 25111.12              | 2:4DO-5        | see circuit diagram                                |     | X   | X     |     |     |       |
| 13 (0.5)                                                                             | 25111.13              | 2:4DO-6        | see circuit diagram                                |     | X   | X     |     |     |       |
| 14 (0.6)                                                                             | 25111.14              | 2:4DO-7        | see circuit diagram                                |     | X   | X     |     |     |       |
| 15 (0.7)                                                                             | 25111.15              | 2:4DO-8        | see circuit diagram                                |     | X   | X     |     |     |       |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                       |                          |                                                                                                                                                                                                                                                                                                                                                                         |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------|-----------------------|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                      | Modbus Address Offset | Signal description       | Range of the transmitted data                                                                                                                                                                                                                                                                                                                                           | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 29                                                                    | 8101                  | Active operation mode    | 1 = Start<br>2 = Remote<br>Else = Stop                                                                                                                                                                                                                                                                                                                                  | X   |     |       |     |     |       |  |
|                                                                       | 18351                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     | X   |       |     |     |       |  |
|                                                                       | 18601                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     |     | X     |     |     |       |  |
| 30                                                                    | 8137                  | Active set point         | * 10 <sup>-1</sup> (Temperature)<br>* 10 <sup>-2</sup> (Pressure)<br>* 10 <sup>0</sup> (Percent)                                                                                                                                                                                                                                                                        | X   |     |       |     |     |       |  |
|                                                                       | 18379                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     | X   |       |     |     |       |  |
|                                                                       | 18631                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     |     | X     |     |     |       |  |
| 31                                                                    | 8139                  | Active process value     | * 10 <sup>-1</sup> (Temperature)<br>* 10 <sup>-2</sup> (Pressure)<br>* 10 <sup>0</sup> (Percent)                                                                                                                                                                                                                                                                        | X   |     |       |     |     |       |  |
|                                                                       | 18380                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     | X   |       |     |     |       |  |
|                                                                       |                       |                          |                                                                                                                                                                                                                                                                                                                                                                         |     |     | X     |     |     |       |  |
| 32                                                                    | 8138                  | Control sensor selection | 0 = Suction pressure<br>1 = Suction pressure as temperature<br>2 = Inlet temperature<br>3 = Outlet temperature<br>4 = Discharge pressure<br>5 = Discharge pressure as temperature<br>6 = Remote capacity<br>7 = Remote temperature<br>8 = Remote pressure<br>9 = Ammonia storage tank pressure<br>10 = Condenser outlet temperature<br>11 = Condenser inlet temperature | X   |     |       |     |     |       |  |
|                                                                       | 18381                 |                          |                                                                                                                                                                                                                                                                                                                                                                         |     | X   |       |     |     |       |  |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                       |                                             |                               |     |     |       |     |     |       |
|-----------------------------------------------------------------------|-----------------------|---------------------------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                      | Modbus Address Offset | Signal description                          | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
|                                                                       | 18653                 |                                             |                               |     |     | X     |     |     |       |
| 33                                                                    | 8801                  | Suction pressure 1                          | * 10 <sup>-2</sup>            | X   |     | X     |     |     |       |
|                                                                       |                       | Suction pressure switch-over stand alone    |                               |     | X   |       |     |     |       |
| 34                                                                    | 8821                  | Discharge pressure 1 (HP/ Compr.1)          | * 10 <sup>-2</sup>            | X   | X   | X     |     |     |       |
| 35                                                                    | 8831                  | Oil pressure 1 (HP/ Compr.1)                | * 10 <sup>-2</sup>            | X   | X   | X     |     |     |       |
| 36                                                                    | 8851                  | Pressure after oil filter 1                 | * 10 <sup>-2</sup>            | X   | X   | X     |     |     |       |
|                                                                       | 8891                  | Crankcase pressure 1                        |                               |     |     |       |     |     |       |
| 37                                                                    | 8861                  | Pressure before oil filter 1                | * 10 <sup>-2</sup>            | X   |     | X     |     |     |       |
| 38                                                                    | 8951                  | Suction temperature 1                       | * 10 <sup>-1</sup>            | X   |     | X     |     |     |       |
|                                                                       |                       | Suction temperature switch-over stand alone |                               |     | X   |       |     |     |       |
|                                                                       |                       | Intermediate temperature HP                 |                               |     |     |       |     |     |       |
| 39                                                                    | 8961                  | Discharge temperature 1 (HP/ Compr.1)       | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |
| 40                                                                    | 8981                  | Oil temperature 1                           | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |
| 41                                                                    | 8971                  | Oil separator temperature 1                 | * 10 <sup>-1</sup>            | X   |     |       |     |     |       |
| 42                                                                    | 9061                  | Primary slide position (HP/ Compr.1)        | * 10 <sup>0</sup>             | X   | X   | X     |     |     |       |
|                                                                       |                       | Cylinder capacity LP 1                      |                               |     |     |       |     |     |       |
| 43                                                                    | 9131                  | Secondary slide / Vi slide (HP/ Compr.1)    | * 10 <sup>0</sup>             | X   | X   | X     |     |     |       |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                             |                                                        |                               |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------|-----------------------------|--------------------------------------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|--|
| Trans-<br>mitted<br>word                                              | Modbus<br>Address<br>Offset | Signal description                                     | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
|                                                                       |                             | Cylinder capacity HP 1                                 |                               |     |     |       |     |     |       |  |
| 44                                                                    | 9281                        | Motor speed 1 (HP/ Compr.1)                            | * 10 <sup>0</sup>             | X   | X   | X     |     |     |       |  |
| 45                                                                    | 9251                        | Motor current 1 (HP/ Compr.1)                          | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 46                                                                    | 9564                        | Remote control value                                   | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 47                                                                    | 9111                        | Remote set point                                       | * 10 <sup>-2</sup>            | X   | X   | X     |     |     |       |  |
| 48                                                                    | 8921                        | Eco pressure 1 / Intercooler Pressure                  | * 10 <sup>-2</sup>            | X   | X   | X     |     |     |       |  |
| 49                                                                    | 9051                        | Eco temperature 1 / Intercooler Temperature            | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 50                                                                    | 9241                        | Capacity 1 (based on swept volume)                     | * 10 <sup>0</sup>             | X   |     | X     |     |     |       |  |
| 51                                                                    | 9372                        | Suction saturation temperature 1 (HP/ Compr.1)         | * 10 <sup>-1</sup>            | X   |     | X     |     |     |       |  |
|                                                                       |                             | Suction saturation switch-over stand alone temperature |                               |     | X   |       |     |     |       |  |
| 52                                                                    | 9382                        | Discharge saturation temperature 1 (HP/ Compr.1)       | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 53                                                                    | 8134                        | Running hours 1 (high) (HP/ Compr.1)                   | * 10 <sup>0</sup> kh          | X   | X   | X     |     |     |       |  |
| 54                                                                    | 8135                        | Running hours 1 (low) (HP/ Compr.1)                    | * 10 <sup>-1</sup> h          | X   | X   | X     |     |     |       |  |
| 55                                                                    | 18382                       | Intermediate Setpoint                                  |                               |     | X   |       |     |     |       |  |
| 56                                                                    |                             |                                                        |                               |     |     |       |     |     |       |  |
| 57                                                                    | 8121                        | Remaining time                                         | * 10 <sup>0</sup>             | X   |     | X     |     |     |       |  |
|                                                                       | 18359                       | Remaining time (HP)                                    |                               |     | X   |       |     |     |       |  |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                             |                                                  |                               |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------|-----------------------------|--------------------------------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|--|
| Trans-<br>mitted<br>word                                              | Modbus<br>Address<br>Offset | Signal description                               | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 58                                                                    | 9001                        | Inlet temperature of secondary refrigerant       | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 59                                                                    | 9011                        | Outlet temperature of secondary refrigerant      | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 60                                                                    | 17111                       | Liquid separator level                           | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 61                                                                    |                             | Eco level                                        |                               |     |     |       |     |     |       |  |
| 62                                                                    | 12871                       | Coolant inlet temperature                        | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 63                                                                    | 12875                       | Coolant outlet temperature                       | * 10 <sup>-1</sup>            | X   | X   | X     |     |     |       |  |
| 64                                                                    |                             | Oil temperature at oil return                    |                               |     |     |       |     |     |       |  |
| 65                                                                    |                             | Feedback injection valve                         |                               |     |     |       |     |     |       |  |
| 66                                                                    | 21020                       | Motor Winding Temperature L1 (HP/ Compr.1)       | * 10 <sup>-1</sup>            | X   | X   |       |     |     |       |  |
| 67                                                                    | 21030                       | Motor Winding Temperature L2 (HP/ Compr.1)       | * 10 <sup>-1</sup>            | X   | X   |       |     |     |       |  |
| 68                                                                    | 21040                       | Motor Winding Temperature L3 (HP/ Compr.1)       | * 10 <sup>-1</sup>            | X   | X   |       |     |     |       |  |
| 69                                                                    | 21000                       | Motor Bearing Temperature DE side (HP/ Compr.1)  | * 10 <sup>-1</sup>            | X   | X   |       |     |     |       |  |
| 70                                                                    | 21010                       | Motor Bearing Temperature NDE side (HP/ Compr.1) | * 10 <sup>-1</sup>            | X   | X   |       |     |     |       |  |
| 71                                                                    | 21021                       | Motor Winding Temperature L1 (LP/ Compr.2)       | * 10 <sup>-1</sup>            |     | X   | X     |     |     |       |  |
| 72                                                                    | 21031                       | Motor Winding Temperature L2 (LP/ Compr.2)       | * 10 <sup>-1</sup>            |     | X   | X     |     |     |       |  |
| 73                                                                    | 21041                       | Motor Winding Temperature L3 (LP/ Compr.2)       | * 10 <sup>-1</sup>            |     | X   | X     |     |     |       |  |
| 74                                                                    | 21001                       | Motor Bearing Temperature DE side (LP/ Compr.2)  | * 10 <sup>-1</sup>            |     | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                             |                                                  |                               |     |     |       |     |     |       |
|-----------------------------------------------------------------------|-----------------------------|--------------------------------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|
| Trans-<br>mitted<br>word                                              | Modbus<br>Address<br>Offset | Signal description                               | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 75                                                                    | 21011                       | Motor Bearing Temperature NDE side (LP/ Compr.2) | * 10 <sup>-1</sup>            |     | X   | X     |     |     |       |
| 76                                                                    |                             | Custom value                                     |                               |     |     |       |     |     |       |
| 77                                                                    |                             | Custom value                                     |                               |     |     |       |     |     |       |
| 78                                                                    |                             | Custom value                                     |                               |     |     |       |     |     |       |
| 79                                                                    |                             | Custom value                                     |                               |     |     |       |     |     |       |
| 80                                                                    |                             | Custom value                                     |                               |     |     |       |     |     |       |
| 81                                                                    | 8802                        | Suction pressure 2 (LP/ Compr.2)                 |                               |     | X   | X     |     |     |       |
| 82                                                                    | 8822                        | Discharge pressure 2                             |                               |     |     | X     |     |     |       |
|                                                                       |                             | Intermediate pressure                            |                               | X   |     |       |     |     |       |
| 83                                                                    | 8832                        | Oil pressure 2                                   |                               |     |     | X     |     |     |       |
|                                                                       | 9463                        | Oil supply LP                                    |                               |     | X   |       |     |     |       |
| 84                                                                    | 8852                        | Pressure after oil filter 2                      |                               |     |     | X     |     |     |       |
|                                                                       |                             | Crankcase pressure 2                             |                               |     |     |       |     |     |       |
| 85                                                                    | 8862                        | Pressure before oil filter 2                     |                               |     |     | X     |     |     |       |
| 86                                                                    | 8952                        | Suction temperature 2 (LP/ Compr.2)              |                               |     | X   |       |     |     |       |
| 87                                                                    | 8962                        | Discharge temperature 2                          |                               |     |     | X     |     |     |       |
|                                                                       |                             | Intermediate temperature                         |                               | X   |     |       |     |     |       |
| 88                                                                    | 8982                        | Oil temperature 2                                |                               |     |     | X     |     |     |       |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                       |                                                   |                               |     |     |       |     |     |       |  |
|-----------------------------------------------------------------------|-----------------------|---------------------------------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|--|
| Transmitted word                                                      | Modbus Address Offset | Signal description                                | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |  |
| 89                                                                    |                       | Oil separator temperature 2                       |                               |     |     |       |     |     |       |  |
| 90                                                                    | 9062                  | Primary slide position (LP/ Compr.2)              |                               |     | X   | X     |     |     |       |  |
|                                                                       |                       | Cylinder capacity LP 2                            |                               |     |     |       |     |     |       |  |
| 91                                                                    |                       | Secondary slide / Vi slide position (LP/ Compr.2) |                               |     | X   | X     |     |     |       |  |
|                                                                       |                       | Cylinder capacity HP 2                            |                               |     |     |       |     |     |       |  |
| 92                                                                    | 9272                  | Motor speed 2 (LP/ Compr.2)                       |                               |     | X   | X     |     |     |       |  |
| 93                                                                    | 9252                  | Motor current 2 (LP/ Compr.2)                     |                               |     | X   | X     |     |     |       |  |
| 94                                                                    | 8922                  | ECO pressure 2                                    |                               |     |     | X     |     |     |       |  |
|                                                                       |                       | Intermediate Intercooler pressure                 |                               |     |     |       |     |     |       |  |
| 95                                                                    | 9052                  | ECO temperature 2                                 |                               |     |     | X     |     |     |       |  |
|                                                                       |                       | Intermediate Intercooler temperature              |                               |     |     |       |     |     |       |  |
| 96                                                                    | 9242                  | Capacity 2 (based on swept volume) (LP/ Compr.2)  |                               |     | X   | X     |     |     |       |  |
| 97                                                                    | 9373                  | Suction saturation temperature 2 (LP/ Compr.2)    |                               |     | X   | X     |     |     |       |  |
| 98                                                                    | 9383                  | Discharge saturation temperature 2 (LP/ Compr.2)  |                               |     | X   | X     |     |     |       |  |
|                                                                       |                       | Intermediate saturation temperature               |                               |     |     |       |     |     |       |  |
| 99                                                                    | 8184                  | Running hours 2 (high) (LP/ Compr.2)              | * 10 <sup>0</sup> kh          |     | X   | X     |     |     |       |  |
| 100                                                                   | 8185                  | Running hours 2 (low) (LP/ Compr.2)               | * 10 <sup>-1</sup> h          |     | X   | X     |     |     |       |  |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                             |                          |                               |     |     |       |     |     |       |
|-----------------------------------------------------------------------|-----------------------------|--------------------------|-------------------------------|-----|-----|-------|-----|-----|-------|
| Trans-<br>mitted<br>word                                              | Modbus<br>Address<br>Offset | Signal description       | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 101                                                                   | 18364                       | Remaining time (LP)      | * 10 <sup>0</sup> s           |     | X   |       |     |     |       |
|                                                                       | 8171                        | Remaining time (Compr.2) |                               |     |     | X     |     |     |       |
| 102                                                                   |                             |                          |                               |     |     |       |     |     |       |
| 103                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 104                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 105                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 106                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 107                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 108                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 109                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 110                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 111                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 112                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 113                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 114                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 115                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 116                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |
| 117                                                                   |                             | Custom value             |                               |     |     |       |     |     |       |

| Transmitted data to Master/ Client - words (29 - 80) - Address offset |                       |                    |                               |     |     |       |     |     |       |
|-----------------------------------------------------------------------|-----------------------|--------------------|-------------------------------|-----|-----|-------|-----|-----|-------|
| Transmitted word                                                      | Modbus Address Offset | Signal description | Range of the transmitted data | SP1 | SP2 | SPduo | RC1 | RC2 | RCduo |
| 118                                                                   |                       | Custom value       |                               |     |     |       |     |     |       |
| 119                                                                   |                       | Custom value       |                               |     |     |       |     |     |       |
| 120                                                                   |                       | Custom value       |                               |     |     |       |     |     |       |

## 2.2 Standard Address Spreadsheet

**Hint!**

Please see next pages for the *Standard Address Spreadsheet*.

| AB     | Modbus | Description                      | R/W | Format                                                                                                                                             | Scale |
|--------|--------|----------------------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|-------|
|        |        | <b>Panel Information</b>         |     |                                                                                                                                                    |       |
| N10:0  | 400001 | Panel IP Address First Octet     | R   |                                                                                                                                                    | X1    |
| N10:1  | 400002 | Panel IP Address Second Octet    | R   |                                                                                                                                                    | X1    |
| N10:2  | 400003 | Panel IP Address Third Octet     | R   |                                                                                                                                                    | X1    |
| N10:3  | 400004 | Panel IP Address Fourth Octet    | R   |                                                                                                                                                    | X1    |
| N10:4  | 400005 | Unit ID                          | R   |                                                                                                                                                    | X1    |
| N10:5  | 400006 | Program Revision                 | R   |                                                                                                                                                    | X1    |
| N10:6  | 400007 | Configuration Revision           | R   |                                                                                                                                                    | X1    |
| N10:7  | 400008 | Refrigerant                      | R   |                                                                                                                                                    | X1    |
| N10:8  | 400009 | Number Of Compressors            | R   |                                                                                                                                                    | X1    |
| N10:9  | 400010 | Condenser Enabled                | R   |                                                                                                                                                    | X1    |
| N10:10 | 400011 | Evaporator Control Enabled       | R   |                                                                                                                                                    | X1    |
| N10:11 | 400012 | Pump Package Control Enabled     | R   |                                                                                                                                                    | X1    |
| N10:19 | 400020 | Communication Pressure Units     | R/W | 0 = barG<br>1 = barA<br>2 = PSIG<br>3 = PSIA<br>4 = kPaG<br>5 = kPaA<br>6 = kg/cm²G<br>7 = kg/cm²A<br>8 = Use Display Units                        | X1    |
| N10:20 | 400021 | Communications Temperature Units | R/W | 0 = Celsius<br>1 = Fahrenheit<br>2 = Use Display Units                                                                                             | X1    |
| N10:21 | 400022 | Pressure Units                   | R   | 0 = barG<br>1 = barA<br>2 = PSIG<br>3 = PSIA<br>4 = kPaG<br>5 = kPaA<br>6 = MPaG<br>7 = MPaA<br>8 = kg/cm²G<br>9 = kg/cm²A<br>10 = Inches Of Water | X1    |
| N10:22 | 400023 | Temperature Units                | R   | 0 = Celsius<br>1 = Fahrenheit                                                                                                                      | X1    |

|        |        |                       |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |    |
|--------|--------|-----------------------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| N10:23 | 400024 | Language              | R   | 0 = Bulgarian<br>1 = Chinese<br>2 = Danish<br>3 = German<br>4 = English UK<br>5 = English US<br>6 = Estonian<br>7 = Finnish<br>8 = French<br>9 = Greek<br>10 = Italian<br>11 = Japanese<br>12 = Latvian<br>13 = Lithuanian<br>14 = Hindi<br>15 = Dutch<br>16 = Norwegian<br>17 = Polish<br>18 = Portuguese<br>19 = Portuguese Brazilian<br>20 = Romanian<br>21 = Russian<br>22 = Swedish<br>23 = Slovenian<br>24 = Slovak<br>25 = Spanish<br>26 = Spanish Latin America<br>27 = Czech<br>28 = Turkish<br>29 = Hungarian<br>30 = Arabic | X1 |
| N10:24 | 400025 | Theme                 | R   | 0 = Indoor/Dark<br>1 = Outdoor/Light                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | X1 |
| N10:25 | 400026 | Historical Interval   | R   | 1 = 1 Minute<br>2 = 2 Minutes<br>5 = 5 Minutes<br>10 = 10 Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | X1 |
| N10:26 | 400027 | Real Time Clock Hours | R/W | 24 Hr Format                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1 |
| N10:27 | 400028 | RTC Minutes           | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1 |
| N10:28 | 400029 | RTC Seconds           | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1 |
| N10:29 | 400030 | RTC Day of Week       | R/W | 0 = Sunday<br>1 = Monday<br>2 = Tuesday<br>3 = Wednesday<br>4 = Thursday<br>5 = Friday<br>6 = Saturday                                                                                                                                                                                                                                                                                                                                                                                                                                 | X1 |
| N10:30 | 400031 | RTC Year              | R/W | Gregorian Calendar                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1 |
| N10:31 | 400032 | RTC Month             | R   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1 |
| N10:32 | 400033 | RTC Day               | R   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1 |

|        |        |                                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|--------|--------|--------------------------------|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| N10:33 | 400034 | Selected Tab                   | W | 0 = Omniview<br>1 = OmniData<br>100 = Compressor Overview<br>101 = Compressor SPDuo Detail Screen<br>101 = Compressor SPDuo Detail Screen<br>102 = Compressor 1 Detail Screen<br>103 = Compressor 1 Classic Screen<br>104 = Compressor 1 Motor Starter<br>105 = Compressor 1 VTrac<br>106 = Compressor 2 Detail Screen<br>107 = Compressor 2 Classic Screen<br>108 = Compressor 2 Motor Starter<br>109 = Compressor 2 VTrac<br>110 = Compressor 3 Detail Screen<br>111 = Compressor 3 Classic Screen<br>112 = Compressor 3 Motor Starter<br>113 = Compressor 3 VTrac<br>114 = Compressor 4 Detail Screen<br>115 = Compressor 4 Classic Screen<br>116 = Compressor 4 Motor Starter<br>117 = Compressor 4 VTrac<br>118 = Compressor 5 Detail Screen<br>119 = Compressor 5 Classic Screen<br>120 = Compressor 5 Motor Starter<br>121 = Compressor 5 VTrac<br>122 = Compressor 6 Detail Screen<br>123 = Compressor 6 Classic Screen<br>124 = Compressor 6 Motor Starter<br>125 = Compressor 6 VTrac<br>126 = Compressor 7 Detail Screen<br>127 = Compressor 7 Classic Screen<br>128 = Compressor 7 Motor Starter<br>129 = Compressor 7 VTrac<br>130 = Compressor 8 Detail Screen<br>131 = Compressor 8 Classic Screen<br>132 = Compressor 8 Motor Starter<br>133 = Compressor 8 VTrac<br>134 = Compressor 9 Detail Screen<br>135 = Compressor 9 Classic Screen | X1  |
| N10:30 | 400031 |                                | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|        |        | Reserved for Panel Information |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
| N10:99 | 400100 |                                | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|        |        |                                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|        |        | <b>Digital Data</b>            |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
|        |        |                                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |     |
| N10:99 | 400100 | Annunciate Search              | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N11:12 | 400113 | Inverted Annunciate Search     | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N11:25 | 400126 | AND Block                      | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N11:57 | 400158 | OR Block                       | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N11:89 | 400190 | NAND Block                     | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N11:96 | 400197 | NOR Block                      | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N12:3  | 400204 | XOR Block                      | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N12:10 | 400211 | Invert Block                   | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N12:42 | 400243 | Compare                        | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N12:74 | 400275 | Flip/Flop                      | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N12:87 | 400288 | Analog To Digital Block        | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N13:19 | 400320 | Timer Block                    | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N13:51 | 400352 | Custom Digital Input           | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N13:83 | 400384 | Custom Digital Output          | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |
| N13:90 | 400391 | Modbus Loss of Communication   | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | bit |

|        |        |                                    |   |  |      |
|--------|--------|------------------------------------|---|--|------|
| N13:97 | 400398 | Drive Output to Zero mA            | R |  | bit  |
| N14:4  | 400405 | Pulse                              | R |  | bit  |
| N14:36 | 400437 | Sensor Voting Fault                | R |  | bit  |
| N14:68 | 400469 | Button Output                      | R |  | bit  |
| N14:81 | 400482 | IO Counter Reset                   | R |  | bit  |
| N14:97 | 400498 | Custom Annunciation Output         | R |  | bit  |
| N15:10 | 400511 | Compressor Stop Permissive         | R |  | bit  |
| N15:12 | 400513 | Loss of Panel Purge Pressure Input | R |  | bit  |
|        |        | <b>Analog Data</b>                 |   |  |      |
| N16:0  | 400601 | Custom Analog                      | R |  | X1   |
|        |        |                                    |   |  |      |
| N17:99 | 400800 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N18:0  | 400801 | Counter Block Value                | R |  | X100 |
|        |        |                                    |   |  |      |
| N18:49 | 400850 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N18:50 | 400851 | Math Block Output                  | R |  | X100 |
|        |        |                                    |   |  |      |
| N20:49 | 401050 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N20:50 | 401051 | PI Block Output                    | R |  | X100 |
|        |        |                                    |   |  |      |
| N21:49 | 401150 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N21:50 | 401151 | Constant Block Value               | R |  | X100 |
|        |        |                                    |   |  |      |
| N22:49 | 401250 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N22:50 | 401251 | Global Block Value                 | R |  | X100 |
|        |        |                                    |   |  |      |
| N22:99 | 401300 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N24:0  | 401401 | Timer Block Running Value          | R |  | X1   |
|        |        |                                    |   |  |      |
| N28:99 | 401900 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N29:0  | 401901 | Sensor Voting Block Value          | R |  | X100 |
|        |        |                                    |   |  |      |
| N33:99 | 402400 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N34:0  | 402401 | Bad Sensor Number                  | R |  | X1   |
|        |        |                                    |   |  |      |
| N38:99 | 402900 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N39:0  | 402901 | Digital To Analog                  | R |  | X1   |
|        |        |                                    |   |  |      |
| N39:99 | 403000 |                                    | R |  |      |
|        |        |                                    |   |  |      |
| N40:0  | 403001 | IO Counter Input                   | R |  | X1   |
|        |        |                                    |   |  |      |
| N40:49 | 403050 |                                    | R |  |      |
|        |        |                                    |   |  |      |

|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|--------|--------|--------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| N40:50 | 403051 | IO Counter Difference    | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N40:99 | 403100 |                          | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N41:0  | 403101 | IO Counter Status        | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N41:24 | 403125 |                          | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N41:25 | 403126 | Modbus Block Value       | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X100 |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N46:24 | 403625 |                          | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N46:25 | 403626 |                          | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        | Reserved for Analog Data |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N65:99 | 405600 |                          | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        | <b>Annunciations</b>     |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
|        |        |                          |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N76:20 | 406621 | Clear All Annunciations  | W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
|        |        | Annunciation 1           |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |
| N76:21 | 406622 | Annunciation Code        | R | 0 = COMPRESSOR ANNUNCIATION START<br>1 = High Motor Current<br>2 = Low Motor Current<br>3 = High Suction Pressure<br>4 = Low Suction Pressure<br>5 = High Motor Speed<br>6 = Low Motor Speed<br>7 = Capacity Slide Failed To Unload<br>8 = High Discharge Pressure<br>9 = Low Discharge Pressure<br>10 = High Discharge Temperature<br>11 = High Oil Separator Temperature<br>12 = Low Oil Separator Temperature<br>13 = High Oil Separator Level<br>14 = Low Oil Level<br>15 = High Inlet Oil Temperature<br>16 = Low Inlet Oil Temperature<br>17 = High Oil Differential Pressure<br>18 = Low Oil Differential Pressure<br>19 = High Oil Filter Differential<br>20 = Illegal Oil Filter Differential Pressure<br>21 = Oil Pump Illegal Interlock<br>22 = Oil Pump 1 Illegal Interlock<br>23 = Oil Pump 2 Illegal Interlock<br>24 = Oil Pump 1 Loss of Interlock Auxiliary<br>25 = Oil Pump 2 Loss of Interlock Auxiliary<br>26 = Oil Pump Start Attempts<br>27 = Oil Pump Loss of Interlock<br>28 = Compressor Illegal Interlock<br>29 = Compressor Motor Protection Shutdown<br>30 = Gas Leak Detection Shutdown<br>31 = No Oil Flow Detected<br>32 = Oil Pump Circulation Shutdown<br>33 = Low Suction Superheat Shutdown<br>34 = High Suction Superheat Shutdown<br>35 = Low Discharge Superheat Shutdown<br>36 = High Discharge Superheat Shutdown<br>37 = Low Intermediate Pressure<br>38 = High Inlet Temperature | X1   |
| N76:22 | 406623 | Annunciation Type        | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
| N76:23 | 406624 | Auxiliary                | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
| N76:24 | 406625 | Hour                     | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
| N76:25 | 406626 | Minute                   | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |
| N76:26 | 406627 | Second                   | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1   |

|        |        |                                 |   |  |    |
|--------|--------|---------------------------------|---|--|----|
| N76:27 | 406628 | Month                           | R |  | X1 |
| N76:28 | 406629 | Day                             | R |  | X1 |
| N76:29 | 406630 | Year                            | R |  | X1 |
| N76:30 | 406631 | Clear Annunciation              | W |  | X1 |
|        |        |                                 |   |  |    |
| N76:31 | 406632 | Annunciation 2                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:40 | 406641 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:41 | 406642 | Annunciation 3                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:50 | 406651 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:51 | 406652 | Annunciation 4                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:60 | 406661 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:61 | 406662 | Annunciation 5                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:70 | 406671 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:71 | 406672 | Annunciation 6                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:80 | 406681 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:81 | 406682 | Annunciation 7                  |   |  |    |
|        |        |                                 |   |  |    |
| N76:90 | 406691 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N76:91 | 406692 | Annunciation 8                  |   |  |    |
|        |        |                                 |   |  |    |
| N77:0  | 406701 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N77:1  | 406702 | Annunciation 9                  |   |  |    |
|        |        |                                 |   |  |    |
| N77:10 | 406711 |                                 | - |  |    |
|        |        |                                 |   |  |    |
| N77:11 | 406712 | Annunciation 10                 |   |  |    |
|        |        |                                 |   |  |    |
| N77:20 | 406721 |                                 | - |  |    |
|        |        |                                 |   |  |    |
|        |        | <b>Compressor Annunciations</b> |   |  |    |
|        |        |                                 |   |  |    |

