INNOTECH®
Innovative technology

Operating Instructions for Innotech MAXIM Series Controllers

Edition v2.0 dated 23.02.2011
Document Number DS 99.21

INNOTECH®
Innovative technology

This page intentionally left blank.

Proprietary

No part of the Operating Manual for Innotech® Maxim Series Controllers document may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language or computer language, in any form or by any means, without prior written permission of Mass Electronics Pty Ltd.

Trademarks

The term 'Innotech' used in this manual is a trademark of Mass Electronics Pty Ltd trading as Innotech Control Systems Australia.

'Microsoft' and 'Windows' are registered trademarks of Microsoft Corporation in the United States and other countries.

'Intel Pentium Dual-Core' is a registered trademark of Intel Corporation in the United States and other countries.

Disclaimer

While great efforts have been made to assure the accuracy and clarity of this document, Mass Electronics Pty Ltd assumes no liability resulting from any omissions in this document, or from misuse of the information obtained herein. The information in this document has been carefully checked and is believed to be entirely reliable with all of the necessary information included. Mass Electronics Pty Ltd reserves the right to make changes to any products described herein to improve reliability, function, or design, and reserves the right to revise this document and make changes from time to time in content hereof with no obligation to notify any persons of revisions or changes. Mass Electronics Pty Ltd does not assume any liability arising out of the application or any use of any product or circuit described herein; neither does it convey licence under its patent rights or the rights of others.

Document Management

Document Title: Operating Instructions for Innotech Maxim Series Controllers

Revision History

Revision Number	Revision Date	Summary of Changes
1.0	18/02/2011	First Release of Operating Instructions for Innotech MAXIM Series Controllers
2.0	23/02/2011	Added MAXIM 1010 information to document

Table of Contents

Section/Paragraph **Page**

Section 1 - Preliminary Information 2
1-1 Introduction 2
1-1.1 Scope of this manual 2
1-1.2 Information Icons 2
1-2 Special Considerations 3
1-3 Tools and Test Equipment 3
1-3.1 MAXCon Software 3
1-3.2 MAXMon Software 3
1-3.3 CT01 Commissioning Tool 3
1-3.4 GEN II ViewPort 3
1-3.5 MP01 MiniPort 3

Section 2 - Operation of MAXIM Controllers 6
2-1 Overview 6
2-2 Menu Structure 7
2-2.1 Overview 7
2-2.2 Structure of Menus 7
2-3 Home Page 8
2-3.1 Overview 8
2-3.2 Home Page 8
2-4 Watches, Watch Pages and Flash Page 10
2-4.1 Overview 10
2-4.2 Watches & Watch Pages 10
2-4.3 Flash Pages 10
2-5 Access Codes & Device Passwords 11
2-5.1 Overview 11
2-5.2 Access Codes 11
2-5.3 Device Password 13
2-6 Navigation Page 14
2-6.1 Overview 14
2-6.2 Navigation Page 14
2-6.2.1 Modes 15

Section 3 - HMI Menus 18
3-1 Overview 18
3-1.1 Operational Modes 18
3-.1.1.1 User Mode 18
3-.1.1.2 Supervisor Mode 18
3-2 Status Menu 19
3-2.1 Overview 19
3-2.2 Status Menu - Watches 19
3-2.3 Status Menu - Alarms 21
3-2.4 Status Menu - IO Values 22
3-2.5 Status Menu - System Info 23
3-3 Clock Menu 25
3-3.1 Overview 25
3-3.2 Clock - Set Clock 25
3-3.3 Clock - DL Saving 26
3-3.4 Clock - Schedule 28
3-3.4.1 Clock - Schedule - Daily - Add Daily 29
3-3.4.2 Clock - Schedule - Daily - Edit Daily 30
3-3.4.3 Clock - Schedule - Daily - Del Daily 31
3-3.4.4 Clock - Schedule - Weekly - Add Wkly 32
3-3.4.5 Clock - Schedule - Weekly - Edit Wkly 33
3-3.4.6 Clock - Schedule - Weekly - Del Wkly 34
3-3.4.7 Clock - Schedule - Weekly - Edit Wkly - 24 HR Operation 35
3-3.4.8 Clock - Schedule - Yearly - Add Yrly 36
3-3.4.9 Clock - Schedule - Yearly - Edit Yrly 37
3-3.4.10 Clock - Schedule - Yearly - Del Yrly 38
3-4 Setup Menu 39
3-4.1 Overview 39
3-4.2 Setup - Var Setup 39
3-4.3 Setup - IO Configuration 41
3-4.4 Setup - PID Par 43