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|--------|--------|------------------------|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| N77:21 | 406722 | Compressor 1 Shutdowns | R | bit 0 = High Motor Current<br>bit 1 = Low Motor Current<br>bit 2 = High Suction Pressure<br>bit 3 = Low Suction Pressure<br>bit 4 = High Motor Speed<br>bit 5 = Low Motor Speed<br>bit 6 = Capacity Slide Failed To Unload<br>bit 7 = High Discharge Pressure<br>bit 8 = Low Discharge Pressure<br>bit 9 = High Discharge Temperature<br>bit 10 = High Oil Separator Temperature<br>bit 11 = Low Oil Separator Temperature<br>bit 12 = High Oil Separator Level<br>bit 13 = Low Oil Level<br>bit 14 = High Inlet Oil Temperature<br>bit 15 = Low Inlet Oil Temperature                                                                                                                       |  |
| N77:22 | 406723 |                        | R | bit 0 = High Oil Differential Pressure<br>bit 1 = Low Oil Differential Pressure<br>bit 2 = High Oil Filter Differential<br>bit 3 = Illegal Oil Filter Differential Pressure<br>bit 4 = Oil Pump Illegal Interlock<br>bit 5 = Oil Pump 1 Illegal Interlock<br>bit 6 = Oil Pump 2 Illegal Interlock<br>bit 7 = Oil Pump 1 Loss of Interlock Auxiliary<br>bit 8 = Oil Pump 2 Loss of Interlock Auxiliary<br>bit 9 = Oil Pump Start Attempts<br>bit 10 = Oil Pump Loss of Interlock<br>bit 11 = Compressor Illegal Interlock<br>bit 12 = Compressor Motor Protection Shutdown<br>bit 13 = Gas Leak Detection Shutdown<br>bit 14 = No Oil Flow Detected<br>bit 15 = Oil Pump Circulation Shutdown |  |
| N77:23 | 406724 |                        | R | bit 0 = Low Suction Superheat Shutdown<br>bit 1 = High Suction Superheat Shutdown<br>bit 2 = Low Discharge Superheat Shutdown<br>bit 3 = High Discharge Superheat Shutdown<br>bit 4 = Low Intermediate Pressure<br>bit 5 = High Inlet Temperature<br>bit 6 = Low Inlet Temperature<br>bit 7 = High Outlet Temperature<br>bit 8 = Low Outlet Temperature<br>bit 9 = Zero Load<br>bit 10 = Balance Piston Not Open<br>bit 11 = High Booster Discharge Pressure<br>bit 12 = High Balance Piston Pressure<br>bit 13 = Loss Of Compressor Interlock<br>bit 14 = Illegal Compressor Motor Current Shutdown<br>bit 15 = Power Reset Abort Shutdown                                                  |  |

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|--------|--------|-----------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| N77:24 | 406725 |                       | R | bit 0 = Pump Down Too Long<br>bit 1 = Loss Of Remote Start Signal<br>bit 2 = Low Oil Flow<br>bit 3 = Discharge Check Valve Failed To Open<br>bit 4 = Discharge Check Valve Failed To Close<br>bit 5 = Oil Drain Failed To Clear Shutdown<br>bit 6 = Loss of Communication Benshaw Fixed Drive<br>bit 7 = Loss of Communication Benshaw Variable Speed Drive<br>bit 8 = Suction Pressure Force Unload<br>bit 9 = Suction Pressure Load Limit<br>bit 10 = Motor Current Force Unload<br>bit 11 = Motor Current Load Limit<br>bit 12 = Outlet Temperature Force Unload<br>bit 13 = Outlet Temperature Load Limit<br>bit 14 = Discharge Pressure Force Unload<br>bit 15 = Discharge Pressure Load Limit                                                                                                                                               |  |
| N77:25 | 406726 |                       | R | bit 0 = Low Auxiliary Safety Pressure<br>bit 1 = Low Pressure Differential<br>bit 2 = Suction Check Valve Failed To Open<br>bit 3 = Suction Check Valve Failed To Close<br>bit 4 = Low Pressure Ratio<br>bit 5 = Ammonia Storage Pressure Load Limit<br>bit 6 = Ammonia Storage Pressure Force Unload<br>bit 7 = High Motor Drive End Bearing Temperature<br>bit 8 = High Motor Non Drive End Bearing Temperature<br>bit 9 = High Motor Phase A Winding Temperature<br>bit 10 = High Motor Phase B Winding Temperature<br>bit 11 = High Motor Phase C Winding Temperature<br>bit 12 = High Compressor Male Drive End Bearing Temperature<br>bit 13 = High Compressor Male Non Drive End Bearing Temperature<br>bit 14 = High Compressor Female Drive End Bearing Temperature<br>bit 15 = High compressor Female Non Drive End Bearing Temperature |  |
| N77:26 | 406727 | Compressor 1 Warnings | R | bit 0 = High Motor Current<br>bit 1 = Low Motor Current<br>bit 2 = High Suction Pressure<br>bit 3 = Low Suction Pressure<br>bit 4 = High Motor Speed<br>bit 5 = Low Motor Speed<br>bit 6 = Capacity Slide Failed To Unload<br>bit 7 = High Discharge Pressure<br>bit 8 = Low Discharge Pressure<br>bit 9 = High Discharge Temperature<br>bit 10 = High Oil Separator Temperature<br>bit 11 = Low Oil Separator Temperature<br>bit 12 = High Oil Separator Level<br>bit 13 = Low Oil Level<br>bit 14 = High Inlet Oil Temperature<br>bit 15 = Low Inlet Oil Temperature                                                                                                                                                                                                                                                                            |  |

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|--------|--------|--|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| N77:27 | 406728 |  | R | bit 0 = High Oil Differential Pressure<br>bit 1 = Low Oil Differential Pressure<br>bit 2 = High Oil Filter Differential<br>bit 3 = Illegal Oil Filter Differential Pressure<br>bit 4 = Oil Pump Illegal Interlock<br>bit 5 = Oil Pump 1 Illegal Interlock<br>bit 6 = Oil Pump 2 Illegal Interlock<br>bit 7 = Oil Pump 1 Loss of Interlock Auxiliary<br>bit 8 = Oil Pump 2 Loss of Interlock Auxiliary<br>bit 9 = Oil Pump Start Attempts<br>bit 10 = Oil Pump Loss of Interlock<br>bit 11 = Compressor Illegal Interlock<br>bit 12 = Compressor Motor Protection Shutdown<br>bit 13 = Gas Leak Detection Shutdown<br>bit 14 = No Oil Flow Detected<br>bit 15 = Oil Pump Circulation Shutdown        |  |
| N77:28 | 406729 |  | R | bit 0 = Low Suction Superheat Shutdown<br>bit 1 = High Suction Superheat Shutdown<br>bit 2 = Low Discharge Superheat Shutdown<br>bit 3 = High Discharge Superheat Shutdown<br>bit 4 = Low Intermediate Pressure<br>bit 5 = High Inlet Temperature<br>bit 6 = Low Inlet Temperature<br>bit 7 = High Outlet Temperature<br>bit 8 = Low Outlet Temperature<br>bit 9 = Zero Load<br>bit 10 = Balance Piston Not Open<br>bit 11 = High Booster Discharge Pressure<br>bit 12 = High Balance Piston Pressure<br>bit 13 = Loss Of Compressor Interlock<br>bit 14 = Illegal Compressor Motor Current Shutdown<br>bit 15 = Power Reset Abort Shutdown                                                         |  |
| N77:29 | 406730 |  | R | bit 0 = Pump Down Too Long<br>bit 1 = Loss Of Remote Start Signal<br>bit 2 = Low Oil Flow<br>bit 3 = Discharge Check Valve Failed To Open<br>bit 4 = Discharge Check Valve Failed To Close<br>bit 5 = Oil Drain Failed To Clear Shutdown<br>bit 6 = Loss of Communication Benshaw Fixed Drive<br>bit 7 = Loss of Communication Benshaw Variable Speed Drive<br>bit 8 = Suction Pressure Force Unload<br>bit 9 = Suction Pressure Load Limit<br>bit 10 = Motor Current Force Unload<br>bit 11 = Motor Current Load Limit<br>bit 12 = Outlet Temperature Force Unload<br>bit 13 = Outlet Temperature Load Limit<br>bit 14 = Discharge Pressure Force Unload<br>bit 15 = Discharge Pressure Load Limit |  |

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| N77:30 | 406731 |                             | R | bit 0 = Low Auxiliary Safety Pressure<br>bit 1 = Low Pressure Differential<br>bit 2 = Suction Check Valve Failed To Open<br>bit 3 = Suction Check Valve Failed To Close<br>bit 4 = Low Pressure Ratio<br>bit 5 = Ammonia Storage Pressure Load Limit<br>bit 6 = Ammonia Storage Pressure Force Unload<br>bit 7 = High Motor Drive End Bearing Temperature<br>bit 8 = High Motor Non Drive End Bearing Temperature<br>bit 9 = High Motor Phase A Winding Temperature<br>bit 10 = High Motor Phase B Winding Temperature<br>bit 11 = High Motor Phase C Winding Temperature<br>bit 12 = High Compressor Male Drive End Bearing Temperature<br>bit 13 = High Compressor Male Non Drive End Bearing Temperature<br>bit 14 = High Compressor Female Drive End Bearing Temperature<br>bit 15 = High compressor Female Non Drive End Bearing Temperature |  |
| N77:32 | 406733 | Compressor 2                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:41 | 406742 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:42 | 406743 | Compressor 3                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:51 | 406752 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:52 | 406753 | Compressor 4                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:61 | 406762 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:62 | 406763 | Compressor 5                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:71 | 406772 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:72 | 406773 | Compressor 6                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:81 | 406782 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:82 | 406783 | Compressor 7                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:91 | 406792 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N77:92 | 406793 | Compressor 8                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N78:1  | 406802 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N78:2  | 406803 | Compressor 9                |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N78:11 | 406812 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N78:12 | 406813 | Compressor 10               |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
| N78:21 | 406822 |                             | - |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        |                             |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |
|        |        | <b>System Annunciations</b> |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |

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| N78:21 | 406822 | System Shutdowns | R | bit 0 = Emergency Stop<br>bit 1 = Emergency Stop Over Bus<br>bit 2 = Lost Communication With Sequencer<br>bit 3 = Lost Communication With Gateway<br>bit 4 = LiveBit Time Communication With Gateway<br>bit 5 = Upcoming Service Required<br>bit 6 = Past Due Service Required<br>bit 7 = Service Required<br>bit 8 = Directory Folder Backup Capacity<br>bit 9 = Directory Folder BIN Capacity<br>bit 10 = Directory Folder Data Capacity<br>bit 11 = Directory Folder Documents Capacity<br>bit 12 = Directory Folder History Annunciations Capacity<br>bit 13 = Directory Folder History Historical Capacity<br>bit 14 = Directory Folder History RTTrend Capacity<br>bit 15 = Directory Folder Log Capacity |  |
| N78:22 | 406823 |                  | R | bit 0 = Directory Folder ParameterArchive Capacity<br>bit 1 = Auxiliary Shutdown<br>bit 2 = Auxiliary Warning<br>bit 3 = Please contact GEA to update drawings<br>bit 4 = Watchdog<br>bit 5 = Analog Input Count Mismatch<br>bit 6 = Analog Output Count Mismatch<br>bit 7 = Digital Input Count Mismatch<br>bit 8 = Digital Output Count Mismatch<br>bit 9 = Analog Slice Not Recognized<br>bit 10 = Sensor Failure<br>bit 11 = Loss Of Communications IO Network<br>bit 12 = Exception From Bus Coupler<br>bit 13 = Manual RTTrend Snapshot<br>bit 14 = Output Overidden<br>bit 15 = Wire Break                                                                                                               |  |
| N78:23 | 406824 |                  | R | bit 0 = Math Block Units Mismatch<br>bit 1 = Please contact Gea High Log Usage<br>bit 2 = Screen Saver Has Been Turned Off This Will Shorten The Panels Operational Life<br>bit 3 = Duo IO Counter Not Counting<br>bit 4 = Duo Standstill Monitoring<br>bit 5 = Safety Chain<br>bit 6 = Pull Down Running<br>bit 7 = Power Reset Internal Sequencer Abort Shutdown<br>bit 8 = Loss Of Panel Purge<br>bit 9 = Maintenance Mode Active                                                                                                                                                                                                                                                                            |  |

|        |        |                                         |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
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| N78:26 | 406827 | System Warnings                         | R | bit 0 = Emergency Stop<br>bit 1 = Emergency Stop Over Bus<br>bit 2 = Lost Communication With Sequencer<br>bit 3 = Lost Communication With Gateway<br>bit 4 = LiveBit Time Communication With Gateway<br>bit 5 = Upcoming Service Required<br>bit 6 = Past Due Service Required<br>bit 7 = Service Required<br>bit 8 = Directory Folder Backup Capacity<br>bit 9 = Directory Folder BIN Capacity<br>bit 10 = Directory Folder Data Capacity<br>bit 11 = Directory Folder Documents Capacity<br>bit 12 = Directory Folder History Annunciations Capacity<br>bit 13 = Directory Folder History Historical Capacity<br>bit 14 = Directory Folder History RTTrend Capacity<br>bit 15 = Directory Folder Log Capacity |  |
| N78:27 | 406828 |                                         | R | bit 0 = Directory Folder ParameterArchive Capacity<br>bit 1 = Auxiliary Shutdown<br>bit 2 = Auxiliary Warning<br>bit 3 = Please contact GEA to update drawings<br>bit 4 = Watchdog<br>bit 5 = Analog Input Count Mismatch<br>bit 6 = Analog Output Count Mismatch<br>bit 7 = Digital Input Count Mismatch<br>bit 8 = Digital Output Count Mismatch<br>bit 9 = Analog Slice Not Recognized<br>bit 10 = Sensor Failure<br>bit 11 = Loss Of Communications IO Network<br>bit 12 = Exception From Bus Coupler<br>bit 13 = Manual RTTrend Snapshot<br>bit 14 = Output Overridden<br>bit 15 = Wire Break                                                                                                              |  |
| N78:28 | 406829 |                                         | R | bit 0 = Math Block Units Mismatch<br>bit 1 = Please contact Gea High Log Usage<br>bit 2 = Screen Saver Has Been Turned Off This Will Shorten The Panels Operational Life<br>bit 3 = Duo IO Counter Not Counting<br>bit 4 = Duo Standstill Monitoring<br>bit 5 = Safety Chain<br>bit 6 = Pull Down Running<br>bit 7 = Power Reset Internal Sequencer Abort Shutdown<br>bit 8 = Loss Of Panel Purge<br>bit 9 = Maintenance Mode Active                                                                                                                                                                                                                                                                            |  |
|        |        | <b>Refrigerant Sensor Annunciations</b> |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |
|        |        |                                         |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |

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| N79:80 | 406981 |                                                                                                                           | R | 0 bit = Refrigerant Sensor 1 High Shutdown<br>1 bit = Refrigerant Sensor 1 High High Warning<br>2 bit = Refrigerant Sensor 1 High Warning<br>3 bit = Refrigerant Sensor 2 High Shutdown<br>4 bit = Refrigerant Sensor 2 High High Warning<br>5 bit = Refrigerant Sensor 2 High Warning<br>6 bit = Refrigerant Sensor 3 High Shutdown<br>7 bit = Refrigerant Sensor 3 High High Warning<br>8 bit = Refrigerant Sensor 3 High Warning<br>9 bit = Refrigerant Sensor 4 High Shutdown<br>10 bit = Refrigerant Sensor 4 High High Warning<br>11 bit = Refrigerant Sensor 4 High Warning<br>12 bit = Refrigerant Sensor 5 High Shutdown<br>13 bit = Refrigerant Sensor 5 High High Warning<br>14 bit = Refrigerant Sensor 5 High Warning |  |
| N79:81 | 406982 | Refrigerant Sensor 6<br>Refrigerant Sensor 7<br>Refrigerant Sensor 8<br>Refrigerant Sensor 9<br>Refrigerant Sensor 10     |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N79:91 | 406983 | Refrigerant Sensor 11<br>Refrigerant Sensor 12<br>Refrigerant Sensor 13<br>Refrigerant Sensor 14<br>Refrigerant Sensor 15 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:1  | 406984 | Refrigerant Sensor 16<br>Refrigerant Sensor 17<br>Refrigerant Sensor 18<br>Refrigerant Sensor 19<br>Refrigerant Sensor 20 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:11 | 406985 | Refrigerant Sensor 21<br>Refrigerant Sensor 22<br>Refrigerant Sensor 23<br>Refrigerant Sensor 24<br>Refrigerant Sensor 25 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:21 | 406986 | Refrigerant Sensor 26<br>Refrigerant Sensor 27<br>Refrigerant Sensor 28<br>Refrigerant Sensor 29<br>Refrigerant Sensor 30 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:31 | 406987 | Refrigerant Sensor 31<br>Refrigerant Sensor 32<br>Refrigerant Sensor 33<br>Refrigerant Sensor 34<br>Refrigerant Sensor 35 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:41 | 406988 | Refrigerant Sensor 36<br>Refrigerant Sensor 37<br>Refrigerant Sensor 38<br>Refrigerant Sensor 39<br>Refrigerant Sensor 40 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |
| N80:51 | 406989 | Refrigerant Sensor 41<br>Refrigerant Sensor 42<br>Refrigerant Sensor 43<br>Refrigerant Sensor 44<br>Refrigerant Sensor 45 |   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

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| N80:61 | 406990 | Refrigerant Sensor 46<br>Refrigerant Sensor 47<br>Refrigerant Sensor 48<br>Refrigerant Sensor 49<br>Refrigerant Sensor 50 |  |  |  |
| N80:71 | 406991 | Refrigerant Sensor 51<br>Refrigerant Sensor 52<br>Refrigerant Sensor 53<br>Refrigerant Sensor 54<br>Refrigerant Sensor 55 |  |  |  |
| N80:81 | 406992 | Refrigerant Sensor 56<br>Refrigerant Sensor 57<br>Refrigerant Sensor 58<br>Refrigerant Sensor 59<br>Refrigerant Sensor 60 |  |  |  |
| N80:91 | 406993 | Refrigerant Sensor 61<br>Refrigerant Sensor 62<br>Refrigerant Sensor 63<br>Refrigerant Sensor 64<br>Refrigerant Sensor 65 |  |  |  |
| N81:1  | 406994 | Refrigerant Sensor 66<br>Refrigerant Sensor 67<br>Refrigerant Sensor 68<br>Refrigerant Sensor 69<br>Refrigerant Sensor 70 |  |  |  |
| N81:11 | 406995 | Refrigerant Sensor 71<br>Refrigerant Sensor 72<br>Refrigerant Sensor 73<br>Refrigerant Sensor 74<br>Refrigerant Sensor 75 |  |  |  |
| N81:21 | 406996 | Refrigerant Sensor 76<br>Refrigerant Sensor 77<br>Refrigerant Sensor 78<br>Refrigerant Sensor 79<br>Refrigerant Sensor 80 |  |  |  |
| N81:31 | 406997 | Refrigerant Sensor 81<br>Refrigerant Sensor 82<br>Refrigerant Sensor 83<br>Refrigerant Sensor 84<br>Refrigerant Sensor 85 |  |  |  |
| N81:41 | 406998 | Refrigerant Sensor 86<br>Refrigerant Sensor 87<br>Refrigerant Sensor 88<br>Refrigerant Sensor 89<br>Refrigerant Sensor 90 |  |  |  |
| N81:51 | 406999 | Refrigerant Sensor 91<br>Refrigerant Sensor 92<br>Refrigerant Sensor 93<br>Refrigerant Sensor 94<br>Refrigerant Sensor 95 |  |  |  |

|         |        |                                                                                                                            |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
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| N81:61  | 407000 | Refrigerant Sensor 96<br>Refrigerant Sensor 97<br>Refrigerant Sensor 98<br>Refrigerant Sensor 99<br>Refrigerant Sensor 100 |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
|         |        | <b>Custom Parameters</b>                                                                                                   |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
| N150:50 | 414051 | Custom Parameters                                                                                                          | R/W | Range and Scaling are factory configurable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |     |
|         |        |                                                                                                                            |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
| N157:99 | 414800 |                                                                                                                            | -   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
|         |        | <b>Compressor Commands</b>                                                                                                 |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
|         |        |                                                                                                                            |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |
| N91:0   | 408101 | Compressor Start Mode                                                                                                      | R/W | 1 = Start<br>2 = Remote<br>Else = Stop                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N91:1   | 408102 | Remote Start Stop                                                                                                          | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | X1  |
| N91:2   | 408103 | Compressor Capacity Mode                                                                                                   | R/W | 1 = Unload<br>2 = Load<br>3 = Auto<br>4 = External<br>Else = Holding At                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N91:3   | 408104 | Compressor Status                                                                                                          | R   | 0 = Starting<br>1 = Running<br>2 = Stopping<br>3 = Stopped                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1  |
| N91:4   | 408105 | Compressor Sequence Status                                                                                                 | R/W | Stopped and Running always return 0.<br>Starting<br>0 = Check Oil Pump Circulation<br>1 = Check Drive Conditions<br>2 = Check Oil Drain Timer<br>3 = Check Control Signal Cycling<br>4 = Check Permissive Start<br>5 = Check Pump Down Build To Pressure<br>6 = Check Discharge Check Valve<br>7 = Check Suction Check Valve<br>8 = Check Slide Position<br>9 = Retrofit Oil Drain Input Energized<br>10 = Check Prelube Timer<br>11 = Check Oil Circuit<br>12 = Check Secondary Refrigerant Feedback Flow Delay<br>13 = Check Secondary Refrigerant Feedback Pump<br>14 = Check Secondary Refrigerant Feedback Flow<br>15 = Check Water Cooled Condenser<br>16 = Check Unloaded Start<br>17 = Send Motor Start Signal<br>18 = Check Interlock<br>Stopping<br>0 = Check If Booster Has Stopped<br>1 = Check Slide Position<br>2 = Unloading<br>3 = Check Unloaded Start<br>4 = Check Stop Permissive<br>5 = Send Motor Stop Signal<br>6 = Check For Interlock Or Motor Current | X1  |
| N91:5   | 408106 | Load Pulse                                                                                                                 | R/W | 1 to 10 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X10 |
| N91:6   | 408107 | Unload Pulse                                                                                                               | R/W | 1 to 10 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | X10 |
| N91:7   | 408108 | Control Mode                                                                                                               | R/W | 1 = Capacity Control 1<br>2 = Capacity Control 2<br>3 = Capacity Control 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1  |

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| N91:8  | 408109 | Capacity Control 1 Control Signal         | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N91:9  | 408110 | Capacity Control 1 Set Point              | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             | X1 |
| N91:10 | 408111 | Capacity Control 1 Minimum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:11 | 408112 | Capacity Control 1 Maximum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:12 | 408113 | Capacity Control 2 Control Signal         | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N91:13 | 408114 | Capacity Control 2 Set Point              | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             | X1 |
| N91:14 | 408115 | Capacity Control 2 Minimum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:15 | 408116 | Capacity Control 2 Maximum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:16 | 408117 | Capacity Control 3 Control Signal         | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N91:17 | 408118 | Capacity Control 3 Set Point              | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             | X1 |
| N91:18 | 408119 | Capacity Control 3 Minimum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:19 | 408120 | Capacity Control 3 Maximum Capacity Slide | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N91:20 | 408121 | Clear Motor Start Timers                  | R/W | Write any value to clear. Reading this value with return the High Timer between Motor Start to Start, Motor Stop to Start and Oil Drain.                                                                                                                                                                                                                                | X1 |
| N91:21 | 408122 | Abort Sequencer Timer                     | R/W | Write any value to Abort Sequencer Timer                                                                                                                                                                                                                                                                                                                                | X1 |
| N91:22 | 408123 | Register Sequencer Timer 5 Minutes        | R/W | Write 17235 to enable a 5 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              | X1 |
| N91:23 | 408124 | Register Sequencer Timer 1 Minutes        | R/W | Write 17235 to enable a 1 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              | X1 |
| N91:24 | 408125 | Economizer Control By Other Input         | R/W | Any non zero value will indicate the economizer is on                                                                                                                                                                                                                                                                                                                   | X1 |

|        |        |                                |     |                                           |    |
|--------|--------|--------------------------------|-----|-------------------------------------------|----|
| N91:25 | 408126 | Remote VFD Control             | R/W | 0 - 100 % (-1 to Disable)                 | X1 |
| N91:27 | 408128 | Shutdown Warning Status        | R/W | 0 = Normal<br>1 = Warning<br>2 = Shutdown | X1 |
| N91:28 | 408129 | Control Value                  | R/W |                                           | X1 |
| N91:29 | 408130 | Primary Slide                  | R/W |                                           | X1 |
| N91:30 | 408131 | Motor Current                  | R/W |                                           | X1 |
| N91:31 | 408132 | Motor Speed                    | R/W |                                           | X1 |
| N91:32 | 408133 | Vi                             | R/W |                                           | X1 |
| N91:33 | 408134 | RunTime KHours                 | R/W |                                           | X1 |
| N91:34 | 408135 | RunTime Hours                  | R/W |                                           | X1 |
| N91:35 | 408136 | Limitation                     | R/W |                                           | X1 |
| N91:36 | 408137 | Current Set Point              | R/W |                                           | X1 |
| N91:37 | 408138 | Current Control Signal         | R/W |                                           | X1 |
| N91:38 | 408139 | Remote Control Value           | R/W |                                           | X1 |
| N91:39 | 408140 | Remote Set Point               | R/W |                                           | X1 |
| N91:49 | 408150 | Bit Commands                   | R/W |                                           | X1 |
|        |        |                                |     |                                           |    |
| N91:50 | 408151 | Compressor 2                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N91:99 | 408200 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N92:0  | 408201 | Compressor 3                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N92:49 | 408250 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N92:50 | 408251 | Compressor 4                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N92:99 | 408300 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N93:0  | 408301 | Compressor 5                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N93:49 | 408350 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N93:50 | 408351 | Compressor 6                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N93:99 | 408400 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N94:0  | 408401 | Compressor 7                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N94:49 | 408450 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N94:50 | 408451 | Compressor 8                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N94:99 | 408500 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N95:0  | 408501 | Compressor 9                   |     |                                           |    |
|        |        |                                |     |                                           |    |
| N95:49 | 408550 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
| N95:50 | 408551 | Compressor 10                  |     |                                           |    |
|        |        |                                |     |                                           |    |
| N95:99 | 408600 |                                | -   |                                           |    |
|        |        |                                |     |                                           |    |
|        |        |                                |     |                                           |    |
|        |        | <b>Compressor Digital Data</b> |     |                                           |    |

|        |        |                                          |    |                                                 |     |
|--------|--------|------------------------------------------|----|-------------------------------------------------|-----|
| N96:0  | 408601 | Compressor Motor Start                   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:0  | 408601 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:1  | 408602 | Compressor Motor Interlock               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:1  | 408602 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:2  | 408603 | Compressor Motor Protection Input        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:2  | 408603 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:3  | 408604 | Compressor Illegal Start Output          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:3  | 408604 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:4  | 408605 | Compressor Motor Thermal Shutdown        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:4  | 408605 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:5  | 408606 | Compressor Motor Starter Locked Out      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:5  | 408606 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:6  | 408607 | Motor Start To Start Timer Active Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:6  | 408607 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:7  | 408608 | kWh Pulse Input                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:7  | 408608 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:8  | 408609 | kWh Clear Input                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:8  | 408609 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:9  | 408610 | Compressor Running Lamp                  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:9  | 408610 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:10 | 408611 | Warning Lamp                             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:10 | 408611 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:11 | 408612 | Shutdown Lamp                            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N96:11 | 408612 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N96:12 | 408613 | Compressor Ready To Start                | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |

|        |        |                                         |    |                                                 |     |
|--------|--------|-----------------------------------------|----|-------------------------------------------------|-----|
|        |        | Block Number                            | 10 |                                                 |     |
| N96:12 | 408613 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:13 | 408614 | Emergency Stop Input                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 1  |                                                 |     |
| N96:12 | 408613 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:14 | 408615 | Shutdown Status                         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 1  |                                                 |     |
| N96:13 | 408614 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:15 | 408616 | Warning Status                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 1  |                                                 |     |
| N96:14 | 408615 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:16 | 408617 | Compressor Shutdown Active              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:16 | 408617 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:17 | 408618 | Compressor Warning Active               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:17 | 408618 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:18 | 408619 | All Compressor Shutdown Active          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 1  |                                                 |     |
| N96:17 | 408618 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:19 | 408620 | Horn Output                             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 1  |                                                 |     |
| N96:18 | 408619 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:20 | 408621 | Capacity Set Point Selection            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:20 | 408621 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:21 | 408622 | Yosaku Liquid Injection Solenoid        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:21 | 408622 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:22 | 408623 | Starter Mode Selection                  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:22 | 408623 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:23 | 408624 | Motor Stop To Start Timer Active Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:23 | 408624 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |
| N96:24 | 408625 | Capacity Slide Load Output              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                            | 10 |                                                 |     |
| N96:24 | 408625 |                                         |    |                                                 |     |
|        |        |                                         |    |                                                 |     |

|        |        |                               |    |                                                 |     |
|--------|--------|-------------------------------|----|-------------------------------------------------|-----|
| N96:25 | 408626 | Capacity Slide Unload Output  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:25 | 408626 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:26 | 408627 | Capacity Solenoid 1-Frick RDB | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:26 | 408627 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:27 | 408628 | Capacity Solenoid 2-Frick RDB | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:27 | 408628 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:28 | 408629 | Capacity Solenoid 3-Frick RDB | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:28 | 408629 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:29 | 408630 | Capacity Solenoid 4           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:29 | 408630 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:30 | 408631 | Capacity Solenoid 5           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:30 | 408631 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:31 | 408632 | Capacity Solenoid 6           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:31 | 408632 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:32 | 408633 | Capacity Solenoid 7           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:32 | 408633 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:33 | 408634 | Capacity Solenoid 8           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:33 | 408634 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:34 | 408635 | Capacity Solenoid 9           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:34 | 408635 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:35 | 408636 | Capacity Solenoid 10          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:35 | 408636 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:36 | 408637 | Capacity Output 1             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:36 | 408637 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |
| N96:37 | 408638 | Capacity Output 2             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                  | 10 |                                                 |     |
| N96:37 | 408638 |                               |    |                                                 |     |
|        |        |                               |    |                                                 |     |

|        |        |                                                                  |    |                                                 |     |
|--------|--------|------------------------------------------------------------------|----|-------------------------------------------------|-----|
| N96:38 | 408639 | Capacity Control Permissive                                      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:38 | 408639 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:39 | 408640 | External Unload                                                  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:39 | 408640 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:40 | 408641 | External Load                                                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:40 | 408641 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:41 | 408642 | Hot Gas Bypass Output                                            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:41 | 408642 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:42 | 408643 | Unloaded Start Output                                            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:42 | 408643 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:43 | 408644 | Fast Unload Output                                               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:43 | 408644 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:44 | 408645 | Centrifugal Compressor<br>Surging Input                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:44 | 408645 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:45 | 408646 | Suction Bypass Solenoid                                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:45 | 408646 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:46 | 408647 | Oil Drain Time Active Output                                     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:46 | 408647 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:47 | 408648 | Compressor Motor Stop                                            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:47 | 408648 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:49 | 408650 | Compressor Vi Slide<br>Increase-Secondary Slide<br>Load Output   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:49 | 408650 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:50 | 408651 | Compressor Vi Slide<br>Decrease-Secondary Slide<br>Unload Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |
| N96:50 | 408651 |                                                                  |    |                                                 |     |
|        |        |                                                                  |    |                                                 |     |
| N96:51 | 408652 | Compressor Low Vi Output                                         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                                     | 10 |                                                 |     |

|        |        |                                      |    |                                                 |     |
|--------|--------|--------------------------------------|----|-------------------------------------------------|-----|
| N96:51 | 408652 |                                      |    |                                                 |     |
| N96:52 | 408653 | Compressor Medium Vi Output          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:52 | 408653 |                                      |    |                                                 |     |
| N96:53 | 408654 | Compressor Stepped Vi Booster Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:53 | 408654 |                                      |    |                                                 |     |
| N96:54 | 408655 | Compressor Safety Chain Input        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:54 | 408655 |                                      |    |                                                 |     |
| N96:59 | 408660 | Oil Pump 1 Start Output              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:59 | 408660 |                                      |    |                                                 |     |
| N96:60 | 408661 | Oil Pump 2 Start Output              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:60 | 408661 |                                      |    |                                                 |     |
| N96:61 | 408662 | Oil Pump 1 Start Interlock           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:61 | 408662 |                                      |    |                                                 |     |
| N96:62 | 408663 | Oil Pump 2 Start Interlock           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:62 | 408663 |                                      |    |                                                 |     |
| N96:63 | 408664 | Oil Pump 1 Motor Protection          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:63 | 408664 |                                      |    |                                                 |     |
| N96:64 | 408665 | Oil Pump 2 Motor Protection          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:64 | 408665 |                                      |    |                                                 |     |
| N96:65 | 408666 | Oil Pump Manual Input                | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:65 | 408666 |                                      |    |                                                 |     |
| N96:66 | 408667 | Oil Make Flow Switch                 | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:66 | 408667 |                                      |    |                                                 |     |
| N96:69 | 408670 | Oil Separator Heater Output          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |
| N96:69 | 408670 |                                      |    |                                                 |     |
| N96:70 | 408671 | Oil Separator Low Level              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                         | 10 |                                                 |     |

|        |        |                                            |    |                                                 |     |
|--------|--------|--------------------------------------------|----|-------------------------------------------------|-----|
| N96:70 | 408671 |                                            |    |                                                 |     |
| N96:71 | 408672 | Oil Separator High Level                   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:71 | 408672 |                                            |    |                                                 |     |
| N96:72 | 408673 | Crankcase Low Oil Level                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:72 | 408673 |                                            |    |                                                 |     |
| N96:73 | 408674 | Oil Drain Line Clear Input                 | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:73 | 408674 |                                            |    |                                                 |     |
| N96:74 | 408675 | Booster Oil Supply Output                  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:74 | 408675 |                                            |    |                                                 |     |
| N96:79 | 408680 | Motorized Suction Valve Fully Opened Input | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:79 | 408680 |                                            |    |                                                 |     |
| N96:80 | 408681 | Motorized Suction Valve Fully Closed Input | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:80 | 408681 |                                            |    |                                                 |     |
| N96:81 | 408682 | Motorized Suction Valve Open Output        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:81 | 408682 |                                            |    |                                                 |     |
| N96:82 | 408683 | Motorized Suction Valve Close Output       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:82 | 408683 |                                            |    |                                                 |     |
| N96:83 | 408684 | Motorized Discharge Valve Closed Input     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:83 | 408684 |                                            |    |                                                 |     |
| N96:84 | 408685 | Motorized Discharge Valve Opened Input     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:84 | 408685 |                                            |    |                                                 |     |
| N96:85 | 408686 | Motorized Discharge Valve Close Output     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:85 | 408686 |                                            |    |                                                 |     |
| N96:86 | 408687 | Motorized Discharge Valve Open Output      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N96:86 | 408687 |                                            |    |                                                 |     |
|        |        |                                            |    |                                                 |     |

|        |        |                                              |    |                                                 |     |
|--------|--------|----------------------------------------------|----|-------------------------------------------------|-----|
| N96:89 | 408690 | Compressor Stop Button                       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:89 | 408690 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:90 | 408691 | Compressor Manual Start Button               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:90 | 408691 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:91 | 408692 | Compressor Remote Button                     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:91 | 408692 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:92 | 408693 | Compressor Load Button                       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:92 | 408693 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:93 | 408694 | Compressor Unload Button                     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:93 | 408694 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:94 | 408695 | Compressor Auto Button                       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:94 | 408695 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:95 | 408696 | Compressor Hold Button                       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:95 | 408696 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:96 | 408697 | Compressor External Button                   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:96 | 408697 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:97 | 408698 | Compressor Motor Start To Start Clear Button | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:97 | 408698 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:98 | 408699 | Compressor in Stop Mode Output               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:98 | 408699 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N96:99 | 408700 | Compressor in Manual Start Mode Output       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N96:99 | 408700 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N97:0  | 408701 | Compressor in Remote Mode Output             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |
| N97:0  | 408701 |                                              |    |                                                 |     |
|        |        |                                              |    |                                                 |     |
| N97:1  | 408702 | Compressor in Stopped State Output           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                 | 10 |                                                 |     |

|        |        |                                                  |    |                                                 |     |
|--------|--------|--------------------------------------------------|----|-------------------------------------------------|-----|
| N97:1  | 408702 |                                                  |    |                                                 |     |
| N97:2  | 408703 | Compressor in Starting State Output              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:2  | 408703 |                                                  |    |                                                 |     |
| N97:3  | 408704 | Compressor in Running State Output               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:3  | 408704 |                                                  |    |                                                 |     |
| N97:4  | 408705 | Compressor in Stopping State Output              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:4  | 408705 |                                                  |    |                                                 |     |
| N97:5  | 408706 | Compressor Capacity Control Mode Manual Output   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:5  | 408706 |                                                  |    |                                                 |     |
| N97:6  | 408707 | Compressor Capacity Control Mode Remote Output   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:6  | 408707 |                                                  |    |                                                 |     |
| N97:7  | 408708 | Compressor Capacity Control Mode Auto Output     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:7  | 408708 |                                                  |    |                                                 |     |
| N97:8  | 408709 | Compressor Capacity Control Mode External Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:8  | 408709 |                                                  |    |                                                 |     |
| N97:9  | 408710 | Compressor Start Permissive                      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:9  | 408710 |                                                  |    |                                                 |     |
| N97:10 | 408711 | Compressor Remote Start-Stop                     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:10 | 408711 |                                                  |    |                                                 |     |
| N97:11 | 408712 | Compressor Remote Standby                        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:11 | 408712 |                                                  |    |                                                 |     |
| N97:12 | 408713 | Suction Filter Combo Solenoid                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                     | 10 |                                                 |     |
| N97:12 | 408713 |                                                  |    |                                                 |     |

|        |        |                                     |    |                                                 |     |
|--------|--------|-------------------------------------|----|-------------------------------------------------|-----|
| N97:13 | 408714 | Balance Piston Output               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:13 | 408714 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:14 | 408715 | Balance Piston Bypass Output        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:14 | 408715 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:15 | 408716 | Oil Cooling-Liquid Injection Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:15 | 408716 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:16 | 408717 | Economizer Solenoid                 | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:16 | 408717 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:17 | 408718 | Jacket Cooling Output               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:17 | 408718 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:18 | 408719 | Jacket Cooling Flow Switch Input    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:18 | 408719 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:19 | 408720 | Chiller Liquid Feed Solenoid        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 2  |                                                 |     |
| N97:19 | 408720 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:20 | 408721 | Pump Down In Progress Output        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:20 | 408721 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:21 | 408722 | Liquid Feed Solenoid 2              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:21 | 408722 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:22 | 408723 | Cylinder Head Temperature Safety    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 10 |                                                 |     |
| N97:22 | 408723 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:23 | 408724 | Auxiliary Shutdown Input            | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 2  |                                                 |     |
| N97:23 | 408724 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:24 | 408725 | Auxiliary Warning Input             | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 2  |                                                 |     |
| N97:24 | 408725 |                                     |    |                                                 |     |
|        |        |                                     |    |                                                 |     |
| N97:27 | 408728 | Compressor Sequencing Auto Button   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                        | 4  |                                                 |     |

|        |        |                                            |    |                                                 |     |
|--------|--------|--------------------------------------------|----|-------------------------------------------------|-----|
| N97:27 | 408728 |                                            |    |                                                 |     |
| N97:28 | 408729 | Compressor Sequencing Manual Button        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 4  |                                                 |     |
| N97:28 | 408729 |                                            |    |                                                 |     |
| N97:29 | 408730 | Compressor Sequencing Next Step Button     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 4  |                                                 |     |
| N97:29 | 408730 |                                            |    |                                                 |     |
| N97:30 | 408731 | Compressor Sequencing Previous Step Button | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 4  |                                                 |     |
| N97:30 | 408731 |                                            |    |                                                 |     |
| N97:31 | 408732 | Compressor Sequencing In Auto Mode         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 4  |                                                 |     |
| N97:31 | 408732 |                                            |    |                                                 |     |
| N97:32 | 408733 | Compressor Sequencing In Manual Mode       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 4  |                                                 |     |
| N97:32 | 408733 |                                            |    |                                                 |     |
| N97:33 | 408734 | Condenser Sequencing Auto Button           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 1  |                                                 |     |
| N97:32 | 408733 |                                            |    |                                                 |     |
| N97:34 | 408735 | Condenser Sequencing Manual Button         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 1  |                                                 |     |
| N97:33 | 408734 |                                            |    |                                                 |     |
| N97:35 | 408736 | Condenser Sequencing Next Step Button      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 1  |                                                 |     |
| N97:34 | 408735 |                                            |    |                                                 |     |
| N97:36 | 408737 | Condenser Sequencing Previous Step Button  | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 1  |                                                 |     |
| N97:35 | 408736 |                                            |    |                                                 |     |
| N97:37 | 408738 | Pump Down Button                           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N97:37 | 408738 |                                            |    |                                                 |     |
| N97:38 | 408739 | Pump Down Enabled                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N97:38 | 408739 |                                            |    |                                                 |     |
| N97:39 | 408740 | Compressor Blocked Input                   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                               | 10 |                                                 |     |
| N97:39 | 408740 |                                            |    |                                                 |     |

|        |        |                                          |    |                                                 |     |
|--------|--------|------------------------------------------|----|-------------------------------------------------|-----|
| N97:40 | 408741 | Economizer Status                        | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:40 | 408741 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:41 | 408742 | Limit Running Compressors                | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 1  |                                                 |     |
| N97:40 | 408741 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:42 | 408743 | Gas Leak Detection Input                 | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:42 | 408743 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:43 | 408744 | Breaker Tripped Input                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 1  |                                                 |     |
| N97:42 | 408743 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:44 | 408745 | Pump Down Initiate Input                 | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:44 | 408745 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:45 | 408746 | Liquid Feed Solenoid 1                   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:45 | 408746 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:46 | 408747 | Compressor Stop Hardwired Button         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:46 | 408747 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:47 | 408748 | Compressor Manual Start Hardwired Button | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:47 | 408748 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:48 | 408749 | Compressor Remote Hardwired Button       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:48 | 408749 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:49 | 408750 | Compressor Load Hardwired Button         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:49 | 408750 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:50 | 408751 | Compressor Unload Hardwired Button       | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:50 | 408751 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:51 | 408752 | Compressor Auto Hardwired Button         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                             | 10 |                                                 |     |
| N97:51 | 408752 |                                          |    |                                                 |     |
|        |        |                                          |    |                                                 |     |
| N97:52 | 408753 | Compressor Hold Hardwired Button         | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |

|        |        |                                                   |    |                                                 |     |
|--------|--------|---------------------------------------------------|----|-------------------------------------------------|-----|
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:52 | 408753 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:53 | 408754 | Compressor External<br>Hardwired Button           | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:53 | 408754 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:54 | 408755 | Compressor Stop Fail Safe<br>Hardwired Button     | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:54 | 408755 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:55 | 408756 | Hardwired Screen Saver<br>Wake Input              | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 1  |                                                 |     |
| N97:54 | 408755 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:56 | 408757 | Compressor Capacity<br>Control Mode Load Output   | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:56 | 408757 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:57 | 408758 | Compressor Capacity<br>Control Mode Unload Output | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:57 | 408758 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:58 | 408759 | Auxiliary Digital Output                          | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:58 | 408759 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:59 | 408760 | Custom Lamp Output                                | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 30 |                                                 |     |
| N97:60 | 408761 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:61 | 408762 | Turbine Oil Pump Motor Start                      | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:61 | 408762 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:62 | 408763 | Status Compressor Running<br>Output               | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:62 | 408763 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:63 | 408764 | Compressor Ready For<br>Remote                    | R  | bit 1 = Compressor 1 ... bit 10 = Compressor 10 | bit |
|        |        | Block Number                                      | 10 |                                                 |     |
| N97:63 | 408764 |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
|        |        |                                                   |    |                                                 |     |
| N97:64 | 408765 |                                                   | -  |                                                 |     |
|        |        | Reserved for Compressor<br>Digital Data           |    |                                                 |     |
| N97:99 | 408800 |                                                   | -  |                                                 |     |
|        |        | <b>Compressor Analog Data</b>                     |    |                                                 |     |

|        |        |                                   |   |      |
|--------|--------|-----------------------------------|---|------|
| N98:0  | 408801 | Suction Pressure                  | R | X100 |
|        |        |                                   |   |      |
| N98:9  | 408810 |                                   | R |      |
|        |        |                                   |   |      |
| N98:10 | 408811 | Ammonia Storage Tank Pressure     | R | X100 |
|        |        |                                   |   |      |
| N98:19 | 408820 |                                   | R |      |
|        |        |                                   |   |      |
| N98:20 | 408821 | Discharge Pressure                | R | X100 |
|        |        |                                   |   |      |
| N98:29 | 408830 |                                   | R |      |
|        |        |                                   |   |      |
| N98:30 | 408831 | Oil Pressure                      | R | X100 |
|        |        |                                   |   |      |
| N98:39 | 408840 |                                   | R |      |
|        |        |                                   |   |      |
| N98:40 | 408841 | Required Oil Pressure             | R | X100 |
|        |        |                                   |   |      |
| N98:49 | 408850 |                                   | R |      |
|        |        |                                   |   |      |
| N98:50 | 408851 | Oil Filter Outlet Pressure        | R | X100 |
|        |        |                                   |   |      |
| N98:59 | 408860 |                                   | R |      |
|        |        |                                   |   |      |
| N98:60 | 408861 | Oil Filter Inlet Pressure         | R | X100 |
|        |        |                                   |   |      |
| N98:69 | 408870 |                                   | R |      |
|        |        |                                   |   |      |
| N98:70 | 408871 | Oil Differential Pressure         | R | X100 |
|        |        |                                   |   |      |
| N98:79 | 408880 |                                   | R |      |
|        |        |                                   |   |      |
| N98:80 | 408881 | Oil Filter Differential Pressure  | R | X100 |
|        |        |                                   |   |      |
| N98:89 | 408890 |                                   | R |      |
|        |        |                                   |   |      |
| N98:90 | 408891 | Crankcase Pressure                | R | X100 |
|        |        |                                   |   |      |
| N98:99 | 408900 |                                   | R |      |
|        |        |                                   |   |      |
| N99:0  | 408901 | Intermediate Pressure             | R | X100 |
|        |        |                                   |   |      |
| N99:9  | 408910 |                                   | R |      |
|        |        |                                   |   |      |
| N99:10 | 408911 | Intermediate Pressure Intercooler | R | X100 |
|        |        |                                   |   |      |
| N99:19 | 408920 |                                   | R |      |
|        |        |                                   |   |      |
| N99:20 | 408921 | Economizer Pressure               | R | X100 |
|        |        |                                   |   |      |
| N99:29 | 408930 |                                   | R |      |
|        |        |                                   |   |      |

|         |        |                                                 |   |  |      |
|---------|--------|-------------------------------------------------|---|--|------|
| N99:30  | 408931 | Double Balance Piston Pressure                  | R |  | X100 |
|         |        |                                                 |   |  |      |
| N99:39  | 408940 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:40  | 408941 | Pressure Ratio                                  | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:49  | 408950 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:50  | 408951 | Suction Temperature                             | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:59  | 408960 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:60  | 408961 | Discharge Temperature                           | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:69  | 408970 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:70  | 408971 | Oil Separator Temperature                       | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:79  | 408980 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:80  | 408981 | Oil Inlet Temperature                           | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:89  | 408990 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N99:90  | 408991 | Oil Cooler Temperature                          | R |  | X10  |
|         |        |                                                 |   |  |      |
| N99:99  | 409000 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:0  | 409001 | Inlet Temperature                               | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:9  | 409010 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:10 | 409011 | Outlet Temperature                              | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:19 | 409020 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:20 | 409021 | Intermediate Temperature Low Pressure Discharge | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:29 | 409030 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:30 | 409031 | Intermediate Temperature High Pressure Suction  | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:39 | 409040 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:40 | 409041 | Intermediate Temperature Intercooler            | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:49 | 409050 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:50 | 409051 | Economizer Temperature                          | R |  | X10  |
|         |        |                                                 |   |  |      |
| N100:59 | 409060 |                                                 | R |  |      |
|         |        |                                                 |   |  |      |
| N100:60 | 409061 | Primary Slide Position                          | R |  | X1   |

|         |        |                                        |   |  |      |
|---------|--------|----------------------------------------|---|--|------|
|         |        |                                        |   |  |      |
| N100:69 | 409070 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N100:70 | 409071 | Primary Slide Sensor Voltage           | R |  | X100 |
|         |        |                                        |   |  |      |
| N100:79 | 409080 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N100:80 | 409081 | Primary Slide Sensor Signal            | R |  | X10  |
|         |        |                                        |   |  |      |
| N100:89 | 409090 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N100:90 | 409091 | Primary Slide Percent of Max Travel    | R |  | X1   |
|         |        |                                        |   |  |      |
| N100:99 | 409100 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:0  | 409101 | Slide Or Capacity Output               | R |  | X1   |
|         |        |                                        |   |  |      |
| N101:9  | 409110 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:10 | 409111 | Remote Set Point                       | R |  | X100 |
|         |        |                                        |   |  |      |
| N101:19 | 409120 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:30 | 409131 | Vi Slide Secondary Slide Position      | R |  | X1   |
|         |        |                                        |   |  |      |
| N101:39 | 409140 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:40 | 409141 | Vi Slide Secondary Slide Voltage       | R |  | X100 |
|         |        |                                        |   |  |      |
| N101:49 | 409150 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:50 | 409151 | Vi Slide Secondary Slide Sensor Signal | R |  | X10  |
|         |        |                                        |   |  |      |
| N101:59 | 409160 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:60 | 409161 | Ideal Secondary Slide Position         | R |  | X1   |
|         |        |                                        |   |  |      |
| N101:69 | 409170 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:70 | 409171 | Volume Slide Target Position           | R |  | X1   |
|         |        |                                        |   |  |      |
| N101:79 | 409180 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:80 | 409181 | Position of Vi Stop                    | R |  | X10  |
|         |        |                                        |   |  |      |
| N101:89 | 409190 |                                        | R |  |      |
|         |        |                                        |   |  |      |
| N101:90 | 409191 | Calculated Volume Index                | R |  | X10  |
|         |        |                                        |   |  |      |
| N101:99 | 409200 |                                        | R |  |      |

|         |        |                                           |   |     |
|---------|--------|-------------------------------------------|---|-----|
| N102:0  | 409201 | Optimum Vi                                | R | X10 |
|         |        |                                           |   |     |
| N102:9  | 409210 |                                           | R |     |
|         |        |                                           |   |     |
| N102:10 | 409211 | Midpoint of Vi Range                      | R | X10 |
|         |        |                                           |   |     |
| N102:19 | 409220 |                                           | R |     |
|         |        |                                           |   |     |
| N102:20 | 409221 | Tonnage Rating                            | R | X1  |
|         |        |                                           |   |     |
| N102:29 | 409230 |                                           | R |     |
|         |        |                                           |   |     |
| N102:30 | 409231 | Current Capacity Step                     | R | X1  |
|         |        |                                           |   |     |
| N102:39 | 409240 |                                           | R |     |
|         |        |                                           |   |     |
| N102:40 | 409241 | Current Capacity                          | R | X1  |
|         |        |                                           |   |     |
| N102:49 | 409250 |                                           | R |     |
|         |        |                                           |   |     |
| N102:50 | 409251 | Motor Current                             | R | X10 |
|         |        |                                           |   |     |
| N102:59 | 409260 |                                           | R |     |
|         |        |                                           |   |     |
| N102:60 | 409261 | Motor Speed PID                           | R | X10 |
|         |        |                                           |   |     |
| N102:69 | 409270 |                                           | R |     |
|         |        |                                           |   |     |
| N102:70 | 409271 | Motor Speed                               | R | X1  |
|         |        |                                           |   |     |
| N102:79 | 409280 |                                           | R |     |
|         |        |                                           |   |     |
| N102:80 | 409281 | Motor Speed Input                         | R | X1  |
|         |        |                                           |   |     |
| N102:89 | 409290 |                                           | R |     |
|         |        |                                           |   |     |
| N102:90 | 409291 | Motor Drive Frequency Reference           | R | X10 |
|         |        |                                           |   |     |
| N102:99 | 409300 |                                           | R |     |
|         |        |                                           |   |     |
| N103:0  | 409301 | Remote Motor Speed Set Point              | R | X10 |
|         |        |                                           |   |     |
| N103:9  | 409310 |                                           | R |     |
|         |        |                                           |   |     |
| N103:10 | 409311 | kWh Pulse Total Count                     | R | X1  |
|         |        |                                           |   |     |
| N103:19 | 409320 |                                           | R |     |
|         |        |                                           |   |     |
| N103:20 | 409321 | Oil Pump Speed                            | R | X1  |
|         |        |                                           |   |     |
| N103:29 | 409330 |                                           | R |     |
|         |        |                                           |   |     |
| N103:30 | 409331 | Liquid Injection Motorized Valve Position | R | X1  |

|         |        |                                                      |   |  |      |
|---------|--------|------------------------------------------------------|---|--|------|
|         |        |                                                      |   |  |      |
| N103:39 | 409340 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:40 | 409341 | kWh Demand                                           | R |  | X10  |
|         |        |                                                      |   |  |      |
| N103:49 | 409350 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:50 | 409351 | kW Total Usage                                       | R |  | X10  |
|         |        |                                                      |   |  |      |
| N103:59 | 409360 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:60 | 409361 | kWh Counter                                          | R |  | X1   |
|         |        |                                                      |   |  |      |
| N103:69 | 409370 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:70 | 409371 | kW Usage Input from Meter<br>used for Energy Savings | R |  | X10  |
| N103:71 | 409372 | Saturated Suction<br>Temperature                     | R |  | X10  |
|         |        |                                                      |   |  |      |
| N103:80 | 409381 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:81 | 409382 | Saturated Discharge<br>Temperature                   | R |  | X10  |
|         |        |                                                      |   |  |      |
| N103:90 | 409391 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N103:91 | 409392 | Saturated Intermediate<br>Temperature                | R |  | X10  |
|         |        |                                                      |   |  |      |
| N104:0  | 409401 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:1  | 409402 | Saturated Liquid<br>Temperature                      | R |  | X10  |
|         |        |                                                      |   |  |      |
| N104:10 | 409411 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:11 | 409412 | Suction Superheat                                    | R |  | X10  |
|         |        |                                                      |   |  |      |
| N104:20 | 409421 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:21 | 409422 | Discharge Superheat                                  | R |  | X10  |
|         |        |                                                      |   |  |      |
| N104:30 | 409431 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:31 | 409432 | Intermediate Superheat                               | R |  | X10  |
|         |        |                                                      |   |  |      |
| N104:40 | 409441 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:41 | 409442 | Calculated Zero Load<br>Position                     | R |  | X1   |
|         |        |                                                      |   |  |      |
| N104:50 | 409451 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N104:51 | 409452 | Oil Pump Speed PI                                    | R |  | X100 |
|         |        |                                                      |   |  |      |
| N104:60 | 409461 |                                                      | R |  |      |

|         |        |                                            |     |                                        |      |
|---------|--------|--------------------------------------------|-----|----------------------------------------|------|
| N104:61 | 409462 | Oil Supply Pressure LP                     | R   |                                        | X100 |
|         |        |                                            |     |                                        |      |
| N104:70 | 409471 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N104:71 | 409472 | Compressor Up Sequence Stage               | R   |                                        | X1   |
|         |        |                                            |     |                                        |      |
| N104:80 | 409481 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N104:81 | 409482 | Standstill Protection                      | R   |                                        | X1   |
|         |        |                                            |     |                                        |      |
| N104:90 | 409491 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N104:91 | 409492 | Panel Temperature                          | R   |                                        | X10  |
| N104:92 | 409493 | Loop Time                                  | R   |                                        | X1   |
| N104:93 | 409494 | Centrifugal Pre Rotation Vane Valve Output | R   |                                        | X10  |
|         |        |                                            |     |                                        |      |
| N105:2  | 409503 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:3  | 409504 | Centrifugal Hot Gas Valve Output           | R   |                                        | X10  |
|         |        |                                            |     |                                        |      |
| N105:12 | 409513 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:13 | 409514 | Centrifugal Oil Sump Pressure              | R   |                                        | X100 |
|         |        |                                            |     |                                        |      |
| N105:22 | 409523 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:23 | 409524 | Discharge Suction Differential             | R   |                                        | X100 |
|         |        |                                            |     |                                        |      |
| N105:32 | 409533 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:33 | 409534 | Number Of Compressor Starts                | R   |                                        | X1   |
|         |        |                                            |     |                                        |      |
| N105:42 | 409543 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:53 | 409554 | Motor Speed Maximum                        | R   |                                        | X1   |
|         |        |                                            |     |                                        |      |
| N105:62 | 409563 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:63 | 409564 | Remote Control Input                       | R   |                                        | X10  |
|         |        |                                            |     |                                        |      |
| N105:72 | 409573 |                                            | R   |                                        |      |
|         |        |                                            |     |                                        |      |
| N105:73 | 409574 |                                            | -   |                                        |      |
|         |        | Reserved for Compressor Analog Data        |     |                                        |      |
| N105:99 | 409600 |                                            | -   |                                        |      |
|         |        | <b>Compressor Parameters</b>               |     |                                        |      |
| N106:0  | 409601 | Compressor Viewport                        | R/W | 0 = No Entries<br>1-10 = Compressor #X |      |

|         |        |                                 |     |                                                                                                                                                                                                                                                                                                                                                                         |      |
|---------|--------|---------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| N106:2  | 409603 | Control Signal                  | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1   |
| N106:3  | 409604 | Set Point                       | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N108:32 | 409833 | Set Point High Stage Only       | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:4  | 409605 | Dead Band                       | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:5  | 409606 | Proportional Band               | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N108:62 | 409863 | Remote Control Direction        | R/W | 0 = Forward<br>1 = Reverse                                                                                                                                                                                                                                                                                                                                              | X1   |
| N106:6  | 409607 | Automatic Start Stop            | R/W | 0 = Disabled<br>2 = Offsets<br>-1 = Set Points                                                                                                                                                                                                                                                                                                                          | X1   |
| N106:7  | 409608 | Automatic Start                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N109:27 | 409928 | Automatic Start Offset          | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N109:28 | 409929 | Automatic Stop Offset           | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:8  | 409609 | Automatic Start Delay           | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1   |
| N106:9  | 409610 | Automatic Stop                  | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:10 | 409611 | Automatic Stop Delay            | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1   |
| N106:11 | 409612 | Load Pulse Period               | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1   |
| N106:12 | 409613 | Unload Pulse Period             | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1   |
| N106:13 | 409614 | Minimum Capacity Slide Position | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:14 | 409615 | Maximum Capacity Slide Position | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N108:56 | 409857 | Ramp Rate Selection             | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            | X1   |
| N106:15 | 409616 | Ramp Rate per Minute            | R/W | 0.00 - 5.17 barA<br>-29.9 PSIG - 60.3 PSIG                                                                                                                                                                                                                                                                                                                              | X100 |
| N106:17 | 409618 | Control Signal                  | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1   |
| N106:18 | 409619 | Set Point                       | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:19 | 409620 | Dead Band                       | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:20 | 409621 | Proportional Band               | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N108:59 | 409860 | Remote Control Direction        | R/W | 0 = Forward<br>1 = Reverse                                                                                                                                                                                                                                                                                                                                              | X1   |
| N106:21 | 409622 | Automatic Start Stop            | R/W | 0 = Disabled<br>2 = Offsets<br>-1 = Set Points                                                                                                                                                                                                                                                                                                                          | X1   |
| N109:29 | 409930 | Automatic Start Offset          | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N109:30 | 409931 | Automatic Stop Offset           | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:22 | 409623 | Automatic Start                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1   |
| N106:23 | 409624 | Automatic Start Delay           | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1   |

|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |    |
|---------|--------|------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| N106:24 | 409625 | Automatic Stop                                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:25 | 409626 | Automatic Stop Delay                           | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1 |
| N106:26 | 409627 | Load Pulse Period                              | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1 |
| N106:27 | 409628 | Unload Pulse Period                            | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1 |
| N106:28 | 409629 | Minimum Capacity Slide Position                | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N106:29 | 409630 | Maximum Capacity Slide Position                | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N108:57 | 409858 | Ramp Rate Selection                            | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            | X1 |
| N106:30 | 409631 | Ramp Rate per Minute                           | R/W | 0 - 5                                                                                                                                                                                                                                                                                                                                                                   | X1 |
| N106:32 | 409633 | Control Signal                                 | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N106:33 | 409634 | Set Point                                      | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:34 | 409635 | Dead Band                                      | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:35 | 409636 | Proportional Band                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N108:60 | 409861 | Remote Control Direction                       | R/W | 0 = Forward<br>1 = Reverse                                                                                                                                                                                                                                                                                                                                              | X1 |
| N106:36 | 409637 | Automatic Start Stop                           | R/W | 0 = Disabled<br>2 = Offsets<br>-1 = Set Points                                                                                                                                                                                                                                                                                                                          | X1 |
| N109:31 | 409932 | Automatic Start Offset                         | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N109:32 | 409933 | Automatic Stop Offset                          | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:37 | 409638 | Automatic Start                                | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:38 | 409639 | Automatic Start Delay                          | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1 |
| N106:39 | 409640 | Automatic Stop                                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:40 | 409641 | Automatic Stop Delay                           | R/W | 5 - 1800 s                                                                                                                                                                                                                                                                                                                                                              | X1 |
| N106:41 | 409642 | Load Pulse Period                              | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1 |
| N106:42 | 409643 | Unload Pulse Period                            | R/W | 1 - 20 s                                                                                                                                                                                                                                                                                                                                                                | X1 |
| N106:43 | 409644 | Minimum Capacity Slide Position                | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N106:44 | 409645 | Maximum Capacity Slide Position                | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1 |
| N108:58 | 409859 | Ramp Rate Selection                            | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            | X1 |
| N106:45 | 409646 | Ramp Rate per Minute                           | R/W | 0 - 5                                                                                                                                                                                                                                                                                                                                                                   | X1 |
| N106:46 | 409647 | Control Mode                                   | R/W | 0 = Capacity Control 1<br>1 = Capacity Control 2<br>2 = Capacity Control 3                                                                                                                                                                                                                                                                                              | X1 |
| N106:47 | 409648 | Control Mode Select By Digital Input           | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            | X1 |
| N106:48 | 409649 | Maximum Capacity Slide To Allow Start Override | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N106:49 | 409650 | Set Point Location                             | R/W | 0 = Local<br>1 = Remote                                                                                                                                                                                                                                                                                                                                                 | X1 |
| N108:46 | 409847 | Remote Set Point Units                         | R/W | 0 = Pressure<br>1 = Temperature<br>2 = Percent                                                                                                                                                                                                                                                                                                                          | X1 |
| N108:74 | 409875 | Remote Control Value Units                     | R/W | 0 = Pressure<br>1 = Temperature                                                                                                                                                                                                                                                                                                                                         | X1 |