3-5 Commission Menu 45
3-5.1 Overview 45
3-5.2 Commission - Run/Stop 45
3-5.3 Commission - Calibrate 47
3-5.4 Commission - VAV Cal 49
3-5.5 Commission - Network 51
3-5.5.1 Commission - Network - Status 51
3-5.5.2 Commission - Network - Baud Rate 53

Appendix A - Using the CT01 Commissioning Tool 56
A-1 Overview 56
A-2 Connecting to Sub Network devices 56
A-2.1 Overview 56
A-2.2 Connecting directly to controller on sub system network 56
A-2.3 Connecting to Sub System Gateway (IG01) 57
A-2.4 Connecting to sub system network 58
A-2.5 CT01 Menus and Navigation 59
A-3 Logging onto the Controller 59
A-4 VAVMax settings 60
A-5 Commissioning 60
A-5.1 Configuring the K-Factor 61
A-5.2 Calibration of sensors 61

Product Support 62

List of Illustrations

Figure 2-1 Typical MAXIM Series Controller Menu Structure 7
Figure 2-2 Home Page Display 8
Figure 2-3 Front Layout 9
Figure 2-4 Flash Page 10
Figure 2-5 Access Codes 11
Figure 2-6 Enter Access Code Screen 12
Figure 2-7 Invalid Access Code 12
Figure 2-8 Changing the Device Password 13
Figure 2-9 Main Menu structure of MAXIM Series Digital Controllers 14
Figure 3-1 Typical Watch Page 19
Figure 3-2 Typical Adjustable Watch Page 20
Figure 3-3 Typical Flash Page Alarm 21
Figure 3-4 Typical Alarm Page 21
Figure 3-5 Universal Inputs Page 22
Figure 3-6 Digital Outputs Page 22
Figure 3-7 Analogue Outputs Page 22
Figure 3-8 System Info - Firmware Version 23
Figure 3-9 System Information - Data Logging / Communication Ports 23
Figure 3-10 System Information - Network Address 24
Figure 3-11 System Information - MAC Address 24
Figure 3-12 Clock Menu 25
Figure 3-13 System Date and Time 25
Figure 3-14 Status of Daylight Savings Feature 26
Figure 3-15 Configuring DL Saving Start 26
Figure 3-16 Configuring DL Saving Stop 27
Figure 3-17 Clock - Schedule Menu 28
Figure 3-18 Daily Menu 29
Figure 3-19 Daily Schedule - Add 29
Figure 3-20 Daily Schedule - Save 29
Figure 3-21 Edit Daily Menu 30
Figure 3-22 Edit Daily Schedule On/Off Time 30
Figure 3-23 Saving Edited Schedules 31
Figure 3-24 Del Daily Menu 31
Figure 3-25 Weekly Menu 32
Figure 3-26 Weekly Schedule - Add 32

Figure 3-27 Weekly Schedule - Save 32
Figure 3-28 Edit Weekly Menu 33
Figure 3-29 Edit Weekly Schedule On/Off Time 33
Figure 3-30 Saving Edited Schedules 34
Figure 3-31 Del Weekly Menu 34
Figure 3-32 Edit Wkly Menu 35
Figure 3-33 Edit Weekly Schedule On/Off Time 35
Figure 3-34 Yearly Menu 36
Figure 3-35 Yearly Schedule - Add 36
Figure 3-36 Yearly Schedule - Save 36
Figure 3-37 Edit Yrly Menu 37
Figure 3-38 Edit Yearly Schedule On/Off Time 37
Figure 3-39 Yearly Schedule - Save After Editing 38
Figure 3-40 Del Yrly Menu 38
Figure 3-41 Setup Menu 39
Figure 3-42 Var Setup Menu 39
Figure 3-43 Var Setup 40
Figure 3-44 Var Setup - Edit 40
Figure 3-45 IO Config Menu 41
Figure 3-46 IO Config - Description 41
Figure 3-47 Edit Daily Menu 42
Figure 3-48 PID Par Menu 43
Figure 3-49 PID Parameters 43
Figure 3-50 PID Par Description 44
Figure 3-51 Commission Menu 45
Figure 3-52 Run/Stop sub-menu 45
Figure 3-53 Running Configuration 46
Figure 3-54 Stopped Configuration 46
Figure 3-55 Calibrate Menu 47
Figure 3-56 Sensor Readings within Calibrate Menu 47
Figure 3-57 Calibrating Sensor Readings 48
Figure 3-58 Calibrated Sensor Readings 48
Figure 3-59 VAVMax Calibrate Menu 49
Figure 3-60 K-Factor Variable 49
Figure 3-61 Adjust K-Factor Variable 50
Figure 3-62 Network Menu 51
Figure 3-63 Status Menu 51