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| N106:50 | 409651 | Maximum Capacity Slide To Allow Start          | R/W | 0 - 100 %                                                                                                                                                                                              | X1  |
| N106:51 | 409652 | Capacity Slide Failed to Unload Shutdown Timer | R/W | 30 - 600 s                                                                                                                                                                                             | X1  |
| N106:52 | 409653 | Capacity Control Delay                         | R/W | 0 - 120 s                                                                                                                                                                                              | X1  |
| N107:8  | 409709 | Load Limitation Delay                          | R/W | 15 - 300 s                                                                                                                                                                                             | X1  |
| N108:91 | 409892 | Next Step Delay                                | R/W | 15 - 300 s                                                                                                                                                                                             | X1  |
| N108:54 | 409855 | Previous Step Delay                            | R/W | 15 - 300 s                                                                                                                                                                                             | X1  |
| N108:55 | 409856 | Soak Delay                                     | R/W | 15 - 300 s                                                                                                                                                                                             | X1  |
| N109:1  | 409902 | Minimum Capacity Step                          | R/W |                                                                                                                                                                                                        | X1  |
| N109:11 | 409912 | Invert Solenoids                               | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                           | X1  |
| N106:53 | 409654 | Sequencer Overwrite Local Capacity Parameters  | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                           | X1  |
| N106:54 | 409655 | Zero Load Shutdown Timer                       | R/W | 0 - 600 s                                                                                                                                                                                              | X1  |
| N106:55 | 409656 | Swing Compressor Control                       | R/W | 0 = Low Stage<br>1 = High Stage                                                                                                                                                                        | X1  |
| N106:56 | 409657 | Suction Bypass Timer                           | R/W | 0 - 60 s                                                                                                                                                                                               | X1  |
| N106:57 | 409658 | Fast Unload Running Timer                      | R/W | 1 - 60 s                                                                                                                                                                                               | X1  |
| N108:38 | 409839 | External Capacity Mode                         | R/W | 0 = Direct Pulse Control<br>1 = Indirect Pulse Control                                                                                                                                                 | X1  |
| N108:47 | 409848 | Suction Check Valve Close Assist Pulse Timer   | R/W | 5 - 120 s                                                                                                                                                                                              | X1  |
| N108:52 | 409853 | Remote Control Interface                       | R/W | 0 = Network<br>1 = Hard Wired                                                                                                                                                                          | X1  |
| N108:99 | 409900 | Control Mode After Shutdown                    | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                           | X1  |
| N108:72 | 409873 | Profibus DP Profinet Communication             | R/W | 0 = Read<br>1 = Read/Write<br>2 = Disabled                                                                                                                                                             | X1  |
| N108:73 | 409874 | Customer Communication Network Failure         | R/W | 0 = Warning<br>1 = Shutdown                                                                                                                                                                            | X1  |
| N108:92 | 409893 | Auxiliary Digital Output                       | R/W | 0 = Warning<br>1 = Maximum Capacity Slide Position<br>2 = Minimum Capacity Slide Position<br>3 = More Capacity<br>4 = Less Capacity<br>5 = High Oil Level<br>6 = Low Oil Level<br>7 = Maximum Capacity | X1  |
| N109:12 | 409913 | Sequencer Control                              | R/W | 0 = GEA Omni<br>1 = GEA FES Legacy Panel                                                                                                                                                               | X1  |
| N109:13 | 409914 | Start Permissive Control                       | R/W | 0 = Start Permissive and Stop Immediate<br>1 = Start Permissive Only<br>2 = Start Permissive And Stop Immediate Do Not Auto Restart                                                                    | X1  |
| N108:79 | 409880 | Unload Capacity Slide Before Stopping          | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                           | X1  |
| N106:58 | 409659 | Vi Operating Mode                              | R/W | 0 = Auto<br>1 = Manual                                                                                                                                                                                 | X1  |
| N106:59 | 409660 | Vi Deadband                                    | R/W |                                                                                                                                                                                                        | X1  |
| N106:60 | 409661 | Vi Load-Unload Timer                           | R/W | 1 - 10 s                                                                                                                                                                                               | X1  |
| N106:61 | 409662 | Manual Vi Control Vi Setting                   | R/W |                                                                                                                                                                                                        | X1  |
| N106:62 | 409663 | Volume Slide Adjustment Factor                 | R/W | -100 - 100 %                                                                                                                                                                                           | X1  |
| N106:63 | 409664 | Low-Medium Vi Transfer Point                   | R/W | 0.0 - 10.0 Vi                                                                                                                                                                                          | X10 |
| N106:64 | 409665 | Low-Medium Vi Transfer Dead Band               | R/W | 0.0 - 10.0 Vi                                                                                                                                                                                          | X10 |

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| N106:65 | 409666 | Medium-High Vi Transfer Point                        | R/W | 0.0 - 10.0 Vi                              | X10 |
| N106:66 | 409667 | Medium-High Vi Transfer Dead Band                    | R/W | 0.0 - 10.0 Vi                              | X10 |
| N108:41 | 409842 | Stepped Manual Vi Control Setting                    | R/W | 0 = Low<br>1 = Medium<br>2 = High          | X1  |
| N106:67 | 409668 | Accumulated Runtime Hours                            | R/W | 0 - 1000000000 h                           | X1  |
| N106:68 | 409669 | Motor Start To Start Delay                           | R/W |                                            | X10 |
| N106:69 | 409670 | Motor Stop To Start Delay                            | R/W | 1 - 60 s                                   | X1  |
| N106:70 | 409671 | Motor Bypass Configuration                           | R/W | 0 = Fixed Speed<br>1 = Variable Speed      | X1  |
| N108:40 | 409841 | Motor Bypass Configuration By Digital Input          | R/W | 0 = Disabled<br>-1 = Enabled               | X1  |
| N106:71 | 409672 | Motor Current Nominal FLA                            | R/W | 1.0 - 2000.0 A                             | X10 |
| N106:72 | 409673 | kW Demand Metering Ratio                             | R/W | 0.0 - 3200.0 kW                            | X10 |
| N106:73 | 409674 | kWh Input Pulse Weight                               | R/W | 0.0 - 3200.0 kWh                           | X10 |
| N106:74 | 409675 | kWh Estimated Usage                                  | R/W | 0.0 - 1000000000.0 kWh                     | X10 |
| N106:75 | 409676 | High Motor Current Shutdown Run Delay                | R/W | 0 - 60 s                                   | X1  |
| N106:76 | 409677 | High Motor Current Shutdown                          | R/W | 1.0 - 2000.0 A                             | X10 |
| N106:77 | 409678 | High Motor Current Shutdown Timer                    | R/W | 1 - 30 s                                   | X1  |
| N106:78 | 409679 | High Motor Current Warning Offset                    | R/W | 0.0 - 300.0 A                              | X10 |
| N106:79 | 409680 | Illegal Compressor Motor Current Shutdown            | R/W | 5 - 20 %                                   | X1  |
| N106:80 | 409681 | Low Motor Current Run Delay                          | R/W | 0 - 30 s                                   | X1  |
| N106:81 | 409682 | Low Motor Current Shutdown                           | R/W |                                            | X10 |
| N106:82 | 409683 | Low Motor Current Shutdown Timer                     | R/W | 0 - 30 s                                   | X1  |
| N106:83 | 409684 | Limitation Motor Current Load Inhibit Offset         | R/W | 0.0 - 300.0 A                              | X10 |
| N106:84 | 409685 | Limitation Motor Current Force Unload Offset         | R/W | 0.0 - 300.0 A                              | X10 |
| N108:77 | 409878 | Start Motor Failure to Interlock Timer               | R/W | 1 - 60 s                                   | X1  |
| N108:78 | 409879 | Stopping Loss of Compressor Interlock Shutdown Timer | R/W | 1.0 - 60.0 s                               | X10 |
| N106:85 | 409686 | Proportional Term                                    | R/W | 0 - 500                                    | X1  |
| N106:86 | 409687 | Integral Term                                        | R/W | 1.0 - 250.0 s/R                            | X10 |
| N106:87 | 409688 | Mode                                                 | R/W | 0 = Auto<br>1 = Percent<br>2 = Motor Speed | X1  |
| N106:88 | 409689 | Manual Mode Position                                 | R/W | 0 - 100 %                                  | X1  |
| N108:28 | 409829 | High Motor Speed Shutdown                            | R/W | 100 - 6000 rpm                             | X1  |
| N108:29 | 409830 | Low Motor Speed Shutdown                             | R/W | 100 - 3000 rpm                             | X1  |
| N108:93 | 409894 | High Motor Speed Warning Offset                      | R/W | 0 - 500 rpm                                | X1  |
| N108:94 | 409895 | Low Motor Speed Warning Offset                       | R/W | 0 - 500 rpm                                | X1  |
| N106:89 | 409690 | Motor Speed Maximum                                  | R/W | 100 - 6000 rpm                             | X1  |
| N106:90 | 409691 | Motor Speed Minimum                                  | R/W | 100 - 3000 rpm                             | X1  |
| N106:91 | 409692 | Motor Speed Start                                    | R/W | 100 - 3000 rpm                             | X1  |

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| N109:5  | 409906 | Turbine Speed Minimum                                  | R/W | 100 - 3000 rpm                                      | X1   |
| N108:83 | 409884 | High Motor Bearing Shutdown                            | R/W | 0.0 - 200.0 °C<br>32 °F - 392 °F                    | X10  |
| N108:84 | 409885 | High Motor Bearing Warning Offset                      | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                      | X10  |
| N108:85 | 409886 | High Motor Winding Shutdown                            | R/W | 0.0 - 200.0 °C<br>32 °F - 392 °F                    | X10  |
| N108:86 | 409887 | High Motor Winding Warning Offset                      | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                      | X10  |
| N108:67 | 409868 | Oil Pump 1 Runtime                                     | R/W | 0.0 - 1000000000.0 h                                | X10  |
| N108:68 | 409869 | Oil Pump 2 Runtime                                     | R/W | 0.0 - 1000000000.0 h                                | X10  |
| N106:92 | 409693 | Oil Pump Start Attempts                                | R/W | 1 - 3                                               | X1   |
| N106:93 | 409694 | Oil Pump Drain Timer                                   | R/W |                                                     | X1   |
| N106:94 | 409695 | Oil Pump Compressor Allowed Start Timer                | R/W | 10 - 60 s                                           | X1   |
| N106:95 | 409696 | Oil Pump Prelube Timer                                 | R/W | 0 - 120 s                                           | X1   |
| N106:96 | 409697 | Oil Pump PostLube Timer                                | R/W | 0 - 30 s                                            | X1   |
| N106:97 | 409698 | Oil Pump Run Minimum Timer                             | R/W | 0 - 300 s                                           | X1   |
| N106:98 | 409699 | Oil Pump Automatic Start                               | R/W | 0.00 - 10.00 barD<br>-29.9 PSID - 130.3 PSID        | X100 |
| N106:99 | 409700 | Oil Pump Automatic Stop                                | R/W | 0.00 - 10.00 barD<br>-29.9 PSID - 130.3 PSID        | X100 |
| N107:0  | 409701 | Oil Pump Lead Selection                                | R/W | 0 = Pump 1<br>1 = Pump 2<br>2 = Automatic (Runtime) | X1   |
| N108:65 | 409866 | Oil Pump Automatic Switch (Runtime) Enable             | R/W | 0 = Disabled<br>-1 = Enabled                        | X1   |
| N108:66 | 409867 | Oil Pump Automatic Switch (Runtime)                    | R/W | 0 - 1000000000 h                                    | X1   |
| N107:1  | 409702 | Oil Pump Maintained Timer                              | R/W | 0 - 300 s                                           | X1   |
| N107:2  | 409703 | Oil Pump Circulation Mode                              | R/W | 0 = Disabled<br>1 = Time<br>2 = Temperature         | X1   |
| N107:3  | 409704 | Oil Pump Circulation Temperature Set Point             | R/W |                                                     | X10  |
| N107:4  | 409705 | Oil Pump Circulation Shutdown Timer                    | R/W | 0 - 600 s                                           | X1   |
| N107:5  | 409706 | Time Between Oil Pump Circulation                      | R/W | 0 - 500 h                                           | X1   |
| N107:6  | 409707 | Duration Of Oil Pump Circulation                       | R/W | 0 - 500 min                                         | X1   |
| N108:69 | 409870 | Oil Pump Variable Speed Setpoint                       | R/W | -5.00 - 5.00 barD<br>-177.6 PSID - 57.8 PSID        | X100 |
| N108:70 | 409871 | Oil Pump Variable Speed Proportional Term              | R/W | 0 - 500                                             | X1   |
| N108:71 | 409872 | Oil Pump Variable Speed Integral Term                  | R/W | 1.0 - 250.0 s/R                                     | X10  |
| N107:9  | 409710 | Illegal Oil Pump Interlock Shutdown Timer              | R/W | 1 - 60 s                                            | X1   |
| N107:10 | 409711 | Oil Pump Loss of Lead Interlock Warning Timer          | R/W | 1 - 60 s                                            | X1   |
| N107:11 | 409712 | Oil Pump Loss of Interlock Shutdown Timer              | R/W | 1 - 60 s                                            | X1   |
| N107:12 | 409713 | High Oil Differential Pressure Shutdown                | R/W |                                                     | X100 |
| N107:13 | 409714 | High Oil Differential Pressure Starting Shutdown Timer | R/W | 0 - 900 s                                           | X1   |
| N107:14 | 409715 | High Oil Differential Pressure Running Shutdown Timer  | R/W | 0 - 900 s                                           | X1   |

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| N107:15 | 409716 | High Oil Differential Pressure Warning Offset          | R/W | 0.00 - 10.00 barD<br>-29.9 PSID - 130.3 PSID | X100 |
| N107:16 | 409717 | High Oil Differential Pressure Warning Timer           | R/W | 0 - 600 s                                    | X1   |
| N107:7  | 409708 | Low Pressure Differential Shutdown                     | R/W |                                              | X100 |
| N107:17 | 409718 | Low Oil Differential Pressure Shutdown                 | R/W |                                              | X100 |
| N107:18 | 409719 | Low Oil Differential Pressure Starting Shutdown Timer  | R/W | 0 - 900 s                                    | X1   |
| N107:19 | 409720 | Low Oil Differential Pressure Running Shutdown Timer   | R/W | 0 - 900 s                                    | X1   |
| N107:20 | 409721 | Low Oil Differential Run Delay                         | R/W | 1 - 30 s                                     | X1   |
| N107:21 | 409722 | Low Oil Differential Pressure Warning Offset           | R/W | 0.00 - 10.00 barD<br>-29.9 PSID - 130.3 PSID | X100 |
| N107:22 | 409723 | Low Oil Differential Pressure Warning Timer            | R/W | 0 - 600 s                                    | X1   |
| N107:23 | 409724 | High Oil Filter Differential Shutdown                  | R/W |                                              | X100 |
| N107:24 | 409725 | High Oil Filter Differential Warning Offset            | R/W | 0.00 - 5.00 barD<br>-29.9 PSID - 57.8 PSID   | X100 |
| N107:25 | 409726 | High Oil Filter Differential Timer                     | R/W | 1 - 60 s                                     | X1   |
| N107:26 | 409727 | Illegal Oil Filter Differential Pressure Warning Timer | R/W | 0 - 300 s                                    | X1   |
| N107:27 | 409728 | Oil Filter Pipe Loss Adjustment                        | R/W | 0.00 - 6.89 barD<br>-29.9 PSID - 85.3 PSID   | X100 |
| N107:28 | 409729 | Oil Separator Temperature Setpoint                     | R/W |                                              | X10  |
| N107:29 | 409730 | High Oil Separator Temperature Shutdown                | R/W |                                              | X10  |
| N107:30 | 409731 | High Oil Separator Temperature Warning Offset          | R/W | 0.0 - 70.0 K<br>32 F° - 158 F°               | X10  |
| N107:31 | 409732 | Low Oil Separator Temperature Shutdown                 | R/W |                                              | X10  |
| N107:32 | 409733 | Low Oil Separator Temperature Warning Offset           | R/W | 0.0 - 70.0 K<br>32 F° - 158 F°               | X10  |
| N107:33 | 409734 | High Oil Separator Level Shutdown Timer                | R/W | 0 - 600 s                                    | X1   |
| N107:34 | 409735 | High Oil Separator Level Warning Timer                 | R/W | 0 - 300 s                                    | X1   |
| N107:35 | 409736 | Low Oil Separator Level Else Shutdown Timer            | R/W | 1 - 900 s                                    | X1   |
| N107:36 | 409737 | Low Oil Separator Level Stop Shutdown Timer            | R/W | 1 - 900 s                                    | X1   |
| N108:63 | 409864 | Low Oil Separator Level Else Warning Timer             | R/W | 1 - 900 s                                    | X1   |
| N108:64 | 409865 | Low Oil Separator Level Stop Warning Timer             | R/W | 1 - 900 s                                    | X1   |
| N107:37 | 409738 | High Oil Temperature Shutdown                          | R/W |                                              | X10  |
| N107:38 | 409739 | High Oil Temperature Warning Offset                    | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°               | X10  |
| N107:39 | 409740 | Low Oil Temperature Shutdown                           | R/W |                                              | X10  |
| N107:40 | 409741 | Low Oil Temperature Warning Offset                     | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°               | X10  |
| N107:41 | 409742 | Low Oil Temperature Start Delay                        | R/W | 0 - 600 s                                    | X1   |

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| N107:42 | 409743 | Suction Pressure High Shutdown High Motor Speed         | R/W |                                                        | X100 |
| N107:43 | 409744 | Suction Pressure High Shutdown Low Motor Speed          | R/W |                                                        | X100 |
| N107:44 | 409745 | High Suction Pressure Warning                           | R/W |                                                        | X100 |
| N108:81 | 409882 | High Suction Pressure Shutdown                          | R/W |                                                        | X100 |
| N107:45 | 409746 | High Suction Pressure Warning Start Delay               | R/W | 0 - 300 s                                              | X1   |
| N107:46 | 409747 | Low Suction Pressure Shutdown                           | R/W |                                                        | X100 |
| N108:42 | 409843 | Low Suction Pressure Booster Shutdown                   | R/W |                                                        | X100 |
| N108:43 | 409844 | Low Suction Pressure High Stage Shutdown                | R/W |                                                        | X100 |
| N107:47 | 409748 | Low Suction Pressure Shutdown Machine Limit             | R/W |                                                        | X100 |
| N107:48 | 409749 | Low Suction Pressure Start Delay                        | R/W | 0 - -1 s                                               | X1   |
| N107:49 | 409750 | Low Suction Pressure Warning Offset                     | R/W | 0.00 - 5.00 barD<br>-29.9 PSID - 57.8 PSID             | X100 |
| N107:50 | 409751 | Limitation Suction Pressure Load Inhibit Offset         | R/W | 0.01 - 5.00 barD<br>-29.6 PSID - 57.8 PSID             | X100 |
| N107:51 | 409752 | Limitation Suction Pressure Force Unload Offset         | R/W | 0.01 - 5.00 barD<br>-29.6 PSID - 57.8 PSID             | X100 |
| N108:80 | 409881 | Booster Allowed To Start Offset                         | R/W | -10.00 - 10.00 barD<br>-325.2 PSID - 130.3 PSID        | X100 |
| N107:56 | 409757 | Low Ammonia Storage Pressure Shutdown                   | R/W | 0.01 - 5.00 barA                                       | X100 |
| N108:61 | 409862 | Low Ammonia Storage Pressure Warning Offset             | R/W | 0.00 - 5.00 barD                                       | X100 |
| N108:75 | 409876 | Limitation Ammonia Storage Pressure Load Inhibit Offset | R/W | 0.00 - 5.00 barD                                       | X100 |
| N108:76 | 409877 | Limitation Ammonia Storage Pressure Force Unload Offset | R/W | 0.00 - 5.00 barD                                       | X100 |
| N107:52 | 409753 | High Discharge Pressure Shutdown                        | R/W |                                                        | X100 |
| N108:44 | 409845 | High Discharge Pressure Booster Shutdown                | R/W |                                                        | X100 |
| N108:45 | 409846 | High Discharge Pressure High Stage Shutdown             | R/W |                                                        | X100 |
| N107:53 | 409754 | High Discharge Pressure Warning Offset                  | R/W | 0.00 - 10.00 barD<br>-29.9 PSID - 130.3 PSID           | X100 |
| N107:54 | 409755 | Limitation Discharge Pressure Load Inhibit Offset       | R/W | 0.10 - 10.00 barD<br>-27 PSID - 130.3 PSID             | X100 |
| N107:55 | 409756 | Limitation Discharge Pressure Force Unload Offset       | R/W | 0.10 - 10.00 barD<br>-27 PSID - 130.3 PSID             | X100 |
| N107:57 | 409758 | High Discharge Temperature Shutdown                     | R/W |                                                        | X10  |
| N107:58 | 409759 | High Discharge Temperature Warning Offset               | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                         | X10  |
| N107:59 | 409760 | Oil Cooling Control Signal                              | R/W | 0 = Discharge Temperature<br>1 = Inlet Oil Temperature | X1   |

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| N107:60 | 409761 | Motorized Liquid Injection Valve Temperature Set Point | R/W | 45.0 - 80.0 °C<br>113 °F - 176 °F                       | X10 |
| N109:25 | 409926 | Liquid Injection Begin Offset                          | R/W | 0.0 - 140.0 K<br>32 F° - 284 F°                         | X10 |
| N109:26 | 409927 | Liquid Injection End Offset                            | R/W | 0.0 - 140.0 K<br>32 F° - 284 F°                         | X10 |
| N107:61 | 409762 | Minimum Valve Position                                 | R/W | 2 - 100 %                                               | X1  |
| N107:62 | 409763 | Proportional Term                                      | R/W | 0 - 500                                                 | X1  |
| N107:63 | 409764 | Integral Term                                          | R/W | 1.0 - 250.0 s/R                                         | X10 |
| N107:64 | 409765 | Mode                                                   | R/W | 0 = Auto<br>1 = Manual                                  | X1  |
| N107:65 | 409766 | Manual Mode Position                                   | R/W | 0 - 100 %                                               | X1  |
| N107:66 | 409767 | Calibrate Time before Bleed                            | R/W | 5 - 90 s                                                | X1  |
| N107:67 | 409768 | Liquid Injection Begin                                 | R/W | 0.0 - 140.0 °C<br>32 °F - 284 °F                        | X10 |
| N107:68 | 409769 | Liquid Injection End                                   | R/W | 0.0 - 140.0 °C<br>32 °F - 284 °F                        | X10 |
| N108:39 | 409840 | Liquid Injection Pulse Period                          | R/W | 4 - 30 s                                                | X1  |
| N106:1  | 409602 | Fan To Start With Compressor                           | R/W | 0 = Fan 1<br>1 = Fan 2<br>2 = Fan 3                     | X1  |
| N107:69 | 409770 | High Inlet Temperature Warning                         | R/W | -75.0 - 100.0 °C<br>-103 °F - 212 °F                    | X10 |
| N107:70 | 409771 | Low Inlet Temperature Warning                          | R/W | -75.0 - 100.0 °C<br>-103 °F - 212 °F                    | X10 |
| N107:71 | 409772 | High Outlet Temperature Warning                        | R/W | -75.0 - 100.0 °C<br>-103 °F - 212 °F                    | X10 |
| N107:72 | 409773 | High Outlet Temperature Warning Timer                  | R/W | 0 - 300 s                                               | X1  |
| N107:73 | 409774 | Low Outlet Temperature Shutdown                        | R/W | -60.0 - 200.0 °C<br>-76 °F - 392 °F                     | X10 |
| N107:74 | 409775 | Low Outlet Temperature Shutdown Timer                  | R/W | 0 - 300 s                                               | X1  |
| N107:75 | 409776 | Low Outlet Temperature Warning Offset                  | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                          | X10 |
| N107:76 | 409777 | Low Outlet Temperature Warning Start Delay             | R/W | 0 - 300 s                                               | X1  |
| N108:30 | 409831 | Limitation Outlet Temperature Load Inhibit Offset      | R/W | 0.1 - 50.0 K<br>32.2 F° - 122 F°                        | X10 |
| N107:77 | 409778 | Limitation Outlet Temperature Force Unload Offset      | R/W | 0.1 - 50.0 K<br>32.2 F° - 122 F°                        | X10 |
| N107:78 | 409779 | Loss of Remote Start Signal Run Warning Timer          | R/W | 0 - 120 s                                               | X1  |
| N107:79 | 409780 | Power Failure Restart Mode                             | R/W | 0 = Disabled<br>1 = Local<br>2 = Remote<br>3 = Shutdown | X1  |
| N107:80 | 409781 | Power Failure Restart Delay                            | R/W | 0 - 8000 s                                              | X1  |
| N107:81 | 409782 | Power Failure Restart Abort Timer                      | R/W | 0.0 - 480.0 min                                         | X10 |
| N107:82 | 409783 | Superheat Suction Annunciations                        | R/W | 0 = Disabled<br>-1 = Enabled                            | X1  |
| N107:83 | 409784 | High Suction Superheat Shutdown                        | R/W | 0.0 - 100.0 K<br>32 F° - 212 F°                         | X10 |
| N107:84 | 409785 | High Suction Superheat Shutdown Timer                  | R/W | 0 - 900 s                                               | X1  |

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| N107:85 | 409786 | Low Suction Superheat Shutdown                      | R/W | 0.0 - 100.0 K<br>32 F° - 212 F° | X10  |
| N107:86 | 409787 | Low Suction Superheat Shutdown Timer                | R/W | 0 - 900 s                       | X1   |
| N108:53 | 409854 | Superheat Discharge Annunciations                   | R/W | 0 = Disabled<br>-1 = Enabled    | X1   |
| N107:87 | 409788 | High Discharge Superheat Shutdown                   | R/W | 0.0 - 150.0 K<br>32 F° - 302 F° | X10  |
| N107:88 | 409789 | High Discharge Superheat Shutdown Timer             | R/W | 0 - 900 s                       | X1   |
| N107:89 | 409790 | Low Discharge Superheat Shutdown                    | R/W | 0.0 - 150.0 K<br>32 F° - 302 F° | X10  |
| N107:90 | 409791 | Low Discharge Superheat Shutdown Timer              | R/W | 0 - 900 s                       | X1   |
| N107:91 | 409792 | Low Intermediate Superheat Shutdown                 | R/W |                                 | X10  |
| N107:92 | 409793 | Low Intermediate Superheat Shutdown Timer           | R/W |                                 | X1   |
| N107:93 | 409794 | Low Intermediate Superheat Warning Offset           | R/W |                                 | X10  |
| N107:94 | 409795 | Low Intermediate Superheat Warning Timer            | R/W |                                 | X1   |
| N107:95 | 409796 | High Intermediate Temperature Low Pressure.Shutdown | R/W |                                 | X100 |
| N107:96 | 409797 | Intermediate Temperature High Shutdown              | R/W |                                 | X10  |
| N107:97 | 409798 | High Intermediate Temperature Low Pressure Warning  | R/W |                                 | X100 |
| N107:98 | 409799 | High Intermediate Pressure Warning                  | R/W |                                 | X10  |
| N107:99 | 409800 | Injection Begin                                     | R/W |                                 | X10  |
| N108:0  | 409801 | Injection End                                       | R/W |                                 | X10  |
| N108:1  | 409802 | High Pressure Ratio Shutdown                        | R/W |                                 | X10  |
| N108:2  | 409803 | High Pressure Ratio Shutdown Timer                  | R/W | 0 - 120 s                       | X1   |
| N108:3  | 409804 | High Cylinder Head Temperature Cylinder 1 Shutdown  | R/W |                                 | X10  |
| N108:4  | 409805 | High Cylinder Head Temperature Cylinder 2 Shutdown  | R/W |                                 | X10  |
| N108:5  | 409806 | High Cylinder Head Temperature Cylinder 3 Shutdown  | R/W |                                 | X10  |
| N108:6  | 409807 | High Cylinder Head Temperature Cylinder 4 Shutdown  | R/W |                                 | X10  |
| N108:7  | 409808 | High Cylinder Head Temperature Cylinder 5 Shutdown  | R/W |                                 | X10  |
| N108:8  | 409809 | High Cylinder Head Temperature Cylinder 6 Shutdown  | R/W |                                 | X10  |
| N108:9  | 409810 | High Cylinder Head Temperature Cylinder 7 Shutdown  | R/W |                                 | X10  |
| N108:10 | 409811 | High Cylinder Head Temperature Cylinder 8 Shutdown  | R/W |                                 | X10  |

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| N108:11 | 409812 | High Cylinder Head Temperature Cylinder 9 Shutdown  | R/W |                                                | X10  |
| N108:12 | 409813 | High Cylinder Head Temperature Cylinder 10 Shutdown | R/W |                                                | X10  |
| N108:13 | 409814 | High Cylinder Head Temperature Cylinder 11 Shutdown | R/W |                                                | X10  |
| N108:14 | 409815 | High Cylinder Head Temperature Cylinder 12 Shutdown | R/W |                                                | X10  |
| N108:15 | 409816 | High Cylinder Head Temperature Shutdown Timer       | R/W |                                                | X1   |
| N108:17 | 409818 | Economizer Output On Above Capacity Slide           | R/W | 0 - 100 %                                      | X1   |
| N108:18 | 409819 | Economizer Output Off Below Capacity Slide          | R/W | 0 - 100 %                                      | X1   |
| N108:19 | 409820 | Compressor Start Pressure                           | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N108:20 | 409821 | Pump Down Maximum Time                              | R/W | 1 - 40 min                                     | X1   |
| N108:21 | 409822 | Pump Down Count                                     | R/W | 0 = Continuous<br>1 = Once                     | X1   |
| N108:22 | 409823 | Pump Down Cycle On Set Point                        | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N108:23 | 409824 | Pump Down Cycle Off Set Point                       | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N108:24 | 409825 | Pump Down Max Cycle Attempts                        | R/W | 0 - 100                                        | X1   |
| N108:25 | 409826 | Pump Down Max Cycle Period                          | R/W | 0.00 - 20.00 h                                 | X100 |
| N108:26 | 409827 | Second Liquid Feed On Above Capacity                | R/W | 0 - 100 %                                      | X1   |
| N108:27 | 409828 | Second Liquid Feed Off Below Capacity               | R/W | 0 - 100 %                                      | X1   |
| N108:33 | 409834 | Capacity Output 1 On                                | R/W |                                                | X1   |
| N108:34 | 409835 | Capacity Output 1 Off                               | R/W |                                                | X1   |
| N108:35 | 409836 | Capacity Output 2 On                                | R/W |                                                | X1   |
| N108:36 | 409837 | Capacity Output 2 Off                               | R/W |                                                | X1   |
| N108:82 | 409883 | Slide Or Capacity Selection                         | R/W | 0 = Capacity<br>1 = Percent Of Max Travel      | X1   |
| N108:37 | 409838 | Damage Annunciation Type                            | R/W | 0 = Warning<br>1 = Shutdown                    | X1   |
| N108:31 | 409832 | Annunciations Enabled Above Capacity Slide          | R/W | 50 - 100 %                                     | X1   |
| N108:48 | 409849 | Minimum Position                                    | R/W |                                                | X1   |
| N108:49 | 409850 | Part Load Position                                  | R/W |                                                | X1   |
| N108:50 | 409851 | Maximum Position                                    | R/W |                                                | X1   |
| N108:51 | 409852 | Sequence Priority                                   | R/W | 1 - 100                                        | X1   |
| N108:87 | 409888 | High Male Rotor Temperature Shutdown                | R/W | 0.0 - 200.0 °C<br>32 °F - 392 °F               | X10  |
| N108:88 | 409889 | High Male Rotor Temperature Warning Offset          | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                 | X10  |
| N108:89 | 409890 | High Female Rotor Temperature Shutdown              | R/W | 0.0 - 200.0 °C<br>32 °F - 392 °F               | X10  |
| N108:90 | 409891 | High Female Rotor Temperature Warning Offset        | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                 | X10  |
| N108:95 | 409896 | Discharge Check Failed to Close Shutdown Delay      | R/W | 1 - 60 s                                       | X1   |

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| N108:96 | 409897 | Discharge Check Failed to Open Shutdown Delay       | R/W | 1 - 60 s                                                                                                                                                                                                              | X1   |
| N108:97 | 409898 | Suction Check Failed to Close Shutdown Delay        | R/W | 1 - 60 s                                                                                                                                                                                                              | X1   |
| N108:98 | 409899 | Suction Check Failed to Open Shutdown Delay         | R/W | 1 - 60 s                                                                                                                                                                                                              | X1   |
| N109:0  | 409901 | Start Monitoring Delay                              | R/W | 1 - 60 min                                                                                                                                                                                                            | X1   |
| N109:14 | 409915 | Male Rotor Zero Position                            | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:15 | 409916 | Male Rotor Suction Side Shutdown Position           | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:16 | 409917 | Male Rotor Suction Side Warning Position Offset     | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:17 | 409918 | Male Rotor Discharge Side Shutdown Position         | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:18 | 409919 | Male Rotor Discharge Side Warning Position Offset   | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:19 | 409920 | Female Rotor Zero Position                          | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:20 | 409921 | Female Rotor Suction Side Shutdown Position         | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:21 | 409922 | Female Rotor Suction Side Warning Position Offset   | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:22 | 409923 | Female Rotor Discharge Side Shutdown Position       | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:23 | 409924 | Female Rotor Discharge Side Warning Position Offset | R/W | 0.00 - 2.00 mm                                                                                                                                                                                                        | X100 |
| N109:24 | 409925 | Manual Mode Position                                | R/W |                                                                                                                                                                                                                       | X1   |
| N108:16 | 409817 | Compressor Service Notification                     | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                          | X1   |
| N109:2  | 409903 | Low Suction Temperature Shutdown                    | R/W | -50.0 - 120.0 °C<br>-58 °F - 248 °F                                                                                                                                                                                   | X10  |
| N109:3  | 409904 | Low Suction Temperature Warning Offset              | R/W | 0.0 - 30.0 K<br>32 F° - 86 F°                                                                                                                                                                                         | X10  |
|         |        | <b>Compressor Configuration</b>                     |     |                                                                                                                                                                                                                       |      |
| N112:0  | 410201 | Compressor Viewport                                 | R/W | 0 = No Entries<br>1-10 = Compressor #X                                                                                                                                                                                |      |
| N112:1  | 410202 | Type                                                | R   | 0 = Screw<br>1 = Recip<br>2 = Centrifugal                                                                                                                                                                             | X1   |
| N112:2  | 410203 | Manufacturer                                        | R   | 1 = GEA Grasso<br>2 = GEA Bock<br>3 = Hartford(Dunham-Bush)<br>4 = Frick<br>5 = Hall<br>6 = Howden<br>7 = Kobe<br>8 = Mycom<br>9 = Sabroe<br>10 = Stal<br>11 = Sullair<br>12 = Thermatrol<br>13 = Vilter<br>14 = York | X1   |

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| N112:3 | 410204 | Series | R | 0 = All<br>10000 = LT/GL<br>10050 = LT/GLX<br>10100 = MC/GM<br>10150 = M/GMX<br>10200 = SH/GS<br>10300 = 5HP<br>10350 = 6<br>10400 = 7S<br>10450 = 7SW<br>10500 = 8S<br>10550 = 8SW<br>10600 = 9<br>10650 = 10<br>10700 = 11<br>10750 = 12<br>10800 = 12E<br>10850 = V<br>20950 = Bock<br>41000 = RWB II<br>41100 = TDSH<br>41200 = RXF/RXB<br>41300 = RDB<br>41400 = RWF<br>61400 = R-Series<br>61500 = S-Series<br>71600 = L-Series<br>71700 = LC-Series<br>71800 = HE-Series<br>82000 = Mycom<br>112100 = A-Series<br>112200 = B-Series<br>112300 = C-Series<br>132400 = Vilter | X1 |
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| N112:4 | 410205 | Model               | R | 0 = PR-P1830 P-50<br>1 = PR-P2240 P-51<br>2 = PR-P2655 P-52<br>3 = RR-R1830 R-50<br>4 = RR-R2240 R-51<br>5 = RR-R2655 R-52<br>6 = S-RS1830 S-50<br>7 = S-RS2240 S-51<br>8 = S-RS2655 S-52<br>9 = T-RT1830 T-50<br>10 = T-RT2240 T-51<br>11 = T-RT2655 T-52<br>12 = V-RV1830 V-50<br>13 = V-RV2240 V-51<br>14 = V-RV2655 V-52<br>15 = W-RW1830 W-50<br>16 = W-RW2240 W-51<br>17 = W-RW2655 W-52<br>18 = Y-RY1830 Y-50<br>19 = Y-RY2240 Y-51<br>20 = Y-RY2655 Y-52<br>21 = Z-RZ1830 Z-50<br>22 = Z-RZ2240 Z-51<br>23 = Z-RZ2655 Z-52<br>24 = XAR-XA1830 XA-50<br>25 = XAR-XA2240 XA-51<br>26 = XAR-XA2655 XA-52<br>27 = XBR-XB1830 XB-50<br>28 = XBR-XB2240 XB-51<br>29 = XBR-XB2655 XB-52<br>30 = XCR-XC1830 XC-50<br>31 = XCR-XC2240 XC-51<br>32 = XCR-XC2655 XC-52<br>33 = XDR-XD1830 XD-50<br>34 = XDR-XD2240 XD-51<br>35 = XDR-XD2655 XD-52<br>36 = XER-XE1830 XE-50<br>37 = XER-XE2240 XE-51<br>38 = XER-XE2655 XE-52 | X1 |
| N112:5 | 410206 | Number Of Steps     | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1 |
| N112:6 | 410207 | Number Of Solenoids | R |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | X1 |

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| N112:7  | 410208 | Frame Size Grasso Only   | R | 0 = C<br>1 = D<br>2 = E<br>3 = G<br>4 = GS<br>5 = G9S<br>100 = H<br>101 = HM<br>102 = HS<br>103 = L<br>104 = LM<br>105 = LS<br>106 = M<br>107 = MM<br>108 = MS<br>109 = MCM<br>110 = N<br>111 = NM<br>112 = NS<br>200 = P<br>201 = R<br>202 = S<br>203 = T<br>204 = V<br>205 = W<br>206 = Y<br>207 = Z<br>208 = XA<br>209 = XB<br>210 = XC<br>211 = XD<br>212 = XE<br>213 = XF<br>214 = XG<br>215 = XH | X1 |
| N112:8  | 410209 | Swept Volume Grasso Only | R | 231 = C<br>265 = D<br>321 = E<br>372 = G<br>471 = H<br>544 = L<br>708 = M<br>805 = P<br>870 = N<br>1040 = R<br>1290 = S<br>1460 = T<br>1740 = V<br>1990 = W<br>2390 = Y<br>2748 = Z<br>3250 = XA<br>4150 = XB<br>4900 = XC<br>5800 = XD<br>7170 = XE<br>8560 = XF<br>9807 = XG<br>11467 = XH                                                                                                           | X1 |
| N112:9  | 410210 | Vi Code Grasso Only      | R |                                                                                                                                                                                                                                                                                                                                                                                                        | X1 |
| N112:10 | 410211 | External Capacity Mode   | R | 0 = Direct Pulse Control<br>1 = Indirect Pulse Control                                                                                                                                                                                                                                                                                                                                                 | X1 |

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| N112:11 | 410212 | Variable Speed Motor Active     | R |                                                                                                                                                                                                            | X1 |
| N112:12 | 410213 | Drive Type                      | R | 0 = Fixed Speed, Solid State, ATL, or Wye-Delta<br>1 = Variable Speed<br>2 = Variable Speed with Bypass<br>3 = Steam Turbine<br>4 = Gas/Diesel Engine                                                      | X1 |
| N112:13 | 410214 | Motor Current Input             | R | 0 = 4 - 20mA<br>1 = CT with 4 - 20mA Output<br>2 = CT<br>3 = 1A CT<br>4 = Communication<br>5 = None Recip Only                                                                                             | X1 |
| N112:14 | 410215 | Motor Speed Input               | R |                                                                                                                                                                                                            | X1 |
| N112:15 | 410216 | Motor Start Manufacturer        | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:16 | 410217 | Motor Start Signal              | R | 0 = Maintained<br>1 = Pulsed                                                                                                                                                                               | X1 |
| N112:17 | 410218 | Vi Type                         | R | 0 = Fixed<br>1 = Continuous Variable<br>2 = Step Variable                                                                                                                                                  | X1 |
| N112:18 | 410219 | Hot Gas Bypass                  | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:19 | 410220 | Oil Cooling                     | R | 0 = Other<br>1 = Liquid Injection<br>2 = Thermosiphon<br>3 = Water Cooled<br>4 = IntelliSOC (Danfoss)<br>5 = Motorized Valve<br>6 = Yosaku Pulsed Liquid Injection<br>7 = DX Oil Cooling<br>8 = Fan Cooled | X1 |
| N112:20 | 410221 | VTrac Enabled                   | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:21 | 410222 | Pump Down Type                  | R | 0 = Disabled<br>1 = Manual<br>2 = Auto                                                                                                                                                                     | X1 |
| N112:22 | 410223 | Oil Pump Type                   | R | 0 = Internal/No Pump<br>1 = External Full-Time No Prelube<br>2 = None<br>3 = Internal<br>4 = Shared Full Time<br>5 = External Startup/Prelube<br>6 = External Cycling<br>7 = External Full-Time            | X1 |
| N112:23 | 410224 | Oil Filter Transducer           | R | 0 = None<br>1 = Inlet<br>2 = Outlet<br>3 = Both                                                                                                                                                            | X1 |
| N112:24 | 410225 | Low Oil Level Enabled           | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:25 | 410226 | High Oil Level Enabled          | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:26 | 410227 | Suction Filter Combo Solenoid   | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:27 | 410228 | Double Balance Piston Enabled   | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:28 | 410229 | Fast Unload Solenoid Enabled    | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:29 | 410230 | Startup Bypass Solenoid Enabled | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |
| N112:30 | 410231 | Oil Separator Temperature Probe | R | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                               | X1 |

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| N112:31 | 410232 | Economizer Type                      | R   | 0 = Non-Economized<br>1 = Flash Economized<br>2 = DX Economized<br>3 = Non-Economized w/ Sideload<br>4 = Flash Economized w/ Sideload<br>5 = DX Economized w/ Sideload<br>6 = Intercooler<br>7 = Economizer Control By Others (Network)<br>8 = Economizer Control By Others (Hardwired)                                                                                 | X1                                  |
| N112:32 | 410233 | Economizer Pressure Transducer       | R   | 0 = 0-100 PSIA<br>1 = 0-200 PSIA<br>2 = 0-300 PSIA<br>3 = 0-200 PSIG<br>4 = 0-300 PSIG<br>5 = 0-500 PSIG<br>6 = 0-7 barA<br>7 = 0-13 barA<br>8 = 0-25 barA<br>9 = 0-32 barA<br>10 = 0-35 barA<br>11 = Custom<br>-1 = None                                                                                                                                               | X1                                  |
| N112:33 | 410234 | Economizer Temperature Monitor       | R   |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |
| N112:34 | 410235 | Remote Set Point                     | R   | 0 = None<br>1 = Temperature<br>2 = Pressure<br>3 = Slide Valve                                                                                                                                                                                                                                                                                                          | X1                                  |
|         |        | <b>Compressor Sequencer Commands</b> |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                      |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        | Level 1                              |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N113:50 | 410351 | Control Signal                       | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature |                                     |
| N113:51 | 410352 | Control Value                        | R   |                                                                                                                                                                                                                                                                                                                                                                         | Depend<br>s on<br>Control<br>Signal |
| N113:52 | 410353 | Control Set Point                    | R/W |                                                                                                                                                                                                                                                                                                                                                                         | Depend<br>s on<br>Control<br>Signal |
| N113:53 | 410354 | Control Capacity Mode                | R/W | 0 = Capacity Control 1<br>1 = Capacity Control 2<br>2 = Capacity Control 3                                                                                                                                                                                                                                                                                              | X1                                  |
| N113:54 | 410355 | Control Mode                         | R/W | 0 = Auto<br>1 = External<br>2 = Manual<br>3 = Load<br>4 = Unload                                                                                                                                                                                                                                                                                                        | X1                                  |
| N113:55 | 410356 | Current Step                         | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |
| N113:56 | 410357 | Max Step                             | R   |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |

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| N113:57 | 410358 | Current Status                               | R | 0 = Not Permitted To Start<br>1 = Shutdown<br>2 = Soaking<br>3 = Waiting On Next Step Timer<br>4 = Waiting On Previous Step Timer<br>5 = At Maximum Step<br>6 = At Minimum Step<br>7 = Holding<br>8 = Waiting<br>9 = Waiting For Compressor To Load<br>10 = Waiting For Compressor To Unload<br>11 = Waiting For System To Stabilize | X1  |
| N113:58 | 410359 | Current Timer Value                          | R |                                                                                                                                                                                                                                                                                                                                      | X10 |
| N113:59 | 410360 | Number Of Compressors Running On This Level  | R |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N113:60 | 410361 | Number Of Compressor Total On This Level     | R |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N113:61 | 410362 | Number Of Compressor Available On This Level |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N113:62 | 410363 | Is Shutdown                                  |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N113:63 | 410364 | Enabled                                      |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N113:70 | 410371 | Level 2                                      |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N113:89 | 410390 |                                              | - |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N113:90 | 410391 | Level 3                                      |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N114:9  | 410410 |                                              | - |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N114:10 | 410411 | Level 4                                      |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N114:29 | 410430 |                                              | - |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        | <b>Sequenced Compressor Status</b>           |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                              |   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        | Sequenced Compressor 1                       |   |                                                                                                                                                                                                                                                                                                                                      |     |
| N115:0  | 410501 | Enabled                                      | R | 0 = False<br>1 = True                                                                                                                                                                                                                                                                                                                |     |
| N115:1  | 410502 | Device Type                                  | R | 0 = Omni<br>1 = FES Legacy Product                                                                                                                                                                                                                                                                                                   |     |
| N115:2  | 410503 | Compressor Index                             | R | X1                                                                                                                                                                                                                                                                                                                                   |     |
| N115:3  | 410504 | Level                                        | R | X1                                                                                                                                                                                                                                                                                                                                   |     |
| N115:4  | 410505 | Compressor Type                              | R | 0 = Screw<br>1 = Recip<br>2 = Centrifugal                                                                                                                                                                                                                                                                                            |     |
| N115:5  | 410506 | Compressor Drive                             | R | 0 = Fixed Speed, Solid State, ATL, or Wye-Delta<br>1 = Variable Speed<br>2 = Variable Speed with Bypass<br>3 = Steam Turbine<br>4 = Gas/Diesel Engine                                                                                                                                                                                |     |
| N115:6  | 410507 | Allowed To Start                             | R | 0 = False<br>1 = True                                                                                                                                                                                                                                                                                                                |     |
| N115:7  | 410508 | Any Start Timers Active                      | R | 0 = False<br>1 = True                                                                                                                                                                                                                                                                                                                |     |
| N115:8  | 410509 | Annunciation Status                          | R | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                            |     |

|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|---------|--------|------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| N115:9  | 410510 | Current State          | R | 0 = Starting<br>1 = Running<br>2 = Stopping<br>3 = Stopped                                                                                                                                                                                                                                                                                                              |  |
| N115:10 | 410511 | Capacity Control State | R | 0 = Auto<br>1 = External<br>2 = Manual<br>3 = Load<br>4 = Unload                                                                                                                                                                                                                                                                                                        |  |
| N115:11 | 410512 | Control Signal         | R | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature |  |
| N115:12 | 410513 | Control Value          | R | Depends on Control Signal                                                                                                                                                                                                                                                                                                                                               |  |
| N115:13 | 410514 | Capacity Slide         | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:14 | 410515 | Current Step           | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:15 | 410516 | Motor Speed Percentage | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:16 | 410517 | Runtime                | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:17 | 410518 | Motor Current          | R | X10                                                                                                                                                                                                                                                                                                                                                                     |  |
| N115:18 | 410519 | Motor Speed Percentage | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:19 | 410520 | Suction Pressure       | R | X10                                                                                                                                                                                                                                                                                                                                                                     |  |
| N115:20 | 410521 | Process Temperature    | R | X1                                                                                                                                                                                                                                                                                                                                                                      |  |
| N115:21 | 410522 | Discharge Pressure     | R | X10                                                                                                                                                                                                                                                                                                                                                                     |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N115:30 | 410531 | Sequenced Compressor 2 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N115:59 | 410560 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N115:60 | 410561 | Sequenced Compressor 3 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N115:89 | 410590 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N115:90 | 410591 | Sequenced Compressor 4 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:19 | 410620 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:20 | 410621 | Sequenced Compressor 5 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:49 | 410650 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:50 | 410651 | Sequenced Compressor 6 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:79 | 410680 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N116:80 | 410681 | Sequenced Compressor 7 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N117:9  | 410710 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N117:10 | 410711 | Sequenced Compressor 8 |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
|         |        |                        |   |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N117:39 | 410740 |                        | - |                                                                                                                                                                                                                                                                                                                                                                         |  |

|         |        |                         |   |  |  |
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|         |        |                         |   |  |  |
| N117:40 | 410741 | Sequenced Compressor 9  |   |  |  |
|         |        |                         |   |  |  |
| N117:69 | 410770 |                         | - |  |  |
|         |        |                         |   |  |  |
| N117:70 | 410771 | Sequenced Compressor 10 |   |  |  |
|         |        |                         |   |  |  |
| N117:99 | 410800 |                         | - |  |  |
|         |        |                         |   |  |  |
| N118:0  | 410801 | Sequenced Compressor 11 |   |  |  |
|         |        |                         |   |  |  |
| N118:29 | 410830 |                         | - |  |  |
|         |        |                         |   |  |  |
| N118:30 | 410831 | Sequenced Compressor 12 |   |  |  |
|         |        |                         |   |  |  |
| N118:59 | 410860 |                         | - |  |  |
|         |        |                         |   |  |  |
| N118:60 | 410861 | Sequenced Compressor 13 |   |  |  |
|         |        |                         |   |  |  |
| N118:89 | 410890 |                         | - |  |  |
|         |        |                         |   |  |  |
| N118:90 | 410891 | Sequenced Compressor 14 |   |  |  |
|         |        |                         |   |  |  |
| N119:19 | 410920 |                         | - |  |  |
|         |        |                         |   |  |  |
| N119:20 | 410921 | Sequenced Compressor 15 |   |  |  |
|         |        |                         |   |  |  |
| N119:49 | 410950 |                         | - |  |  |
|         |        |                         |   |  |  |
| N119:50 | 410951 | Sequenced Compressor 16 |   |  |  |
|         |        |                         |   |  |  |
| N119:79 | 410980 |                         | - |  |  |
|         |        |                         |   |  |  |
| N119:80 | 410981 | Sequenced Compressor 17 |   |  |  |
|         |        |                         |   |  |  |
| N120:9  | 411010 |                         | - |  |  |
|         |        |                         |   |  |  |
| N120:10 | 411011 | Sequenced Compressor 18 |   |  |  |
|         |        |                         |   |  |  |
| N120:39 | 411040 |                         | - |  |  |
|         |        |                         |   |  |  |
| N120:40 | 411041 | Sequenced Compressor 19 |   |  |  |
|         |        |                         |   |  |  |
| N120:69 | 411070 |                         | - |  |  |
|         |        |                         |   |  |  |
| N120:70 | 411071 | Sequenced Compressor 20 |   |  |  |
|         |        |                         |   |  |  |
| N120:99 | 411100 |                         | - |  |  |

|         |        |                         |   |  |  |
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| N121:0  | 411101 | Sequenced Compressor 21 |   |  |  |
|         |        |                         |   |  |  |
| N121:29 | 411130 |                         | - |  |  |
|         |        |                         |   |  |  |
| N121:30 | 411131 | Sequenced Compressor 22 |   |  |  |
|         |        |                         |   |  |  |
| N121:59 | 411160 |                         | - |  |  |
|         |        |                         |   |  |  |
| N121:60 | 411161 | Sequenced Compressor 23 |   |  |  |
|         |        |                         |   |  |  |
| N121:89 | 411190 |                         | - |  |  |
|         |        |                         |   |  |  |
| N121:90 | 411191 | Sequenced Compressor 24 |   |  |  |
|         |        |                         |   |  |  |
| N122:19 | 411220 |                         | - |  |  |
|         |        |                         |   |  |  |
| N122:20 | 411221 | Sequenced Compressor 25 |   |  |  |
|         |        |                         |   |  |  |
| N122:49 | 411250 |                         | - |  |  |
|         |        |                         |   |  |  |
| N122:50 | 411251 | Sequenced Compressor 26 |   |  |  |
|         |        |                         |   |  |  |
| N122:79 | 411280 |                         | - |  |  |
|         |        |                         |   |  |  |
| N122:80 | 411281 | Sequenced Compressor 27 |   |  |  |
|         |        |                         |   |  |  |
| N123:9  | 411310 |                         | - |  |  |
|         |        |                         |   |  |  |
| N123:10 | 411311 | Sequenced Compressor 28 |   |  |  |
|         |        |                         |   |  |  |
| N123:39 | 411340 |                         | - |  |  |
|         |        |                         |   |  |  |
| N123:40 | 411341 | Sequenced Compressor 29 |   |  |  |
|         |        |                         |   |  |  |
| N123:69 | 411370 |                         | - |  |  |
|         |        |                         |   |  |  |
| N123:70 | 411371 | Sequenced Compressor 30 |   |  |  |
|         |        |                         |   |  |  |
| N123:99 | 411400 |                         | - |  |  |
|         |        |                         |   |  |  |
| N124:0  | 411401 | Sequenced Compressor 31 |   |  |  |
|         |        |                         |   |  |  |
| N124:29 | 411430 |                         | - |  |  |
|         |        |                         |   |  |  |
| N124:30 | 411431 | Sequenced Compressor 32 |   |  |  |
|         |        |                         |   |  |  |

|         |        |                         |   |  |  |
|---------|--------|-------------------------|---|--|--|
| N124:59 | 411460 |                         | - |  |  |
|         |        |                         |   |  |  |
| N124:60 | 411461 | Sequenced Compressor 33 |   |  |  |
|         |        |                         |   |  |  |
| N124:89 | 411490 |                         | - |  |  |
|         |        |                         |   |  |  |
| N124:90 | 411491 | Sequenced Compressor 34 |   |  |  |
|         |        |                         |   |  |  |
| N125:19 | 411520 |                         | - |  |  |
|         |        |                         |   |  |  |
| N125:20 | 411521 | Sequenced Compressor 35 |   |  |  |
|         |        |                         |   |  |  |
| N125:49 | 411550 |                         | - |  |  |
|         |        |                         |   |  |  |
| N125:50 | 411551 | Sequenced Compressor 36 |   |  |  |
|         |        |                         |   |  |  |
| N125:79 | 411580 |                         | - |  |  |
|         |        |                         |   |  |  |
| N125:80 | 411581 | Sequenced Compressor 37 |   |  |  |
|         |        |                         |   |  |  |
| N126:9  | 411610 |                         | - |  |  |
|         |        |                         |   |  |  |
| N126:10 | 411611 | Sequenced Compressor 38 |   |  |  |
|         |        |                         |   |  |  |
| N126:39 | 411640 |                         | - |  |  |
|         |        |                         |   |  |  |
| N126:40 | 411641 | Sequenced Compressor 39 |   |  |  |
|         |        |                         |   |  |  |
| N126:69 | 411670 |                         | - |  |  |
|         |        |                         |   |  |  |
| N126:70 | 411671 | Sequenced Compressor 40 |   |  |  |
|         |        |                         |   |  |  |
| N126:99 | 411700 |                         | - |  |  |
|         |        |                         |   |  |  |
| N127:0  | 411701 | Sequenced Compressor 41 |   |  |  |
|         |        |                         |   |  |  |
| N127:29 | 411730 |                         | - |  |  |
|         |        |                         |   |  |  |
| N127:30 | 411731 | Sequenced Compressor 42 |   |  |  |
|         |        |                         |   |  |  |
| N127:59 | 411760 |                         | - |  |  |
|         |        |                         |   |  |  |
| N127:60 | 411761 | Sequenced Compressor 43 |   |  |  |
|         |        |                         |   |  |  |
| N127:89 | 411790 |                         | - |  |  |
|         |        |                         |   |  |  |
| N127:90 | 411791 | Sequenced Compressor 44 |   |  |  |

|         |        |                                                      |   |  |      |
|---------|--------|------------------------------------------------------|---|--|------|
|         |        |                                                      |   |  |      |
| N128:19 | 411820 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N128:20 | 411821 | Sequenced Compressor 45                              |   |  |      |
|         |        |                                                      |   |  |      |
| N128:49 | 411850 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N128:50 | 411851 | Sequenced Compressor 46                              |   |  |      |
|         |        |                                                      |   |  |      |
| N128:79 | 411880 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N128:80 | 411881 | Sequenced Compressor 47                              |   |  |      |
|         |        |                                                      |   |  |      |
| N129:9  | 411910 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N129:10 | 411911 | Sequenced Compressor 48                              |   |  |      |
|         |        |                                                      |   |  |      |
| N129:39 | 411940 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N129:40 | 411941 | Sequenced Compressor 49                              |   |  |      |
|         |        |                                                      |   |  |      |
| N129:69 | 411970 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
| N129:70 | 411971 | Sequenced Compressor 50                              |   |  |      |
|         |        |                                                      |   |  |      |
| N129:99 | 412000 |                                                      | - |  |      |
|         |        |                                                      |   |  |      |
|         |        | <b>Compressor Sequencer<br/>Analog Data</b>          |   |  |      |
|         |        |                                                      |   |  |      |
| N130:0  | 412001 | System Suction Pressure                              | R |  | X100 |
|         |        |                                                      |   |  |      |
| N130:3  | 412004 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N130:4  | 412005 | Compressor Sequencing<br>Inlet Temperature Pressure  | R |  | X10  |
|         |        |                                                      |   |  |      |
| N130:7  | 412008 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N130:8  | 412009 | Compressor Sequencing<br>Outlet Temperature Pressure | R |  | X10  |
|         |        |                                                      |   |  |      |
| N130:11 | 412012 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |
| N130:12 | 412013 | Compressor Sequencing<br>Discharge Pressure          | R |  | X100 |
|         |        |                                                      |   |  |      |
| N130:15 | 412016 |                                                      | R |  |      |
|         |        |                                                      |   |  |      |