Figure 3-64 Network Status - Messages 52
Figure 3-65 Baud Rate Menu 53
Figure 3-66 Baud Rate for NET and Global Networks 53
Figure 3-67 VAVMax Sub-System Network Baud Rate..... 54
Figure A-1 Connecting the Commissioning tool to a Sub System Network Device 57
Figure A-2 Connecting the Commissioning tool to a Sub-System Gateway IG01 57
Figure A-3 Connecting the Commissioning tool to a Sub-Network Device..... 58
Figure A-4 CT01 Interface - navigation and menus..... 59

List of Tables

Table 2-1 Maximum Number of Pages and Watches 10
Table 3-1 Maximum Number of Pages and Watches..... 20
Table 3-2 Maximum Number of Alarms 21
Table 3-3 Network Addressing for MAXIM Series Digital Controllers..... 24

INNOTECH®
Innovative technology

Section 1
Preliminary Information

Section 1 - Preliminary Information

1-1 Introduction

This manual is intended to provide the end user with a complete and comprehensive operator guide for the Maxim Series controllers.

Contained within this document are procedures for the Human Machine Interface (HMI). Further information can be found via the Innotech web site in relation to network connections and technical operation of the Maxim Series products.

1-1.1 Scope of this manual

This Manual contains:

- Section 1 - Preliminary Information
- Section 2 - Operation of MAXIM Controllers
- Section 3 - HMI Menus
- Appendix A - Using the CT01 Comissioning Tool

Section 1: **Preliminary Information** contains initialisation related information of a general nature such as any special considerations, tools and test equipment required, and pre-installation materials.

Section 2: **Operation** contains information regarding operation and control of individual MAXIM controllers.

Section 3: **HMI Menus** contains information regarding the individual menus found within MAXIM controllers.

Appendix A: **Using the CT01 Comissioning Tool** contains information regarding use of the CT01 HMI with MAXIM controllers such as the VAVMAX, MiniMAX and MicroMAX.

1-1.2 Information Icons

Throughout this manual there are icons used to illustrate notes and points of caution, as illustrated below:

Indicates information that is **critical and must be read**

Indicates information which is not critical but **should be read**

1-2 Special Considerations

All MAXIM Series controllers require a configuration program engineered using the MAXCon software to perform the intended functions on an installation.

1-3 Tools and Test Equipment

1-3.1 MAXCon Software

Required to program the internal configuration of all MAXIM controllers.

1-3.2 MAXMon Software

May be used during the commissioning process of MAXIM I, II, III, 1010, MiniMAX, MicroMAX or VAVMax controllers.

1-3.3 CT01 Commissioning Tool

A special handheld tool that may be used for configuring the MicroMAX and VAVMax controllers on a sub system network. Please refer to Appendix A – Using the CT01 Commissioning Tool for more information.

1-3.4 GEN II ViewPort

A network device that allows a user to externally access the Human Machine Interface (HMI) of a GENESIS Series or Maxim Controller located on the network. Connected to the “GENII Net Comms”, the GENII VIEWPORT can be used to search for controllers present on the network. A user may then use the GENII VIEWPORT to log onto any one of the available controllers.

1-3.5 MP01 MiniPort

A network device that allows a user to externally access the Human Machine Interface (HMI) of a MAXIM Series Controller located on the network. Connected to “Net Comms”, the MAXIM Miniport can be used to search for controllers present on the network. A user may then use the MAXIM Miniport to log onto any one of the available controllers.

This page intentionally left blank.