|         |        |                                                       |   |  |      |
|---------|--------|-------------------------------------------------------|---|--|------|
| N130:16 | 412017 | Compressor Sequencing Saturated Suction Temperature   | R |  | X10  |
|         |        |                                                       |   |  |      |
| N130:19 | 412020 |                                                       | R |  |      |
|         |        |                                                       |   |  |      |
| N130:20 | 412021 | Compressor Sequencing Saturated Discharge Temperature | R |  | X10  |
|         |        |                                                       |   |  |      |
| N130:23 | 412024 |                                                       | R |  |      |
|         |        |                                                       |   |  |      |
| N130:24 | 412025 | Compressor Sequencing Force to Step                   | R |  | X1   |
|         |        |                                                       |   |  |      |
| N130:27 | 412028 |                                                       | R |  |      |
|         |        |                                                       |   |  |      |
| N130:28 | 412029 | Compressor Sequencing Current Step                    | R |  | X1   |
|         |        |                                                       |   |  |      |
| N130:31 | 412032 |                                                       | R |  |      |
|         |        |                                                       |   |  |      |
| N130:32 | 412033 | Compressor Sequencing Ammonia Storage Pressure        | R |  | X100 |
|         |        |                                                       |   |  |      |
| N130:35 | 412036 |                                                       | R |  |      |
|         |        |                                                       |   |  |      |
| N130:36 | 412037 |                                                       | - |  |      |
|         |        | Reserved for Compressor Sequencer Analog Data         |   |  |      |
| N130:49 | 412050 |                                                       | - |  |      |
|         |        | <b>Compressor Sequencer Digital Data</b>              |   |  |      |
|         |        |                                                       |   |  |      |
| N130:50 | 412051 | Compressor Sequencer Level Shutdown Input             | R |  | bit  |
| N130:51 | 412052 | Compressor Sequencer Level Permissive Input           | R |  | bit  |
| N130:52 | 412053 | Compressor Sequencer Level Enable Input               | R |  | bit  |
| N130:53 | 412054 | Compressor Sequenced Ready Output                     | R |  | bit  |
| N130:54 | 412055 | Compressor Sequenced in Motor Start To Start Output   | R |  | bit  |
| N130:55 | 412056 | Compressor Sequenced in Stop Mode Output              | R |  | bit  |
| N130:56 | 412057 | Compressor Sequenced Running Output                   | R |  | bit  |
| N130:57 | 412058 | Compressor Sequenced in Local Mode Output             | R |  | bit  |
| N130:58 | 412059 | Compressor Sequenced in Remote Mode Output            | R |  | bit  |
| N130:59 | 412060 | Compressor Sequencer Shutdown Status                  | R |  | bit  |
| N130:60 | 412061 | Compressor Sequencer Warning Status                   | R |  | bit  |
| N130:61 | 412062 | Compressor Sequenced Communication Error Output       | R |  | bit  |

|         |        |                                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |     |
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| N130:62 | 412063 | Compressor Override Automatic Start Value              | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:63 | 412064 | Compressor Sequencer Compressors Ready to Start Output | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:64 | 412065 | Compressor Sequencer Ramp to Setpoint Completed Output | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:65 | 412066 | Compressor Sequencer Force to Next Step Input          | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:66 | 412067 | Compressor Sequencer Force to Previous Step Input      | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:68 | 412069 | Compressor Sequencer Device Permissive Input           | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:72 | 412073 | Compressor Sequencer Device Enable Input               | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:76 | 412077 | Compressor Sequenced in Warning Output                 | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
| N130:77 | 412078 | Compressor Sequenced in Shutdown Output                | R   |                                                                                                                                                                                                                                                                                                                                                                         | bit |
|         |        |                                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |     |
| N130:78 | 412079 |                                                        | -   |                                                                                                                                                                                                                                                                                                                                                                         |     |
|         |        | Reserved for Compressor Sequencer Digital Data         |     |                                                                                                                                                                                                                                                                                                                                                                         |     |
| N130:99 | 412100 |                                                        | -   |                                                                                                                                                                                                                                                                                                                                                                         |     |
|         |        | <b>Compressor Sequencer Parameters</b>                 |     |                                                                                                                                                                                                                                                                                                                                                                         |     |
|         |        |                                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |     |
| N131:0  | 412101 | Control Signal                                         | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1  |
| N131:1  | 412102 | Set Point                                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N131:2  | 412103 | Next Step                                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N131:3  | 412104 | Previous Step                                          | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N131:4  | 412105 | Control Signal                                         | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1  |
| N131:5  | 412106 | Set Point                                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N131:6  | 412107 | Next Step                                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N131:7  | 412108 | Previous Step                                          | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1  |

|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|---------|--------|------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|
| N131:8  | 412109 | Control Signal                                 | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1                                  |
| N131:9  | 412110 | Set Point                                      | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |
| N131:10 | 412111 | Next Step                                      | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |
| N131:11 | 412112 | Previous Step                                  | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1                                  |
| N131:12 | 412113 | Capacity Selection                             | R/W | 0 = Capacity Control 1<br>1 = Capacity Control 2<br>2 = Capacity Control 3                                                                                                                                                                                                                                                                                              | X1                                  |
| N131:13 | 412114 | Minimum Position                               | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1                                  |
| N131:14 | 412115 | Maximum Position                               | R/W | 0 - 100 %                                                                                                                                                                                                                                                                                                                                                               | X1                                  |
| N131:15 | 412116 | Override Loading or Unloading Compressor Timer | R/W | 0.1 - 30.0 min                                                                                                                                                                                                                                                                                                                                                          | X10                                 |
| N131:16 | 412117 | All Output Zones Satisfied Set Point           | R/W | -56.7 - 204.4 °C<br>-70.1 °F - 399.9 °F                                                                                                                                                                                                                                                                                                                                 | X10                                 |
| N131:25 | 412126 | Level 2                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N131:49 | 412150 |                                                | -   |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N131:50 | 412151 | Level 3                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N131:74 | 412175 |                                                | -   |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N131:75 | 412176 | Level 4                                        |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N131:99 | 412200 |                                                | -   |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        | <b>Condenser Sequencer Commands</b>            |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
|         |        |                                                |     |                                                                                                                                                                                                                                                                                                                                                                         |                                     |
| N132:0  | 412201 | Control Signal                                 | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature |                                     |
| N132:1  | 412202 | Control Value                                  | R   |                                                                                                                                                                                                                                                                                                                                                                         | Depend<br>s on<br>Control<br>Signal |
| N132:2  | 412203 | Control Set Point                              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | Depend<br>s on<br>Control<br>Signal |

|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
|---------|--------|-----------------------------------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| N132:3  | 412204 | Control Mode                      | R/W | 0 = Auto<br>1 = External<br>2 = Manual<br>3 = Load<br>4 = Unload                                                                                                                                                                                                                                                                     | X1  |
| N132:4  | 412205 | Current Step                      | R/W |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:5  | 412206 | Max Step                          | R   |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:6  | 412207 | Current Status                    | R   | 0 = Not Permitted To Start<br>1 = Shutdown<br>2 = Soaking<br>3 = Waiting On Next Step Timer<br>4 = Waiting On Previous Step Timer<br>5 = At Maximum Step<br>6 = At Minimum Step<br>7 = Holding<br>8 = Waiting<br>9 = Waiting For Compressor To Load<br>10 = Waiting For Compressor To Unload<br>11 = Waiting For System To Stabalize | X1  |
| N132:7  | 412208 | Current Timer Value               | R   |                                                                                                                                                                                                                                                                                                                                      | X10 |
| N132:8  | 412209 | Number Of Fans Running            | R   |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:9  | 412210 | Number Of Fans Total              | R   |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:10 | 412211 | Number Of Pumps Running           | R   |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:11 | 412212 | Number Of Pumps Total             | R   |                                                                                                                                                                                                                                                                                                                                      | X1  |
| N132:12 | 412213 | Is Shutdown                       |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        | <b>Sequenced Condenser Status</b> |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        | Condenser Device 1                |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:50 | 412351 | Enabled                           | R   | 0 = False<br>1 = True                                                                                                                                                                                                                                                                                                                |     |
| N133:51 | 412352 | Current State                     | R   | 0 = Stopped<br>1 = Running<br>2 = Running Low<br>3 = Running High<br>4 = Holding<br>5 = Auto<br>6 = Shutdown<br>7 = Warning                                                                                                                                                                                                          |     |
| N133:53 | 412354 | Motor Speed Percentage            | R   | X1                                                                                                                                                                                                                                                                                                                                   |     |
| N133:54 | 412355 | Runtime KHours                    | R   | X1                                                                                                                                                                                                                                                                                                                                   |     |
| N133:55 | 412356 | Runtime Hours                     | R   | X1                                                                                                                                                                                                                                                                                                                                   |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:60 | 412361 | Condenser Device 2                |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:69 | 412370 |                                   | -   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:70 | 412371 | Condenser Device 3                |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:79 | 412380 |                                   | -   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:80 | 412381 | Condenser Device 4                |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:89 | 412390 |                                   | -   |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:90 | 412391 | Condenser Device 5                |     |                                                                                                                                                                                                                                                                                                                                      |     |
|         |        |                                   |     |                                                                                                                                                                                                                                                                                                                                      |     |
| N133:99 | 412400 |                                   | -   |                                                                                                                                                                                                                                                                                                                                      |     |

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|         |        |                     |   |  |  |
| N134:0  | 412401 | Condenser Device 6  |   |  |  |
|         |        |                     |   |  |  |
| N134:9  | 412410 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:10 | 412411 | Condenser Device 7  |   |  |  |
|         |        |                     |   |  |  |
| N134:19 | 412420 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:20 | 412421 | Condenser Device 8  |   |  |  |
|         |        |                     |   |  |  |
| N134:29 | 412430 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:30 | 412431 | Condenser Device 9  |   |  |  |
|         |        |                     |   |  |  |
| N134:39 | 412440 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:40 | 412441 | Condenser Device 10 |   |  |  |
|         |        |                     |   |  |  |
| N134:49 | 412450 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:50 | 412451 | Condenser Device 11 |   |  |  |
|         |        |                     |   |  |  |
| N134:59 | 412460 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:60 | 412461 | Condenser Device 12 |   |  |  |
|         |        |                     |   |  |  |
| N134:69 | 412470 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:70 | 412471 | Condenser Device 13 |   |  |  |
|         |        |                     |   |  |  |
| N134:79 | 412480 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:80 | 412481 | Condenser Device 14 |   |  |  |
|         |        |                     |   |  |  |
| N134:89 | 412490 |                     | - |  |  |
|         |        |                     |   |  |  |
| N134:90 | 412491 | Condenser Device 15 |   |  |  |
|         |        |                     |   |  |  |
| N134:99 | 412500 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:0  | 412501 | Condenser Device 16 |   |  |  |
|         |        |                     |   |  |  |
| N135:9  | 412510 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:10 | 412511 | Condenser Device 17 |   |  |  |
|         |        |                     |   |  |  |
| N135:19 | 412520 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:20 | 412521 | Condenser Device 18 |   |  |  |
|         |        |                     |   |  |  |
| N135:29 | 412530 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:30 | 412531 | Condenser Device 19 |   |  |  |
|         |        |                     |   |  |  |
| N135:39 | 412540 |                     | - |  |  |

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|         |        |                     |   |  |  |
| N135:40 | 412541 | Condenser Device 20 |   |  |  |
|         |        |                     |   |  |  |
| N135:49 | 412550 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:50 | 412551 | Condenser Device 21 |   |  |  |
|         |        |                     |   |  |  |
| N135:59 | 412560 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:60 | 412561 | Condenser Device 22 |   |  |  |
|         |        |                     |   |  |  |
| N135:69 | 412570 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:70 | 412571 | Condenser Device 23 |   |  |  |
|         |        |                     |   |  |  |
| N135:79 | 412580 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:80 | 412581 | Condenser Device 24 |   |  |  |
|         |        |                     |   |  |  |
| N135:89 | 412590 |                     | - |  |  |
|         |        |                     |   |  |  |
| N135:90 | 412591 | Condenser Device 25 |   |  |  |
|         |        |                     |   |  |  |
| N135:99 | 412600 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:0  | 412601 | Condenser Device 26 |   |  |  |
|         |        |                     |   |  |  |
| N136:9  | 412610 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:10 | 412611 | Condenser Device 27 |   |  |  |
|         |        |                     |   |  |  |
| N136:19 | 412620 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:20 | 412621 | Condenser Device 28 |   |  |  |
|         |        |                     |   |  |  |
| N136:29 | 412630 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:30 | 412631 | Condenser Device 29 |   |  |  |
|         |        |                     |   |  |  |
| N136:39 | 412640 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:40 | 412641 | Condenser Device 30 |   |  |  |
|         |        |                     |   |  |  |
| N136:49 | 412650 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:50 | 412651 | Condenser Device 31 |   |  |  |
|         |        |                     |   |  |  |
| N136:59 | 412660 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:60 | 412661 | Condenser Device 32 |   |  |  |
|         |        |                     |   |  |  |
| N136:69 | 412670 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:70 | 412671 | Condenser Device 33 |   |  |  |
|         |        |                     |   |  |  |
| N136:79 | 412680 |                     | - |  |  |

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|         |        |                     |   |  |  |
| N136:80 | 412681 | Condenser Device 34 |   |  |  |
|         |        |                     |   |  |  |
| N136:89 | 412690 |                     | - |  |  |
|         |        |                     |   |  |  |
| N136:90 | 412691 | Condenser Device 35 |   |  |  |
|         |        |                     |   |  |  |
| N136:99 | 412700 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:0  | 412701 | Condenser Device 36 |   |  |  |
|         |        |                     |   |  |  |
| N137:9  | 412710 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:10 | 412711 | Condenser Device 37 |   |  |  |
|         |        |                     |   |  |  |
| N137:19 | 412720 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:20 | 412721 | Condenser Device 38 |   |  |  |
|         |        |                     |   |  |  |
| N137:29 | 412730 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:30 | 412731 | Condenser Device 39 |   |  |  |
|         |        |                     |   |  |  |
| N137:39 | 412740 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:40 | 412741 | Condenser Device 40 |   |  |  |
|         |        |                     |   |  |  |
| N137:49 | 412750 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:50 | 412751 | Condenser Device 41 |   |  |  |
|         |        |                     |   |  |  |
| N137:59 | 412760 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:60 | 412761 | Condenser Device 42 |   |  |  |
|         |        |                     |   |  |  |
| N137:69 | 412770 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:70 | 412771 | Condenser Device 43 |   |  |  |
|         |        |                     |   |  |  |
| N137:79 | 412780 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:80 | 412781 | Condenser Device 44 |   |  |  |
|         |        |                     |   |  |  |
| N137:89 | 412790 |                     | - |  |  |
|         |        |                     |   |  |  |
| N137:90 | 412791 | Condenser Device 45 |   |  |  |
|         |        |                     |   |  |  |
| N137:99 | 412800 |                     | - |  |  |
|         |        |                     |   |  |  |
| N138:0  | 412801 | Condenser Device 46 |   |  |  |
|         |        |                     |   |  |  |
| N138:9  | 412810 |                     | - |  |  |
|         |        |                     |   |  |  |
| N138:10 | 412811 | Condenser Device 47 |   |  |  |
|         |        |                     |   |  |  |
| N138:19 | 412820 |                     | - |  |  |

|         |        |                                            |   |  |      |
|---------|--------|--------------------------------------------|---|--|------|
|         |        |                                            |   |  |      |
| N138:20 | 412821 | Condenser Device 48                        |   |  |      |
|         |        |                                            |   |  |      |
| N138:29 | 412830 |                                            | - |  |      |
|         |        |                                            |   |  |      |
| N138:30 | 412831 | Condenser Device 49                        |   |  |      |
|         |        |                                            |   |  |      |
| N138:39 | 412840 |                                            | - |  |      |
|         |        |                                            |   |  |      |
| N138:40 | 412841 | Condenser Device 50                        |   |  |      |
|         |        |                                            |   |  |      |
| N138:49 | 412850 |                                            | - |  |      |
|         |        |                                            |   |  |      |
|         |        | <b>Condenser Sequencer<br/>Analog Data</b> |   |  |      |
|         |        |                                            |   |  |      |
| N138:50 | 412851 | System Discharge Pressure                  | R |  | X100 |
|         |        |                                            |   |  |      |
| N138:53 | 412854 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:54 | 412855 | Relative Humidity Input                    | R |  | X10  |
|         |        |                                            |   |  |      |
| N138:57 | 412858 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:58 | 412859 | Ambient Air Temperature                    | R |  | X10  |
|         |        |                                            |   |  |      |
| N138:61 | 412862 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:62 | 412863 | Wet Bulb Temperature                       | R |  | X10  |
|         |        |                                            |   |  |      |
| N138:65 | 412866 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:66 | 412867 | Condenser Saturated<br>Discharge Pressure  | R |  | X100 |
|         |        |                                            |   |  |      |
| N138:69 | 412870 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:70 | 412871 | Condenser Inlet Temperature                | R |  | X10  |
|         |        |                                            |   |  |      |
| N138:73 | 412874 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:74 | 412875 | Condenser Outlet<br>Temperature            | R |  | X10  |
|         |        |                                            |   |  |      |
| N138:77 | 412878 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:78 | 412879 | Condenser Sequencing<br>Force to Step      | R |  | X1   |
|         |        |                                            |   |  |      |
| N138:81 | 412882 |                                            | R |  |      |
|         |        |                                            |   |  |      |
| N138:82 | 412883 | Condenser Sequencing<br>Current Step       | R |  | X1   |
|         |        |                                            |   |  |      |
| N138:85 | 412886 |                                            | R |  |      |
|         |        |                                            |   |  |      |

|         |        |                                                       |   |  |     |
|---------|--------|-------------------------------------------------------|---|--|-----|
| N138:86 | 412887 | Condenser Control Temperature                         | R |  | X10 |
|         |        |                                                       |   |  |     |
| N138:89 | 412890 |                                                       | R |  |     |
|         |        |                                                       |   |  |     |
| N138:90 | 412891 | Saturated Liquid Pressure                             | R |  | X10 |
|         |        |                                                       |   |  |     |
| N138:93 | 412894 |                                                       | R |  |     |
|         |        |                                                       |   |  |     |
| N138:94 | 412895 |                                                       | - |  |     |
|         |        | Reserved for Condenser Sequencer Analog Data          |   |  |     |
| N138:99 | 412900 |                                                       | - |  |     |
|         |        | <b>Condenser Sequencer Digital Data</b>               |   |  |     |
|         |        |                                                       |   |  |     |
| N139:0  | 412901 | Condenser Sequencer Ramp to Set Point Complete Output | R |  | bit |
| N139:1  | 412902 | Condenser Sequencer Force to Next Step Input          | R |  | bit |
| N139:2  | 412903 | Condenser Sequencer Force to Previous Step Input      | R |  | bit |
| N139:3  | 412904 | Condenser Sequencer Manual Active Output              | R |  | bit |
| N139:4  | 412905 | Condenser Sequencer Auto Active Output                | R |  | bit |
| N139:5  | 412906 | Condenser Sequencer Force To Schedule 1               | R |  | bit |
| N139:6  | 412907 | Condenser Sequencer Force To Schedule 2               | R |  | bit |
| N139:7  | 412908 | Condenser Sequencer Force To Schedule 3               | R |  | bit |
| N139:8  | 412909 | Condenser Sequencer Force To Schedule 4               | R |  | bit |
| N139:9  | 412910 | Condenser Water Pump Lockout Override Output          | R |  | bit |
| N139:10 | 412911 | Condenser Water Pump Lockout Input                    | R |  | bit |
| N139:11 | 412912 | Condenser Sequencer Permissive Input                  | R |  | bit |
| N139:12 | 412913 | Condenser Sequencer Shutdown Input                    | R |  | bit |
| N139:13 | 412914 | Condenser Enabled Output                              | R |  | bit |
| N139:17 | 412918 | Feedback Condenser Unit                               | R |  | bit |
| N139:18 | 412919 | Release Condenser Unit                                | R |  | bit |
| N139:19 | 412920 | Condenser Flow Switch                                 | R |  | bit |
| N139:20 | 412921 | Condenser Fan Low Speed                               | R |  | bit |
| N139:21 | 412922 | Condenser Fan High Speed                              | R |  | bit |
| N139:22 | 412923 | Condenser Water Spray Pump                            | R |  | bit |
| N139:23 | 412924 | Condenser Water Basin Heater                          | R |  | bit |
| N139:24 | 412925 | Condenser Water Spray Pump Heater                     | R |  | bit |
| N139:25 | 412926 | Condenser Solenoid Water Basin Filling                | R |  | bit |
| N139:26 | 412927 | Condenser OK                                          | R |  | bit |

|         |        |                                               |     |                                                                                                                      |      |
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| N139:27 | 412928 | Condenser Fan Low Speed Lamp                  | R   |                                                                                                                      | bit  |
| N139:28 | 412929 | Condenser Fan high Speed Lamp                 | R   |                                                                                                                      | bit  |
| N139:29 | 412930 | Condenser Water Spray Pump Lamp               | R   |                                                                                                                      | bit  |
| N139:30 | 412931 | Condenser Water Basin Heater Lamp             | R   |                                                                                                                      | bit  |
| N139:31 | 412932 | Condenser Spray Pump Heater Lamp              | R   |                                                                                                                      | bit  |
| N139:32 | 412933 | Condenser Shutdown Lamp                       | R   |                                                                                                                      | bit  |
| N139:33 | 412934 | Condenser Water Basin Low Level               | R   |                                                                                                                      | bit  |
| N139:34 | 412935 | Condenser Water Basin High Level              | R   |                                                                                                                      | bit  |
| N139:35 | 412936 | Condenser Fan Low Speed Overcurrent           | R   |                                                                                                                      | bit  |
| N139:36 | 412937 | Condenser Fan High Speed Overcurrent          | R   |                                                                                                                      | bit  |
| N139:37 | 412938 | Condenser Water Spray Pump Overcurrent        | R   |                                                                                                                      | bit  |
| N139:38 | 412939 | Condenser Fan Low Speed Interlock             | R   |                                                                                                                      | bit  |
| N139:39 | 412940 | Condenser Fan High Speed Interlock            | R   |                                                                                                                      | bit  |
| N139:40 | 412941 | Condenser Water Spray Pump Interlock          | R   |                                                                                                                      | bit  |
| N139:41 | 412942 | Condenser Fan Mode Auto                       | R   |                                                                                                                      | bit  |
| N139:42 | 412943 | Condenser Water Spray Pump Mode Auto          | R   |                                                                                                                      | bit  |
| N139:43 | 412944 | Condenser Mode Winter                         | R   |                                                                                                                      | bit  |
|         |        |                                               |     |                                                                                                                      |      |
| N139:44 | 412945 |                                               | -   |                                                                                                                      |      |
|         |        | Reserved for Condenser Sequencer Digital Data |     |                                                                                                                      |      |
| N139:49 | 412950 |                                               | -   |                                                                                                                      |      |
|         |        | <b>Condenser Sequencer Parameters</b>         |     |                                                                                                                      |      |
|         |        |                                               |     |                                                                                                                      |      |
| N139:50 | 412951 | Condenser Sequencer Viewport                  | R/W | 0 = No Entries<br>1-1= Level #X                                                                                      |      |
| N139:51 | 412952 | Control Signal                                | R/W | 0 = Discharge Pressure<br>1 = Discharge Pressure As Temperature<br>2 = Wet Bulb<br>3 = Condenser Control Temperature | X1   |
| N139:52 | 412953 | Set Point                                     | R/W | 6.18 - 25.15 barA<br>75 PSIG - 350 PSIG                                                                              | X100 |
| N139:53 | 412954 | Previous Step                                 | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:54 | 412955 | Next Step                                     | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:55 | 412956 | Control Signal                                | R/W | 0 = Discharge Pressure<br>1 = Discharge Pressure As Temperature<br>2 = Wet Bulb<br>3 = Condenser Control Temperature | X1   |
| N139:56 | 412957 | Set Point                                     | R/W | 6.18 - 25.15 barA<br>75 PSIG - 350 PSIG                                                                              | X100 |
| N139:57 | 412958 | Previous Step                                 | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:58 | 412959 | Next Step                                     | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |

|         |        |                                                      |     |                                                                                                                      |      |
|---------|--------|------------------------------------------------------|-----|----------------------------------------------------------------------------------------------------------------------|------|
| N139:59 | 412960 | Control Signal                                       | R/W | 0 = Discharge Pressure<br>1 = Discharge Pressure As Temperature<br>2 = Wet Bulb<br>3 = Condenser Control Temperature | X1   |
| N139:60 | 412961 | Set Point                                            | R/W | 6.18 - 25.15 barA<br>75 PSIG - 350 PSIG                                                                              | X100 |
| N139:61 | 412962 | Previous Step                                        | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:62 | 412963 | Next Step                                            | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:82 | 412983 | Control Signal                                       | R/W | 0 = Discharge Pressure<br>1 = Discharge Pressure As Temperature<br>2 = Wet Bulb<br>3 = Condenser Control Temperature | X1   |
| N139:83 | 412984 | Set Point                                            | R/W | 6.18 - 25.15 barA<br>75 PSIG - 350 PSIG                                                                              | X100 |
| N139:84 | 412985 | Previous Step                                        | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:85 | 412986 | Next Step                                            | R/W | 0.00 - 2.76 barD<br>-29.9 PSID - 25.3 PSID                                                                           | X100 |
| N139:66 | 412967 | Wet Bulb Set Point Split                             | R/W | 0.00 - 2.07 barD<br>-29.9 PSID - 15.3 PSID                                                                           | X100 |
| N139:86 | 412987 | High Condenser Temperature Warning                   | R/W | 0.0 - 100.0 °C<br>32 °F - 212 °F                                                                                     | X10  |
| N139:87 | 412988 | High Condenser Temperature Warning Delay             | R/W | 0 - 30 s                                                                                                             | X1   |
| N139:67 | 412968 | High Discharge Pressure Warning                      | R/W | 6.18 - 25.14 barA<br>75 PSIG - 350 PSIG                                                                              | X100 |
| N139:68 | 412969 | High Discharge Pressure Warning Delay                | R/W | 0 - 30 s                                                                                                             | X1   |
| N139:69 | 412970 | Low Discharge Pressure Warning                       | R/W | 0.00 - 25.14 barA<br>-29.9 PSIG - 350 PSIG                                                                           | X100 |
| N139:70 | 412971 | Low Discharge Pressure Warning Delay                 | R/W | 0 - 30 s                                                                                                             | X1   |
| N139:72 | 412973 | Schedule Selection                                   | R/W | 0 - 999                                                                                                              | X1   |
| N139:75 | 412976 | Water Pump Lockout Enabled                           | R/W | 0 = Disabled<br>-1 = Enabled                                                                                         | X1   |
| N139:76 | 412977 | Water Pump Lockout Start                             | R/W | 0.0 - 100.0 °C<br>32 °F - 212 °F                                                                                     | X10  |
| N139:77 | 412978 | Water Pump Lockout End                               | R/W | 0.0 - 100.0 °C<br>32 °F - 212 °F                                                                                     | X10  |
| N139:78 | 412979 | Water Pump Lockout Discharge Pressure Override Start | R/W | 5.17 - 24.13 barA<br>60.3 PSIG - 335.3 PSIG                                                                          | X100 |
| N139:79 | 412980 | Water Pump Lockout Discharge Pressure Override End   | R/W | 5.17 - 24.13 barA<br>60.3 PSIG - 335.3 PSIG                                                                          | X100 |
| N139:80 | 412981 | Water Pump Lockout Next Device Delay                 | R/W | 1 - 30 min                                                                                                           | X1   |
| N139:81 | 412982 | Water Pump Lockout Previous Device Delay             | R/W | 1 - 30 min                                                                                                           | X1   |
| N139:82 | 412983 | Non Condensable Pressure Differential 1 Warning      | R/W | 0.00 - 100.00 barD<br>-29.9 PSID - 1435.7 PSID                                                                       | X100 |
| N139:83 | 412984 | Non Condensable Pressure Differential 2 Warning      | R/W | 0.00 - 100.00 barD<br>-29.9 PSID - 1435.7 PSID                                                                       | X100 |
| N139:84 | 412985 | Non Condensable Pressure Differential 3 Warning      | R/W | 0.00 - 100.00 barD<br>-29.9 PSID - 1435.7 PSID                                                                       | X100 |
| N139:85 | 412986 | Non Condensable Pressure Differential 4 Warning      | R/W | 0.00 - 100.00 barD<br>-29.9 PSID - 1435.7 PSID                                                                       | X100 |

|         |        |                                      |     |                                   |     |
|---------|--------|--------------------------------------|-----|-----------------------------------|-----|
| N139:86 | 412987 | Variable Set Point                   | R/W | 0 = Disabled<br>-1 = Enabled      | X1  |
| N139:87 | 412988 | Ambient Temperature Offset           | R/W | 0.0 - 10.0 K<br>32 F° - 50 F°     | X10 |
| N139:88 | 412989 | Minimum Variable Set Point           | R/W | 18.0 - 35.0 °C<br>64.4 °F - 95 °F | X10 |
| N139:89 | 412990 | Maximum Variable Set Point           | R/W | 30.0 - 55.0 °C<br>86 °F - 131 °F  | X10 |
| N139:90 | 412991 | Minimum Temperature Difference       | R/W | 0.0 - 5.0 K<br>32 F° - 41 F°      | X10 |
| N139:91 | 412992 | Maximum Temperature Difference       | R/W | 8.0 - 15.0 K<br>46.4 F° - 59 F°   | X10 |
| N139:92 | 412993 | Variable Set Point                   | R/W | 0 = Disabled<br>-1 = Enabled      | X1  |
| N139:93 | 412994 | Ambient Temperature Offset           | R/W | 0.0 - 10.0 K<br>32 F° - 50 F°     | X10 |
| N139:94 | 412995 | Minimum Variable Set Point           | R/W | 18.0 - 35.0 °C<br>64.4 °F - 95 °F | X10 |
| N139:95 | 412996 | Maximum Variable Set Point           | R/W | 30.0 - 55.0 °C<br>86 °F - 131 °F  | X10 |
| N139:96 | 412997 | Minimum Temperature Difference       | R/W | 0.0 - 5.0 K<br>32 F° - 41 F°      | X10 |
| N139:97 | 412998 | Maximum Temperature Difference       | R/W | 8.0 - 15.0 K<br>46.4 F° - 59 F°   | X10 |
| N139:98 | 412999 | Variable Set Point                   | R/W | 0 = Disabled<br>-1 = Enabled      | X1  |
| N139:99 | 413000 | Ambient Temperature Offset           | R/W | 0.0 - 10.0 K<br>32 F° - 50 F°     | X10 |
| N269:99 | 426000 | Minimum Variable Set Point           | R/W | 18.0 - 35.0 °C<br>64.4 °F - 95 °F | X10 |
| N270:0  | 426001 | Maximum Variable Set Point           | R/W | 30.0 - 55.0 °C<br>86 °F - 131 °F  | X10 |
| N270:1  | 426002 | Minimum Temperature Difference       | R/W | 0.0 - 5.0 K<br>32 F° - 41 F°      | X10 |
| N270:2  | 426003 | Maximum Temperature Difference       | R/W | 8.0 - 15.0 K<br>46.4 F° - 59 F°   | X10 |
| N270:3  | 426004 | Variable Set Point                   | R/W | 0 = Disabled<br>-1 = Enabled      | X1  |
| N270:4  | 426005 | Ambient Temperature Offset           | R/W | 0.0 - 10.0 K<br>32 F° - 50 F°     | X10 |
| N270:5  | 426006 | Minimum Variable Set Point           | R/W | 18.0 - 35.0 °C<br>64.4 °F - 95 °F | X10 |
| N270:6  | 426007 | Maximum Variable Set Point           | R/W | 30.0 - 55.0 °C<br>86 °F - 131 °F  | X10 |
| N270:7  | 426008 | Minimum Temperature Difference       | R/W | 0.0 - 5.0 K<br>32 F° - 41 F°      | X10 |
| N270:8  | 426009 | Maximum Temperature Difference       | R/W | 8.0 - 15.0 K<br>46.4 F° - 59 F°   | X10 |
|         |        | <b>Condenser Device Logic Points</b> |     |                                   |     |
|         |        |                                      |     |                                   |     |
| N140:0  | 413001 | Condenser Device Output A            | R   |                                   | bit |
| N140:4  | 413005 | Condenser Device Output B            | R   |                                   | bit |
| N140:8  | 413009 | Condenser Device Interlock A         | R   |                                   | bit |
| N140:12 | 413013 | Condenser Device Interlock B         | R   |                                   | bit |
| N140:16 | 413017 | Condenser Shutdown Status            | R   |                                   | bit |
| N140:20 | 413021 | Condenser Warning Status             | R   |                                   | bit |
|         |        |                                      |     |                                   |     |

|         |        |                                               |     |                                       |      |
|---------|--------|-----------------------------------------------|-----|---------------------------------------|------|
| N140:21 | 413022 |                                               | -   |                                       |      |
|         |        | Reserved for Condenser Device Logic Points    |     |                                       |      |
| N140:49 | 413050 |                                               | -   |                                       |      |
|         |        | <b>Condenser Device Parameters</b>            |     |                                       |      |
|         |        |                                               |     |                                       |      |
| N140:50 | 413051 | Condenser Sequencer Viewport                  | R/W | 0 = No Entries<br>1-50= Device #X     |      |
| N140:51 | 413052 | Runtime                                       | R/W | 0 - 1000000000 h                      | X1   |
| N140:52 | 413053 | Number of Starts                              | R/W | 0 - 1000000000                        | X1   |
| N140:53 | 413054 | Enabled                                       | R/W | 0 = Disabled<br>-1 = Enabled          | X1   |
| N140:54 | 413055 | Interlock Delay                               | R/W | 3 - 20 s                              | X1   |
| N140:55 | 413056 | High to Low Speed Delay (Two Speed Fan)       | R/W | 2 - 240 s                             | X1   |
| N140:56 | 413057 | Proportional Term                             | R/W | 0.0 - 500.0                           | X10  |
| N140:57 | 413058 | Integral Term                                 | R/W | 1.0 - 250.0 s/R                       | X10  |
| N140:59 | 413060 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                | X1   |
| N140:60 | 413061 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                         | X10  |
| N140:61 | 413062 | Start Condition                               | R/W | 0 = None<br>1 = Compressor Controlled | X1   |
| N140:62 | 413063 | Feedback Condenser Unit Warning Delay         | R/W | 0 - 300 s                             | X1   |
| N140:63 | 413064 | Condenser Unit Stop Delay                     | R/W | 0 - 1800 s                            | X1   |
| N140:64 | 413065 | Condenser Flow Switch Warning Delay           | R/W | 0 - 60 s                              | X1   |
|         |        | <b>Custom Superheat</b>                       |     |                                       |      |
|         |        |                                               |     |                                       |      |
| N158:0  | 414801 | Custom Superheat                              | R   |                                       | X10  |
|         |        |                                               |     |                                       |      |
| N158:9  | 414810 |                                               | R   |                                       |      |
|         |        |                                               |     |                                       |      |
| N158:10 | 414811 | Custom Superheat Temperature Input            | R   |                                       | X10  |
|         |        |                                               |     |                                       |      |
| N158:19 | 414820 |                                               | R   |                                       |      |
|         |        |                                               |     |                                       |      |
| N158:20 | 414821 | Custom Superheat Pressure Input               | R   |                                       | X100 |
|         |        |                                               |     |                                       |      |
| N158:29 | 414830 |                                               | R   |                                       |      |
|         |        |                                               |     |                                       |      |
| N158:30 | 414831 | Custom Superheat Saturated Temperature Output | R   |                                       | X10  |
|         |        |                                               |     |                                       |      |
| N158:39 | 414840 |                                               | R   |                                       |      |
|         |        |                                               |     |                                       |      |
| N158:40 | 414841 | Custom Superheat Saturated Pressure Output    | R   |                                       | X100 |
|         |        |                                               |     |                                       |      |
| N158:49 | 414850 |                                               | R   |                                       |      |
|         |        |                                               |     |                                       |      |
|         |        | <b>Evaporator Commands</b>                    |     |                                       |      |
|         |        |                                               |     |                                       |      |

|         |        |                          |     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |     |
|---------|--------|--------------------------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| N158:50 | 414851 | Status                   | R   | 1 = Disabled<br>2 = Shutdown 1<br>3 = Shutdown 2<br>4 = Satisfied Fans Off<br>5 = Satisfied Fans On<br>6 = Satisfied<br>7 = Cooling<br>8 = Heating - Pump Down<br>9 = Heating<br>10 = Standby<br>11 = Defrost Stage 1<br>12 = Defrost Stage 2<br>13 = Defrost Stage 3<br>14 = Defrost Stage 4<br>15 = Defrost Stage 5<br>16 = Defrost Stage 6<br>17 = Defrost Stage 7<br>18 = Defrost Stage 8<br>19 = Defrost Stage 9<br>20 = Defrost Stage 10<br>21 = Defrost Stage 11<br>22 = Defrost Stage 12<br>23 = Override<br>24 = Reset Delay | X1  |
| N158:51 | 414852 | Annunciation             | R   | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | X1  |
| N158:52 | 414853 | Output                   | R/W | Bit 0 = Output #1<br>Bit 1 = Output #2<br>Bit 2 = Output #3<br>Bit 3 = Output #4<br>Bit 4 = Output #5<br>Bit 5 = Output #6<br>Bit 6 = Output #7<br>Bit 7 = Output #8<br>Bit 8 = Output #9<br>Bit 9 = Output #10<br>Bit 10 = Output #11<br>Bit 11 = Output #12<br>Bit 12 = Output #13<br>Bit 13 = Output #14<br>Bit 14 = Output #15Bit                                                                                                                                                                                                 | X1  |
| N158:53 | 414854 | Temperature              | R   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X10 |
| N158:54 | 414855 | Set Point                | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X10 |
| N158:55 | 414856 | Humidity                 | R   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X10 |
| N158:56 | 414857 | High Temperature Offset  | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X10 |
| N158:57 | 414858 | Low Temperature Offset   | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X10 |
| N158:58 | 414859 | Fan Status               | R   | 0=Off<br>1=On(Forward)<br>2=On(Reverse)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | X1  |
| N158:59 | 414860 | Dead Band                | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N158:60 | 414861 | Evaporator Start Delay   | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N158:61 | 414862 | Evaporator Defrost Timer | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N158:62 | 414863 | Liquid Feed Timer        | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N158:63 | 414864 | Defrost Status           | R   | 1=Defrosting<br>2=Defrost Pending                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | X1  |
| N158:64 | 414865 | Defrost Initiate         | W   | Any write initiates a defrost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | X1  |
| N158:65 | 414866 | Active Shutdowns         | R   | Bit 0 = Max Liquid Level<br>Bit 1 = Secondary Refrigerant Feedback Flow                                                                                                                                                                                                                                                                                                                                                                                                                                                               | X1  |

|         |        |                 |   |                                                                                                                                                                                 |    |
|---------|--------|-----------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| N158:66 | 414867 | Active Warnings | R | Bit 0 = Low Temperature<br>Bit 1 = High Temperature<br>Bit 2 = Evaporator Max Liquid Level<br>Bit 3 = Secondary Refrigerant Feedback Pump<br>Bit 5 = Secondary Refrigerant Flow | X1 |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N158:68 | 414869 | Evaporator 2    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N158:85 | 414886 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N158:86 | 414887 | Evaporator 3    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:3  | 414904 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:4  | 414905 | Evaporator 4    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:21 | 414922 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:22 | 414923 | Evaporator 5    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:39 | 414940 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:40 | 414941 | Evaporator 6    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:57 | 414958 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:58 | 414959 | Evaporator 7    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:75 | 414976 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:76 | 414977 | Evaporator 8    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:93 | 414994 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N159:94 | 414995 | Evaporator 9    |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:11 | 415012 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:12 | 415013 | Evaporator 10   |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:29 | 415030 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:30 | 415031 | Evaporator 11   |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:47 | 415048 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:48 | 415049 | Evaporator 12   |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:65 | 415066 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:66 | 415067 | Evaporator 13   |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:83 | 415084 |                 | - |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N160:84 | 415085 | Evaporator 14   |   |                                                                                                                                                                                 |    |
|         |        |                 |   |                                                                                                                                                                                 |    |
| N161:1  | 415102 |                 | - |                                                                                                                                                                                 |    |

|         |        |               |   |  |  |
|---------|--------|---------------|---|--|--|
|         |        |               |   |  |  |
| N161:2  | 415103 | Evaporator 15 |   |  |  |
|         |        |               |   |  |  |
| N161:19 | 415120 |               | - |  |  |
|         |        |               |   |  |  |
| N161:20 | 415121 | Evaporator 16 |   |  |  |
|         |        |               |   |  |  |
| N161:37 | 415138 |               | - |  |  |
|         |        |               |   |  |  |
| N161:38 | 415139 | Evaporator 17 |   |  |  |
|         |        |               |   |  |  |
| N161:55 | 415156 |               | - |  |  |
|         |        |               |   |  |  |
| N161:56 | 415157 | Evaporator 18 |   |  |  |
|         |        |               |   |  |  |
| N161:73 | 415174 |               | - |  |  |
|         |        |               |   |  |  |
| N161:74 | 415175 | Evaporator 19 |   |  |  |
|         |        |               |   |  |  |
| N161:91 | 415192 |               | - |  |  |
|         |        |               |   |  |  |
| N161:92 | 415193 | Evaporator 20 |   |  |  |
|         |        |               |   |  |  |
| N162:9  | 415210 |               | - |  |  |
|         |        |               |   |  |  |
| N162:10 | 415211 | Evaporator 21 |   |  |  |
|         |        |               |   |  |  |
| N162:27 | 415228 |               | - |  |  |
|         |        |               |   |  |  |
| N162:28 | 415229 | Evaporator 22 |   |  |  |
|         |        |               |   |  |  |
| N162:45 | 415246 |               | - |  |  |
|         |        |               |   |  |  |
| N162:46 | 415247 | Evaporator 23 |   |  |  |
|         |        |               |   |  |  |
| N162:63 | 415264 |               | - |  |  |
|         |        |               |   |  |  |
| N162:64 | 415265 | Evaporator 24 |   |  |  |
|         |        |               |   |  |  |
| N162:81 | 415282 |               | - |  |  |
|         |        |               |   |  |  |
| N162:82 | 415283 | Evaporator 25 |   |  |  |
|         |        |               |   |  |  |
| N162:99 | 415300 |               | - |  |  |
|         |        |               |   |  |  |
| N163:0  | 415301 | Evaporator 26 |   |  |  |
|         |        |               |   |  |  |
| N163:17 | 415318 |               | - |  |  |
|         |        |               |   |  |  |
| N163:18 | 415319 | Evaporator 27 |   |  |  |
|         |        |               |   |  |  |
| N163:35 | 415336 |               | - |  |  |
|         |        |               |   |  |  |
| N163:36 | 415337 | Evaporator 28 |   |  |  |
|         |        |               |   |  |  |
| N163:53 | 415354 |               | - |  |  |

|         |        |               |   |  |  |
|---------|--------|---------------|---|--|--|
|         |        |               |   |  |  |
| N163:54 | 415355 | Evaporator 29 |   |  |  |
|         |        |               |   |  |  |
| N163:71 | 415372 |               | - |  |  |
|         |        |               |   |  |  |
| N163:72 | 415373 | Evaporator 30 |   |  |  |
|         |        |               |   |  |  |
| N163:89 | 415390 |               | - |  |  |
|         |        |               |   |  |  |
| N163:90 | 415391 | Evaporator 31 |   |  |  |
|         |        |               |   |  |  |
| N164:7  | 415408 |               | - |  |  |
|         |        |               |   |  |  |
| N164:8  | 415409 | Evaporator 32 |   |  |  |
|         |        |               |   |  |  |
| N164:25 | 415426 |               | - |  |  |
|         |        |               |   |  |  |
| N164:26 | 415427 | Evaporator 33 |   |  |  |
|         |        |               |   |  |  |
| N164:43 | 415444 |               | - |  |  |
|         |        |               |   |  |  |
| N164:44 | 415445 | Evaporator 34 |   |  |  |
|         |        |               |   |  |  |
| N164:61 | 415462 |               | - |  |  |
|         |        |               |   |  |  |
| N164:62 | 415463 | Evaporator 35 |   |  |  |
|         |        |               |   |  |  |
| N164:79 | 415480 |               | - |  |  |
|         |        |               |   |  |  |
| N164:80 | 415481 | Evaporator 36 |   |  |  |
|         |        |               |   |  |  |
| N164:97 | 415498 |               | - |  |  |
|         |        |               |   |  |  |
| N164:98 | 415499 | Evaporator 37 |   |  |  |
|         |        |               |   |  |  |
| N165:15 | 415516 |               | - |  |  |
|         |        |               |   |  |  |
| N165:16 | 415517 | Evaporator 38 |   |  |  |
|         |        |               |   |  |  |
| N165:33 | 415534 |               | - |  |  |
|         |        |               |   |  |  |
| N165:34 | 415535 | Evaporator 39 |   |  |  |
|         |        |               |   |  |  |
| N165:51 | 415552 |               | - |  |  |
|         |        |               |   |  |  |
| N165:52 | 415553 | Evaporator 40 |   |  |  |
|         |        |               |   |  |  |
| N165:69 | 415570 |               | - |  |  |
|         |        |               |   |  |  |
| N165:70 | 415571 | Evaporator 41 |   |  |  |
|         |        |               |   |  |  |
| N165:87 | 415588 |               | - |  |  |
|         |        |               |   |  |  |
| N165:88 | 415589 | Evaporator 42 |   |  |  |
|         |        |               |   |  |  |
| N166:5  | 415606 |               | - |  |  |

|         |        |               |   |  |
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| N166:6  | 415607 | Evaporator 43 |   |  |
|         |        |               |   |  |
| N166:23 | 415624 |               | - |  |
|         |        |               |   |  |
| N166:24 | 415625 | Evaporator 44 |   |  |
|         |        |               |   |  |
| N166:41 | 415642 |               | - |  |
|         |        |               |   |  |
| N166:42 | 415643 | Evaporator 45 |   |  |
|         |        |               |   |  |
| N166:59 | 415660 |               | - |  |
|         |        |               |   |  |
| N166:60 | 415661 | Evaporator 46 |   |  |
|         |        |               |   |  |
| N166:77 | 415678 |               | - |  |
|         |        |               |   |  |
| N166:78 | 415679 | Evaporator 47 |   |  |
|         |        |               |   |  |
| N166:95 | 415696 |               | - |  |
|         |        |               |   |  |
| N166:96 | 415697 | Evaporator 48 |   |  |
|         |        |               |   |  |
| N167:13 | 415714 |               | - |  |
|         |        |               |   |  |
| N167:14 | 415715 | Evaporator 49 |   |  |
|         |        |               |   |  |
| N167:31 | 415732 |               | - |  |
|         |        |               |   |  |
| N167:32 | 415733 | Evaporator 50 |   |  |
|         |        |               |   |  |
| N167:49 | 415750 |               | - |  |
|         |        |               |   |  |
| N167:50 | 415751 | Evaporator 51 |   |  |
|         |        |               |   |  |
| N167:67 | 415768 |               | - |  |
|         |        |               |   |  |
| N167:68 | 415769 | Evaporator 52 |   |  |
|         |        |               |   |  |
| N167:85 | 415786 |               | - |  |
|         |        |               |   |  |
| N167:86 | 415787 | Evaporator 53 |   |  |
|         |        |               |   |  |
| N168:3  | 415804 |               | - |  |
|         |        |               |   |  |
| N168:4  | 415805 | Evaporator 54 |   |  |
|         |        |               |   |  |
| N168:21 | 415822 |               | - |  |
|         |        |               |   |  |
| N168:22 | 415823 | Evaporator 55 |   |  |
|         |        |               |   |  |
| N168:39 | 415840 |               | - |  |
|         |        |               |   |  |
| N168:40 | 415841 | Evaporator 56 |   |  |
|         |        |               |   |  |
| N168:57 | 415858 |               | - |  |

|         |        |               |   |  |  |
|---------|--------|---------------|---|--|--|
|         |        |               |   |  |  |
| N168:58 | 415859 | Evaporator 57 |   |  |  |
|         |        |               |   |  |  |
| N168:75 | 415876 |               | - |  |  |
|         |        |               |   |  |  |
| N168:76 | 415877 | Evaporator 58 |   |  |  |
|         |        |               |   |  |  |
| N168:93 | 415894 |               | - |  |  |
|         |        |               |   |  |  |
| N168:94 | 415895 | Evaporator 59 |   |  |  |
|         |        |               |   |  |  |
| N169:11 | 415912 |               | - |  |  |
|         |        |               |   |  |  |
| N169:12 | 415913 | Evaporator 60 |   |  |  |
|         |        |               |   |  |  |
| N169:29 | 415930 |               | - |  |  |
|         |        |               |   |  |  |
| N169:30 | 415931 | Evaporator 61 |   |  |  |
|         |        |               |   |  |  |
| N169:47 | 415948 |               | - |  |  |
|         |        |               |   |  |  |
| N169:48 | 415949 | Evaporator 62 |   |  |  |
|         |        |               |   |  |  |
| N169:65 | 415966 |               | - |  |  |
|         |        |               |   |  |  |
| N169:66 | 415967 | Evaporator 63 |   |  |  |
|         |        |               |   |  |  |
| N169:83 | 415984 |               | - |  |  |
|         |        |               |   |  |  |
| N169:84 | 415985 | Evaporator 64 |   |  |  |
|         |        |               |   |  |  |
| N170:1  | 416002 |               | - |  |  |
|         |        |               |   |  |  |
| N170:2  | 416003 | Evaporator 65 |   |  |  |
|         |        |               |   |  |  |
| N170:19 | 416020 |               | - |  |  |
|         |        |               |   |  |  |
| N170:20 | 416021 | Evaporator 66 |   |  |  |
|         |        |               |   |  |  |
| N170:37 | 416038 |               | - |  |  |
|         |        |               |   |  |  |
| N170:38 | 416039 | Evaporator 67 |   |  |  |
|         |        |               |   |  |  |
| N170:55 | 416056 |               | - |  |  |
|         |        |               |   |  |  |
| N170:56 | 416057 | Evaporator 68 |   |  |  |
|         |        |               |   |  |  |
| N170:73 | 416074 |               | - |  |  |
|         |        |               |   |  |  |
| N170:74 | 416075 | Evaporator 69 |   |  |  |
|         |        |               |   |  |  |
| N170:91 | 416092 |               | - |  |  |
|         |        |               |   |  |  |
| N170:92 | 416093 | Evaporator 70 |   |  |  |
|         |        |               |   |  |  |
| N171:9  | 416110 |               | - |  |  |

|         |        |                                 |   |  |     |
|---------|--------|---------------------------------|---|--|-----|
| N171:10 | 416111 | Evaporator 71                   |   |  |     |
|         |        |                                 |   |  |     |
| N171:27 | 416128 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N171:28 | 416129 | Evaporator 72                   |   |  |     |
|         |        |                                 |   |  |     |
| N171:45 | 416146 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N171:46 | 416147 | Evaporator 73                   |   |  |     |
|         |        |                                 |   |  |     |
| N171:63 | 416164 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N171:64 | 416165 | Evaporator 74                   |   |  |     |
|         |        |                                 |   |  |     |
| N171:81 | 416182 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N171:82 | 416183 | Evaporator 75                   |   |  |     |
|         |        |                                 |   |  |     |
| N171:99 | 416200 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N172:0  | 416201 | Evaporator 76                   |   |  |     |
|         |        |                                 |   |  |     |
| N172:17 | 416218 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N172:18 | 416219 | Evaporator 77                   |   |  |     |
|         |        |                                 |   |  |     |
| N172:35 | 416236 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N172:36 | 416237 | Evaporator 78                   |   |  |     |
|         |        |                                 |   |  |     |
| N172:53 | 416254 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N172:54 | 416255 | Evaporator 79                   |   |  |     |
|         |        |                                 |   |  |     |
| N172:71 | 416272 |                                 | - |  |     |
|         |        |                                 |   |  |     |
| N172:72 | 416273 | Evaporator 80                   |   |  |     |
|         |        |                                 |   |  |     |
| N172:89 | 416290 |                                 | - |  |     |
|         |        |                                 |   |  |     |
|         |        |                                 |   |  |     |
|         |        | <b>Evaporator Digital Data</b>  |   |  |     |
|         |        |                                 |   |  |     |
| N185:50 | 417551 | Evaporator Enable Input         | R |  | bit |
|         |        |                                 |   |  |     |
| N185:54 | 417555 |                                 |   |  |     |
|         |        |                                 |   |  |     |
| N185:55 | 417556 | Evaporator Emergency Stop Input | R |  | bit |
|         |        |                                 |   |  |     |
| N185:59 | 417560 |                                 |   |  |     |
|         |        |                                 |   |  |     |
| N185:60 | 417561 | Evaporator Shutdown Input 1     | R |  | bit |
|         |        |                                 |   |  |     |
| N185:64 | 417565 |                                 |   |  |     |

|         |        |                                    |   |  |     |
|---------|--------|------------------------------------|---|--|-----|
| N185:65 | 417566 | Evaporator Shutdown Input 2        | R |  | bit |
|         |        |                                    |   |  |     |
| N185:69 | 417570 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:70 | 417571 | Evaporator Defrost Initiate Input  | R |  | bit |
|         |        |                                    |   |  |     |
| N185:74 | 417575 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:75 | 417576 | Evaporator Defrost Pause Input     | R |  | bit |
|         |        |                                    |   |  |     |
| N185:79 | 417580 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:80 | 417581 | Evaporator Defrost Terminate Input | R |  | bit |
|         |        |                                    |   |  |     |
| N185:84 | 417585 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:85 | 417586 | Evaporator Blast Start-Stop Input  | R |  | bit |
|         |        |                                    |   |  |     |
| N185:89 | 417590 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:90 | 417591 | Evaporator Output 1                | R |  | bit |
|         |        |                                    |   |  |     |
| N185:94 | 417595 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N185:95 | 417596 | Evaporator Output 2                | R |  | bit |
|         |        |                                    |   |  |     |
| N185:99 | 417600 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:0  | 417601 | Evaporator Output 3                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:4  | 417605 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:5  | 417606 | Evaporator Output 4                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:9  | 417610 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:10 | 417611 | Evaporator Output 5                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:14 | 417615 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:15 | 417616 | Evaporator Output 6                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:19 | 417620 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:20 | 417621 | Evaporator Output 7                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:24 | 417625 |                                    |   |  |     |
|         |        |                                    |   |  |     |
| N186:25 | 417626 | Evaporator Output 8                | R |  | bit |
|         |        |                                    |   |  |     |
| N186:29 | 417630 |                                    |   |  |     |

|         |        |                                     |   |  |     |
|---------|--------|-------------------------------------|---|--|-----|
|         |        |                                     |   |  |     |
| N186:30 | 417631 | Evaporator Output 9                 | R |  | bit |
|         |        |                                     |   |  |     |
| N186:34 | 417635 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:35 | 417636 | Evaporator Shutdown Status          | R |  | bit |
|         |        |                                     |   |  |     |
| N186:39 | 417640 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:40 | 417641 | Evaporator Warning Status           | R |  | bit |
|         |        |                                     |   |  |     |
| N186:44 | 417645 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:45 | 417646 | Evaporator Reverse Fan Enabled      | R |  | bit |
|         |        |                                     |   |  |     |
| N186:49 | 417650 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:50 | 417651 | Evaporator Heat Enabled Input       | R |  | bit |
|         |        |                                     |   |  |     |
| N186:54 | 417655 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:55 | 417656 | Evaporator Defrost Button Input     | R |  | bit |
|         |        |                                     |   |  |     |
| N186:59 | 417660 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:60 | 417661 | Evaporator Enabled Output           | R |  | bit |
|         |        |                                     |   |  |     |
| N186:64 | 417665 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:65 | 417666 | Evaporator Defrost Output           | R |  | bit |
|         |        |                                     |   |  |     |
| N186:69 | 417670 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:70 | 417671 | Secondary Refrigerant Feedback Pump | R |  | bit |
|         |        |                                     |   |  |     |
| N186:74 | 417675 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:75 | 417676 | Secondary Refrigerant Feedback Flow | R |  | bit |
|         |        |                                     |   |  |     |
| N186:79 | 417680 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:80 | 417681 | Liquid Feed Maximum Level           | R |  | bit |
|         |        |                                     |   |  |     |
| N186:84 | 417685 |                                     |   |  |     |
|         |        |                                     |   |  |     |
| N186:85 | 417686 | Secondary Refrigerant Release Pump  | R |  | bit |
|         |        |                                     |   |  |     |
| N186:89 | 417690 |                                     |   |  |     |
|         |        |                                     |   |  |     |

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| N186:90 | 417691 | Liquid Feed Digital Valve Output        | R |  | bit |
|         |        |                                         |   |  |     |
| N186:94 | 417695 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N186:95 | 417696 | Evaporator Temperature Warnings Enabled | R |  | bit |
|         |        |                                         |   |  |     |
| N186:99 | 417700 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:0  | 417701 | Liquid Feed Reset KV                    | R |  | bit |
|         |        |                                         |   |  |     |
| N187:4  | 417705 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:5  | 417706 | Liquid Feed Evacuate                    | R |  | bit |
|         |        |                                         |   |  |     |
| N187:9  | 417710 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:10 | 417711 | Common Evaporator Temperature Output    | R |  | bit |
|         |        |                                         |   |  |     |
| N187:9  | 417710 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:11 | 417712 | All Evaporator Shutdown Status          | R |  | bit |
|         |        |                                         |   |  |     |
| N187:10 | 417711 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:12 | 417713 | Evaporator Defrost Finished Input       | R |  | bit |
|         |        |                                         |   |  |     |
| N187:16 | 417717 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:17 | 417718 | Evaporator Heat Trace During Defrost    | R |  | bit |
|         |        |                                         |   |  |     |
| N187:21 | 417722 |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:22 | 417723 | Evaporator Heat Trace Always On         | R |  | bit |
|         |        |                                         |   |  |     |
| N187:26 | 417727 |                                         |   |  |     |
|         |        |                                         |   |  |     |
|         |        |                                         |   |  |     |
| N187:23 | 417724 |                                         | - |  |     |
|         |        | Reserved for Evaporator Digital Data    |   |  |     |
| N187:49 | 417750 |                                         | - |  |     |
|         |        | <b>Evaporator Analog Data</b>           |   |  |     |
|         |        |                                         |   |  |     |
| N175:50 | 416551 | Evaporator Humidity Input               | R |  | X10 |
|         |        |                                         |   |  |     |
| N176:29 | 416630 |                                         | R |  |     |
|         |        |                                         |   |  |     |
| N176:30 | 416631 | Evaporator Temperature Input            | R |  | X10 |
|         |        |                                         |   |  |     |
| N177:9  | 416710 |                                         | R |  |     |

|         |        |                                        |     |                                         |     |
|---------|--------|----------------------------------------|-----|-----------------------------------------|-----|
| N177:10 | 416711 | Evaporator Motor Speed Output          | R   |                                         | X10 |
|         |        |                                        |     |                                         |     |
| N177:89 | 416790 |                                        | R   |                                         |     |
|         |        |                                        |     |                                         |     |
| N177:90 | 416791 | Evaporator Status                      | R   |                                         | X1  |
|         |        |                                        |     |                                         |     |
| N178:69 | 416870 |                                        | R   |                                         |     |
|         |        |                                        |     |                                         |     |
| N179:50 | 416951 | Liquid Feed Valve Output               | R   |                                         | X10 |
|         |        |                                        |     |                                         |     |
| N180:29 | 417030 |                                        | R   |                                         |     |
|         |        |                                        |     |                                         |     |
| N180:30 | 417031 | Calculated Cooling Capacity            | R   |                                         | X10 |
|         |        |                                        |     |                                         |     |
| N181:9  | 417110 |                                        | R   |                                         |     |
|         |        |                                        |     |                                         |     |
| N181:10 | 417111 | Liquid Feed Level                      | R   |                                         | X10 |
|         |        |                                        |     |                                         |     |
| N181:89 | 417190 |                                        | R   |                                         |     |
|         |        |                                        |     |                                         |     |
| N181:90 | 417191 |                                        | -   |                                         |     |
|         |        | Reserved for Evaporator Analog Data    |     |                                         |     |
| N185:49 | 417550 |                                        | -   |                                         |     |
|         |        | <b>Evaporator Parameters</b>           |     |                                         |     |
| N173:50 | 416351 | Evaporator Viewport                    | R/W | 0 = No Entries<br>1-80 = Evaporator #X  |     |
| N173:51 | 416352 | Set Point                              | R/W | -56.7 - 204.4 °C<br>-70.1 °F - 399.9 °F | X10 |
| N173:52 | 416353 | Set Point Delay                        | R/W | 0 - 300 s                               | X1  |
| N173:53 | 416354 | Dead Band                              | R/W | 0.0 - 100.0 K<br>32 F° - 212 F°         | X10 |
| N173:54 | 416355 | Temperature High Warning Offset        | R/W | 0.0 - 40.0 K<br>32 F° - 104 F°          | X10 |
| N173:55 | 416356 | Temperature High Warning Delay         | R/W | 0 - 60 s                                | X1  |
| N173:56 | 416357 | Temperature Low Warning Offset         | R/W | 0.0 - 40.0 K<br>32 F° - 104 F°          | X10 |
| N173:57 | 416358 | Temperature Low Warning Delay          | R/W | 0 - 60 s                                | X1  |
| N174:56 | 416457 | Liquid Solenoid Output Delay           | R/W | 30 - 300 s                              | X1  |
| N173:58 | 416359 | Heating Temperature Set Point          | R/W | -60.0 - 200.0 °C<br>-76 °F - 392 °F     | X10 |
| N173:59 | 416360 | Heating Temperature Delay              | R/W | 0 - 300 s                               | X1  |
| N173:60 | 416361 | Pump Down Before Heating Enabled       | R/W | 0 = Disabled<br>-1 = Enabled            | X1  |
| N173:61 | 416362 | Pump Down Time                         | R/W | 0 - 480 s                               | X1  |
| N174:39 | 416440 | Post Pump Down Delay                   | R/W | 0 - 300 s                               | X1  |
| N173:62 | 416363 | Dehumidification Control Type          | R/W | 0 = Temperature<br>1 = Humidity         | X1  |
| N173:63 | 416364 | Dehumidification Temperature Set Point | R/W | -60.0 - 200.0 °C<br>-76 °F - 392 °F     | X10 |
| N173:64 | 416365 | Dehumidification Temperature Delay     | R/W | 0 - 300 s                               | X1  |
| N173:65 | 416366 | Humidity Set Point                     | R/W | 0.0 - 100.0 %                           | X10 |