INNOTECH®
Innovative technology

Section 2
Operation of MAXIM Controllers

Section 2 - Operation of MAXIM Controllers

2-1 Overview

The MAXIM Series controllers are easily configured via the MAXCon configuration software. Each installation can be programmed to suit your required application. As each configuration can be unique in operation, this will influence the operating procedure for each MAXIM controller.

What is common among all MAXIM Series controllers is the user friendly interface and ease of operation. This section of the operating manual provides the required information to navigate the HMI menus.

- Section 2-1: Overview - Provides an overview of operation information required by the operator
- Section 2-2: Menu Structure - A brief description and diagram of the menu structure
- Section 2-3: Home Page - Describes the Home Page including details on virtual LEDs and icons
- Section 2-4: Flash Watch Pages - Description of the Flash Watch Pages that can be programmed on MAXIM Series controllers
- Section 2-5: Access Codes - Provides information on Access Codes including enabling and disabling them and different levels of access provided on the MAXIM Series controllers
- Section 2-6: Navigation Page - Provides information on the Navigation Page and includes details of general navigation through the various menus and sub-menus available on the MAXIM controllers

Please note the screenshots used throughout this document are taken from a typical MAXIM Series II controller. Any differences among the various controllers will be detailed accordingly in the text.

2-2 Menu Structure

2-2.1 Overview

This section of the document provides information about the basic structure of the menu screens for the MAXIM Series Digital Controllers. Information on general navigation through the various menu screens is also provided in this section.

2-2.2 Structure of Menus

The LCD is the primary method by which the user interacts with the Human Machine Interface (HMI) on the MAXIM Series I, II, III, and 1010 controllers. Alternatively the HMI can also be accessed with a computer using the Innotech SoftPort software, or the Miniport and ViewPort devices. The MAXIM Series controllers such as the MiniMAX, MicroMAX, VAVMax, and the IG01 Sub System Gateway provide access to the HMI through the CT01 Commissioning Tool, or with the Innotech SoftPort software. The IG01 Sub System Gateway can also be configured through the on board web page. It is important to know that regardless of which method you use to access the HMI, the menu structure is unchanged.

A representation of the structure of menus within a MAXIM Series controller is shown in Figure 2-1. A detailed description of the menus for the different models of MAXIM Series controllers follows in subsequent sections.