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| N173:66 | 416367 | Humidity Delay                              | R/W | 0 - 300 s                    | X1  |
| N173:67 | 416368 | Proportional Term                           | R/W | 0.0 - 500.0                  | X10 |
| N173:68 | 416369 | Integral Term                               | R/W | 1.0 - 250.0 s/R              | X10 |
| N173:69 | 416370 | Mode                                        | R/W | 0 = Auto<br>1 = Manual       | X1  |
| N173:70 | 416371 | Manual Mode Position                        | R/W | 0.0 - 100.0 %                | X10 |
| N173:71 | 416372 | Minimum Speed                               | R/W | 0.0 - 100.0 %                | X10 |
| N173:72 | 416373 | Glycol Proportional Term                    | R/W | 0.0 - 500.0                  | X10 |
| N173:73 | 416374 | Glycol Integral Term                        | R/W | 1.0 - 250.0 s/R              | X10 |
| N173:74 | 416375 | Mode                                        | R/W | 0 = Auto<br>1 = Manual       | X1  |
| N173:75 | 416376 | Manual Mode Position                        | R/W | 0.0 - 100.0 %                | X10 |
| N173:76 | 416377 | Minimum Speed                               | R/W | 0.0 - 100.0 %                | X10 |
| N173:77 | 416378 | Minimum Speed Agitation Delay               | R/W | 0.0 - 200.0 min              | X10 |
| N173:78 | 416379 | Variable Speed Agitation Timer              | R/W | 0.0 - 200.0 min              | X10 |
| N173:79 | 416380 | Fan Cycling Enabled                         | R/W | 0 = Disabled<br>-1 = Enabled | X1  |
| N173:80 | 416381 | Fan Cycling On Delay                        | R/W | 0.0 - 200.0 min              | X10 |
| N173:81 | 416382 | Fan Cycling Off Delay                       | R/W | 0.0 - 200.0 min              | X10 |
| N173:82 | 416383 | Fan Cycling Agitation Timer                 | R/W | 0.0 - 200.0 min              | X10 |
| N173:83 | 416384 | Fan Forward Reverse Cycling Time            | R/W | 0.0 - 600.0 min              | X10 |
| N173:84 | 416385 | Fan Forward Reverse Spin Down Time          | R/W | 10 - 600 s                   | X1  |
| N174:53 | 416454 | Set Point Delay While Agitating             | R/W | 0.0 - 200.0 min              | X10 |
| N174:54 | 416455 | Liquid Solenoid Runtime Defrost             | R/W | 0 = Disabled<br>-1 = Enabled | X1  |
| N174:55 | 416456 | Liquid Solenoid Valve Runtime Until Defrost | R/W | 0 - 32000                    | X1  |
| N173:85 | 416386 | Liquid Solenoid Valve Runtime               | R/W | 0 - 32000                    | X1  |
| N173:86 | 416387 | Defrost Timer Stage 1                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:87 | 416388 | Defrost Timer Stage 2                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:88 | 416389 | Defrost Timer Stage 3                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:89 | 416390 | Defrost Timer Stage 4                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:90 | 416391 | Defrost Timer Stage 5                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:91 | 416392 | Defrost Timer Stage 6                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:92 | 416393 | Defrost Timer Stage 7                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:93 | 416394 | Defrost Timer Stage 8                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:94 | 416395 | Defrost Timer Stage 9                       | R/W | 0.0 - 480.0 min              | X10 |
| N173:95 | 416396 | Defrost Timer Stage 10                      | R/W | 0.0 - 480.0 min              | X10 |
| N173:96 | 416397 | Defrost Timer Stage 11                      | R/W | 0.0 - 480.0 min              | X10 |
| N173:97 | 416398 | Defrost Timer Stage 12                      | R/W | 0.0 - 480.0 min              | X10 |
| N173:98 | 416399 | Post Defrost Temperature Warning Delay      | R/W | 0.0 - 480.0 min              | X10 |
| N173:99 | 416400 | Defrost Group Number                        | R/W | 0 - 80                       | X1  |

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| N174:0 | 416401 | Daily Defrost 1 | R/W | 0 = 12:00 AM<br>15 = 12:15 AM<br>30 = 12:30 AM<br>45 = 12:45 AM<br>100 = 1:00 AM<br>115 = 1:15 AM<br>130 = 1:30 AM<br>145 = 1:45 AM<br>200 = 2:00 AM<br>215 = 2:15 AM<br>230 = 2:30 AM<br>245 = 2:45 AM<br>300 = 3:00 AM<br>315 = 3:15 AM<br>330 = 3:30 AM<br>345 = 3:45 AM<br>400 = 4:00 AM<br>415 = 4:15 AM<br>430 = 4:30 AM<br>445 = 4:45 AM<br>500 = 5:00 AM<br>515 = 5:15 AM<br>530 = 5:30 AM<br>545 = 5:45 AM<br>600 = 6:00 AM<br>615 = 6:15 AM<br>630 = 6:30 AM<br>645 = 6:45 AM<br>700 = 7:00 AM<br>715 = 7:15 AM<br>730 = 7:30 AM<br>745 = 7:45 AM<br>800 = 8:00 AM<br>815 = 8:15 AM<br>830 = 8:30 AM<br>845 = 8:45 AM<br>900 = 9:00 AM<br>915 = 9:15 AM<br>930 = 9:30 AM | X1 |
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| N174:47 | 416448 | Daily Defrost 2 | R/W | 0 = 12:00 AM<br>15 = 12:15 AM<br>30 = 12:30 AM<br>45 = 12:45 AM<br>100 = 1:00 AM<br>115 = 1:15 AM<br>130 = 1:30 AM<br>145 = 1:45 AM<br>200 = 2:00 AM<br>215 = 2:15 AM<br>230 = 2:30 AM<br>245 = 2:45 AM<br>300 = 3:00 AM<br>315 = 3:15 AM<br>330 = 3:30 AM<br>345 = 3:45 AM<br>400 = 4:00 AM<br>415 = 4:15 AM<br>430 = 4:30 AM<br>445 = 4:45 AM<br>500 = 5:00 AM<br>515 = 5:15 AM<br>530 = 5:30 AM<br>545 = 5:45 AM<br>600 = 6:00 AM<br>615 = 6:15 AM<br>630 = 6:30 AM<br>645 = 6:45 AM<br>700 = 7:00 AM<br>715 = 7:15 AM<br>730 = 7:30 AM<br>745 = 7:45 AM<br>800 = 8:00 AM<br>815 = 8:15 AM<br>830 = 8:30 AM<br>845 = 8:45 AM<br>900 = 9:00 AM<br>915 = 9:15 AM<br>930 = 9:30 AM | X1 |
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| N174:48 | 416449 | Daily Defrost 3 | R/W | 0 = 12:00 AM<br>15 = 12:15 AM<br>30 = 12:30 AM<br>45 = 12:45 AM<br>100 = 1:00 AM<br>115 = 1:15 AM<br>130 = 1:30 AM<br>145 = 1:45 AM<br>200 = 2:00 AM<br>215 = 2:15 AM<br>230 = 2:30 AM<br>245 = 2:45 AM<br>300 = 3:00 AM<br>315 = 3:15 AM<br>330 = 3:30 AM<br>345 = 3:45 AM<br>400 = 4:00 AM<br>415 = 4:15 AM<br>430 = 4:30 AM<br>445 = 4:45 AM<br>500 = 5:00 AM<br>515 = 5:15 AM<br>530 = 5:30 AM<br>545 = 5:45 AM<br>600 = 6:00 AM<br>615 = 6:15 AM<br>630 = 6:30 AM<br>645 = 6:45 AM<br>700 = 7:00 AM<br>715 = 7:15 AM<br>730 = 7:30 AM<br>745 = 7:45 AM<br>800 = 8:00 AM<br>815 = 8:15 AM<br>830 = 8:30 AM<br>845 = 8:45 AM<br>900 = 9:00 AM<br>915 = 9:15 AM<br>930 = 9:30 AM | X1 |
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| N174:49 | 416450 | Daily Defrost 4 | R/W | 0 = 12:00 AM<br>15 = 12:15 AM<br>30 = 12:30 AM<br>45 = 12:45 AM<br>100 = 1:00 AM<br>115 = 1:15 AM<br>130 = 1:30 AM<br>145 = 1:45 AM<br>200 = 2:00 AM<br>215 = 2:15 AM<br>230 = 2:30 AM<br>245 = 2:45 AM<br>300 = 3:00 AM<br>315 = 3:15 AM<br>330 = 3:30 AM<br>345 = 3:45 AM<br>400 = 4:00 AM<br>415 = 4:15 AM<br>430 = 4:30 AM<br>445 = 4:45 AM<br>500 = 5:00 AM<br>515 = 5:15 AM<br>530 = 5:30 AM<br>545 = 5:45 AM<br>600 = 6:00 AM<br>615 = 6:15 AM<br>630 = 6:30 AM<br>645 = 6:45 AM<br>700 = 7:00 AM<br>715 = 7:15 AM<br>730 = 7:30 AM<br>745 = 7:45 AM<br>800 = 8:00 AM<br>815 = 8:15 AM<br>830 = 8:30 AM<br>845 = 8:45 AM<br>900 = 9:00 AM<br>915 = 9:15 AM<br>930 = 9:30 AM | X1 |
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| N174:50 | 416451 | Daily Defrost 5                            | R/W | 0 = 12:00 AM<br>15 = 12:15 AM<br>30 = 12:30 AM<br>45 = 12:45 AM<br>100 = 1:00 AM<br>115 = 1:15 AM<br>130 = 1:30 AM<br>145 = 1:45 AM<br>200 = 2:00 AM<br>215 = 2:15 AM<br>230 = 2:30 AM<br>245 = 2:45 AM<br>300 = 3:00 AM<br>315 = 3:15 AM<br>330 = 3:30 AM<br>345 = 3:45 AM<br>400 = 4:00 AM<br>415 = 4:15 AM<br>430 = 4:30 AM<br>445 = 4:45 AM<br>500 = 5:00 AM<br>515 = 5:15 AM<br>530 = 5:30 AM<br>545 = 5:45 AM<br>600 = 6:00 AM<br>615 = 6:15 AM<br>630 = 6:30 AM<br>645 = 6:45 AM<br>700 = 7:00 AM<br>715 = 7:15 AM<br>730 = 7:30 AM<br>745 = 7:45 AM<br>800 = 8:00 AM<br>815 = 8:15 AM<br>830 = 8:30 AM<br>845 = 8:45 AM<br>900 = 9:00 AM<br>915 = 9:15 AM<br>930 = 9:30 AM | X1  |
| N174:51 | 416452 | Defrost Termination by Temperature         | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N174:52 | 416453 | Defrost Termination Temperature            | R/W | 0.0 - 325.0 °C<br>32 °F - 617 °F                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | X10 |
| N174:1  | 416402 | Suction Valve Open During Satisfied Stages | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N174:2  | 416403 | Enabled                                    | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | X1  |
| N174:3  | 416404 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:4  | 416405 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:5  | 416406 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:6  | 416407 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:7  | 416408 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:8  | 416409 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:9  | 416410 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:10 | 416411 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:11 | 416412 | Reverse Solenoid 1                         | R/W | 0 = Disabled<br>1 = Enabled                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | X1  |
| N174:12 | 416413 | Secondary Refrigerant                      | R/W |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | X1  |

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| N174:13 | 416414 | Flow Switch Delay                                       | R/W | 0 - 999 s                                                                           | X1   |
| N174:14 | 416415 | Pump Off Delay                                          | R/W | 0 - 999 s                                                                           | X1   |
| N174:46 | 416447 | Secondary Refrigerant<br>Feedback Pump Delay            | R/W | 0 - 999 s                                                                           | X1   |
| N174:15 | 416416 | Liquid Feed                                             | R/W |                                                                                     | X1   |
| N174:16 | 416417 | Set Point                                               | R/W | 0.0 - 100.0 %                                                                       | X10  |
| N174:17 | 416418 | Maximum Level                                           | R/W | 0.0 - 100.0 %                                                                       | X10  |
| N174:18 | 416419 | Proportional Term                                       | R/W | 0.0 - 500.0                                                                         | X10  |
| N174:19 | 416420 | Integral Term                                           | R/W | 1.0 - 250.0 s/R                                                                     | X10  |
| N174:20 | 416421 | High Level Warning Delay                                | R/W | 0 - 60 s                                                                            | X1   |
| N174:21 | 416422 | High Level Shutdown Delay                               | R/W | 0 - 60 s                                                                            | X1   |
| N174:22 | 416423 | Dead Band                                               | R/W | 0.0 - 10.0 %                                                                        | X10  |
| N174:23 | 416424 | Limitation Suction Pressure<br>Load Inhibit Offset      | R/W | 0.01 - 5.00 barD<br>-29.6 PSID - 57.8 PSID                                          | X100 |
| N174:24 | 416425 | Limitation Suction Pressure<br>Force Unload Offset      | R/W | 0.01 - 5.00 barD<br>-29.6 PSID - 57.8 PSID                                          | X100 |
| N174:25 | 416426 | Limitation Outlet<br>Temperature Load Inhibit<br>Offset | R/W | 0.1 - 50.0 K<br>32.2 F° - 122 F°                                                    | X10  |
| N174:26 | 416427 | Limitation Outlet<br>Temperature Force Unload<br>Offset | R/W | 0.1 - 50.0 K<br>32.2 F° - 122 F°                                                    | X10  |
| N174:27 | 416428 | Hot Gas Bypass Calculation<br>Mode                      | R/W | 0 = None<br>1 = Secondary Refrigerant Controlled<br>2 = Suction Preassure Cotrolled | X1   |
| N174:28 | 416429 | Suction Pressure High<br>Shutdown High Motor Speed      | R/W |                                                                                     | X100 |
| N174:29 | 416430 | Suction Pressure High<br>Shutdown Low Motor Speed       | R/W |                                                                                     | X100 |
| N174:30 | 416431 | High Suction Pressure<br>Warning                        | R/W |                                                                                     | X100 |
| N174:31 | 416432 | High Suction Pressure<br>Warning Start Delay            | R/W | 0 - 300 s                                                                           | X1   |
| N174:32 | 416433 | Low Suction Pressure<br>Shutdown                        | R/W |                                                                                     | X100 |
| N174:33 | 416434 | Low Suction Pressure<br>Booster Shutdown                | R/W | 0.10 - 10.00 barA<br>-27 PSIG - 130.3 PSIG                                          | X100 |
| N174:34 | 416435 | Low Suction Pressure High<br>Stage Shutdown             | R/W | 0.10 - 10.00 barA<br>-27 PSIG - 130.3 PSIG                                          | X100 |
| N174:35 | 416436 | Low Suction Pressure<br>Shutdown Machine Limit          | R/W |                                                                                     | X100 |
| N174:36 | 416437 | Low Suction Pressure Start<br>Delay                     | R/W | 0 - -1 s                                                                            | X1   |
| N174:37 | 416438 | Low Suction Pressure<br>Warning Offset                  | R/W | 0.00 - 5.00 barD<br>-29.9 PSID - 57.8 PSID                                          | X100 |
| N174:38 | 416439 | Low Auxiliary Safety<br>Pressure Shutdown               | R/W | 0.01 - 5.00 barA                                                                    | X100 |
| N174:40 | 416441 | High Outlet Temperature<br>Warning                      | R/W | -75.0 - 100.0 °C<br>-103 °F - 212 °F                                                | X10  |
| N174:41 | 416442 | High Outlet Temperature<br>Warning Timer                | R/W | 0 - 300 s                                                                           | X1   |
| N174:42 | 416443 | Low Outlet Temperature<br>Shutdown                      | R/W | -60.0 - 200.0 °C<br>-76 °F - 392 °F                                                 | X10  |
| N174:43 | 416444 | Low Outlet Temperature<br>Shutdown Timer                | R/W | 0 - 300 s                                                                           | X1   |
| N174:44 | 416445 | Low Outlet Temperature<br>Warning Offset                | R/W | 0.0 - 50.0 K<br>32 F° - 122 F°                                                      | X10  |

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| N174:45 | 416446 | Low Outlet Temperature<br>Warning Start Delay | R/W | 0 - 300 s                                      | X1   |
| N174:46 | 416447 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:47 | 416448 | Solenoid 1 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:48 | 416449 | Solenoid 1 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:49 | 416450 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:50 | 416451 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:51 | 416452 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:52 | 416453 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:53 | 416454 | Solenoid 2 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:54 | 416455 | Solenoid 2 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:55 | 416456 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:56 | 416457 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:57 | 416458 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:58 | 416459 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:59 | 416460 | Solenoid 3 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:60 | 416461 | Solenoid 3 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:61 | 416462 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:62 | 416463 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:63 | 416464 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:64 | 416465 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:65 | 416466 | Solenoid 4 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:66 | 416467 | Solenoid 4 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:67 | 416468 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:68 | 416469 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:69 | 416470 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:70 | 416471 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:71 | 416472 | Solenoid 5 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:72 | 416473 | Solenoid 5 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:73 | 416474 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:74 | 416475 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:75 | 416476 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:76 | 416477 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:77 | 416478 | Solenoid 6 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:78 | 416479 | Solenoid 6 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |
| N174:79 | 416480 | Mode                                          | R/W | 0 = Auto<br>1 = Manual                         | X1   |
| N174:80 | 416481 | Manual Mode Position                          | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:81 | 416482 | Minimum Speed                                 | R/W | 0.0 - 100.0 %                                  | X10  |
| N174:82 | 416483 | Set Point                                     | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG | X100 |
| N174:83 | 416484 | Solenoid 7 Proportional Term                  | R/W | 0.0 - 500.0                                    | X10  |
| N174:84 | 416485 | Solenoid 7 Integral Term                      | R/W | 1.0 - 250.0 s/R                                | X10  |

|         |        |                                    |     |                                                                                                                                                                                                                                                                                                                                                                         |      |
|---------|--------|------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| N174:85 | 416486 | Mode                               | R/W | 0 = Auto<br>1 = Manual                                                                                                                                                                                                                                                                                                                                                  | X1   |
| N174:86 | 416487 | Manual Mode Position               | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N174:87 | 416488 | Minimum Speed                      | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N174:88 | 416489 | Set Point                          | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG                                                                                                                                                                                                                                                                                                                          | X100 |
| N174:89 | 416490 | Solenoid 8 Proportional Term       | R/W | 0.0 - 500.0                                                                                                                                                                                                                                                                                                                                                             | X10  |
| N174:90 | 416491 | Solenoid 8 Integral Term           | R/W | 1.0 - 250.0 s/R                                                                                                                                                                                                                                                                                                                                                         | X10  |
| N174:91 | 416492 | Mode                               | R/W | 0 = Auto<br>1 = Manual                                                                                                                                                                                                                                                                                                                                                  | X1   |
| N174:92 | 416493 | Manual Mode Position               | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N174:93 | 416494 | Minimum Speed                      | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N174:94 | 416495 | Set Point                          | R/W | 0.00 - 100.00 barA<br>-29.9 PSIG - 1435.7 PSIG                                                                                                                                                                                                                                                                                                                          | X100 |
| N174:95 | 416496 | Solenoid 9 Proportional Term       | R/W | 0.0 - 500.0                                                                                                                                                                                                                                                                                                                                                             | X10  |
| N174:96 | 416497 | Solenoid 9 Integral Term           | R/W | 1.0 - 250.0 s/R                                                                                                                                                                                                                                                                                                                                                         | X10  |
| N174:97 | 416498 | Mode                               | R/W | 0 = Auto<br>1 = Manual                                                                                                                                                                                                                                                                                                                                                  | X1   |
| N174:98 | 416499 | Manual Mode Position               | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N174:99 | 416500 | Minimum Speed                      | R/W | 0.0 - 100.0 %                                                                                                                                                                                                                                                                                                                                                           | X10  |
| N175:0  | 416501 | Associate Control Level            | R/W | 0 = Control Level 1<br>1 = Control Level 2<br>2 = Control Level 3<br>3 = Control Level 4<br>-1 = None                                                                                                                                                                                                                                                                   | X1   |
|         |        | <b>SP2 Commands</b>                |     |                                                                                                                                                                                                                                                                                                                                                                         |      |
|         |        |                                    |     |                                                                                                                                                                                                                                                                                                                                                                         |      |
| N193:50 | 418351 | Compressor Start Mode              | R/W | 1 = Start<br>2 = Remote<br>Else = Stop                                                                                                                                                                                                                                                                                                                                  | X1   |
| N193:51 | 418352 | Remote Start Stop                  | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            | X1   |
| N193:52 | 418353 | Compressor Capacity Mode           | R/W | 1 = Unload<br>2 = Load<br>3 = Auto<br>4 = External<br>Else = Holding At                                                                                                                                                                                                                                                                                                 | X1   |
| N193:53 | 418354 | Compressor Status                  | R   | 0 = Starting<br>1 = Running<br>2 = Stopping<br>3 = Stopped                                                                                                                                                                                                                                                                                                              | X1   |
| N193:54 | 418355 | Load Pulse                         | R/W | 1 to 10 seconds                                                                                                                                                                                                                                                                                                                                                         | X10  |
| N193:55 | 418356 | Unload Pulse                       | R/W | 1 to 10 seconds                                                                                                                                                                                                                                                                                                                                                         | X10  |
| N193:56 | 418357 | Capacity Control Control Signal HP | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1   |
| N193:57 | 418358 | Capacity Control Set Point HP      | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             | X1   |
| N193:58 | 418359 | Clear Motor Start Timers HP        | R/W | Write any value to clear. Reading this value with return the High Timer between Motor Start to Start, Motor Stop to Start and Oil Drain.                                                                                                                                                                                                                                | X1   |

|         |        |                                      |     |                                                                                                                                                                                                                                                                                                                                                                         |    |
|---------|--------|--------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| N193:59 | 418360 | Shutdown Warning Status HP           | R/W | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                                                               | X1 |
| N193:60 | 418361 | Economizer Control By Other Input HP | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:61 | 418362 | Capacity Control Control Signal LP   | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N193:62 | 418363 | Capacity Control Set Point LP        | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             | X1 |
| N193:63 | 418364 | Clear Motor Start Timers LP          | R/W | Write any value to clear. Reading this value with return the High Timer between Motor Start to Start, Motor Stop to Start and Oil Drain.                                                                                                                                                                                                                                | X1 |
| N193:64 | 418365 | Shutdown Warning Status LP           | R/W | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                                                               | X1 |
| N193:65 | 418366 | Economizer Control By Other Input LP | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:66 | 418367 | Abort Sequencer Timer                | R/W | Write any value to Abort Sequencer Timer                                                                                                                                                                                                                                                                                                                                | X1 |
| N193:67 | 418368 | Register Sequencer Timer 5 Minutes   | R/W | Write 17235 to enable a 5 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              | X1 |
| N193:68 | 418369 | Register Sequencer Timer 1 Minutes   | R/W | Write 17235 to enable a 1 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              | X1 |
| N193:69 | 418370 | Two Stage Operation                  | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:70 | 418371 | Current Capacity                     | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:71 | 418372 | Set Point                            | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:72 | 418373 | Capacity Control Value HP            | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:73 | 418374 | Capacity Control Value LP            | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:74 | 418375 | Bit Commands                         | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:75 | 418376 | Remote Set Point                     | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:76 | 418377 | Remote Control Value                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:77 | 418378 | Capacity Control Signal              | R/W |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:78 | 418379 | Active Set Point                     | R   |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:79 | 418380 | Active Control Value                 | R   |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
| N193:80 | 418381 | Active Control Signal                | R   | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature | X1 |
| N193:81 | 418382 | Set Point HP                         | R   |                                                                                                                                                                                                                                                                                                                                                                         | X1 |
|         |        |                                      |     |                                                                                                                                                                                                                                                                                                                                                                         |    |
|         |        | <b>SPDuo Commands</b>                |     |                                                                                                                                                                                                                                                                                                                                                                         |    |
|         |        |                                      |     |                                                                                                                                                                                                                                                                                                                                                                         |    |
| N196:0  | 418601 | Compressor Start Mode                | R/W | 1 = Start<br>2 = Remote<br>Else = Stop                                                                                                                                                                                                                                                                                                                                  |    |

|         |        |                                                      |     |                                                                                                                                                                                                                                                                                                                                                                         |  |
|---------|--------|------------------------------------------------------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| N196:1  | 418602 | Remote Start Stop                                    | R/W | 0 = Disabled<br>-1 = Enabled                                                                                                                                                                                                                                                                                                                                            |  |
| N196:2  | 418603 | Compressor Capacity Mode                             | R/W | 1 = Unload<br>2 = Load<br>3 = Auto<br>4 = External<br>Else = Holding At                                                                                                                                                                                                                                                                                                 |  |
| N196:3  | 418604 | Compressor Status                                    | R   | 0 = Starting<br>1 = Running<br>2 = Stopping<br>3 = Stopped                                                                                                                                                                                                                                                                                                              |  |
| N196:4  | 418605 | Control Signal                                       | R/W | 0 = Suction Pressure<br>1 = Suction Pressure As Temperature<br>2 = Inlet Temperature<br>3 = Outlet Temperature<br>4 = Discharge Pressure<br>5 = Discharge Pressure As Temperature<br>6 = Remote Capacity<br>7 = Remote Temperature<br>8 = Remote Pressure<br>9 = Ammonia Storage Tank Pressure<br>10 = Condenser Outlet Temperature<br>11 = Condenser Inlet Temperature |  |
| N196:5  | 418606 | Set Point                                            | R/W | Based on the control Signal                                                                                                                                                                                                                                                                                                                                             |  |
| N196:6  | 418607 | Clear Motor Start Timers HP                          | R/W | Write any value to clear. Reading this value with return the High Timer between Motor Start to Start, Motor Stop to Start and Oil Drain.                                                                                                                                                                                                                                |  |
| N196:7  | 418608 | Shutdown Warning Status HP                           | R/W | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                                                               |  |
| N196:8  | 418609 | Economizer Control By Other Input HP                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:9  | 418610 | Clear Motor Start Timers LP                          | R/W | Write any value to clear. Reading this value with return the High Timer between Motor Start to Start, Motor Stop to Start and Oil Drain.                                                                                                                                                                                                                                |  |
| N196:10 | 418611 | Shutdown Warning Status LP                           | R/W | 0 = Normal<br>1 = Warning<br>2 = Shutdown                                                                                                                                                                                                                                                                                                                               |  |
| N196:11 | 418612 | Economizer Control By Other Input LP                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:12 | 418613 | Abort Sequencer Timer                                | R/W | Write any value to Abort Sequencer Timer                                                                                                                                                                                                                                                                                                                                |  |
| N196:13 | 418614 | Register Sequencer Timer 5 Minutes                   | R/W | Write 17235 to enable a 5 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              |  |
| N196:14 | 418615 | Register Sequencer Timer 1 Minutes                   | R/W | Write 17235 to enable a 1 minutes Sequencer Watchdog Timer                                                                                                                                                                                                                                                                                                              |  |
| N196:15 | 418616 | RunningCompressors                                   | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:16 | 418617 | AvailableCompressors                                 | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:17 | 418618 | Current Capacity                                     | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:18 | 418619 | Control Value                                        | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:19 | 418620 | Sequencer Status                                     | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:20 | 418621 | Internal Sequencer Primary Start Delay Timer Value   | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:21 | 418622 | Internal Sequencer Secondary Start Delay Timer Value | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:22 | 418623 | Internal Sequencer Primary Stop Delay Timer Value    | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |
| N196:23 | 418624 | Internal Sequencer Secondary Stop Delay Timer Value  | R/W |                                                                                                                                                                                                                                                                                                                                                                         |  |

|         |        |                                                                        |     |  |  |
|---------|--------|------------------------------------------------------------------------|-----|--|--|
| N196:24 | 418625 | Internal Sequencer<br>Secondary Increase Capacity<br>Delay Timer Value | R/W |  |  |
| N196:25 | 418626 | Internal Sequencer<br>Secondary Decrease<br>Capacity Delay Timer Value | R/W |  |  |
| N196:26 | 418627 | Power Failure Reset Delay<br>Timer Value                               | R/W |  |  |
| N196:27 | 418628 | Bit Commands                                                           | R/W |  |  |
| N196:28 | 418629 | Remote Set Point                                                       | R/W |  |  |
| N196:29 | 418630 | Remote Control Value                                                   | R/W |  |  |
| N196:30 | 418631 | Active Set Point                                                       | R   |  |  |
| N196:31 | 418632 | Active Control Value                                                   | R   |  |  |
| N196:32 | 418633 | Active Control Signal                                                  | R   |  |  |



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**GEA USA**

3475 Board Road, York, PA 17406

Phone: 717.767.6411, 800.888.4337

[sales.gearna@gea.com](mailto:sales.gearna@gea.com), [www.gea.com](http://www.gea.com)