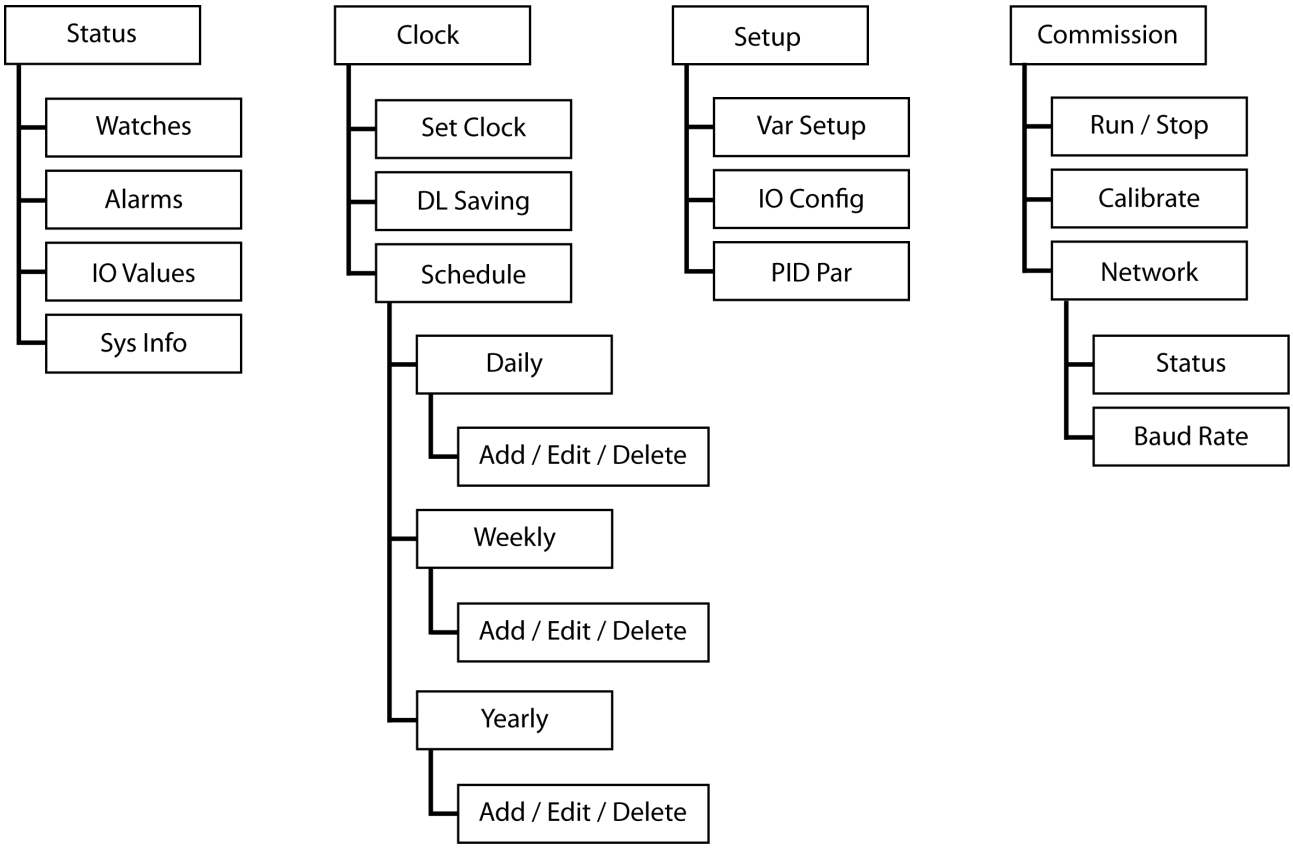

Figure 2-1 Typical MAXIM Series Controller Menu Structure

2-3 Home Page

2-3.1 Overview

This section of the document provides information about the default Home Page for the MAXIM Series controllers. It also identifies controls of the standard MAXIM Series controller that is used to navigate the HMI menu structure.

2-3.2 Home Page

The Home Page is the initial screen you are presented with once the MAXIM Series controllers are powered up. This is where you log onto the controllers (in the case where a user code is configured) and subsequently perform all operations.

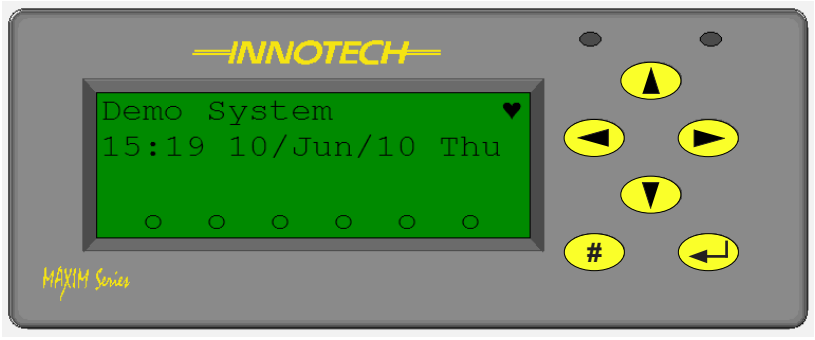

Figure 2-2 Home Page Display

There are 4 lines of information on the LCD that are presented on the Home Page:

Line 1 : is the name of the MAXIM Series controller and is defined in the configuration downloaded to the controller. This is easily programmable using MAXCon software.

Line 2 : shows the current time and date.

Line 3 : displays any programmed Flash Watches. Flash Watches are simple messages triggered by an action or operation within the controller. They are displayed on Lines 3 & 4 and conceal the virtual LEDs. This line is blank if no Flash Watches have been programmed.

Line 4 : displays the status of the outputs. There are 12 virtual LEDs for the MAXIM III controllers, and 10 virtual LEDs for the MAXIM 1010 controllers. The MAXIM I and II controllers each have 6 virtual LEDs. This line also displays line 2 of the watches assigned to the flash page.

The status of the LEDs can be viewed by pressing the # key when hidden by flash page watches. A more detailed explanation follows in the next section.

The keypad to the right of the LCD allows you to access all the menus of the controller for complete operation.

The keypad functions are generally defined as follows:

- Up – Moves cursor up / Increase – used to increase value (e.g., a set point)
- Down – Moves cursor down / Decrease – used to decrease value (e.g., a set point)
- Left – Moves cursor left or pages to the left
- Right – Moves cursor right or pages to right
- Enter/Edit/Accept – moves down a menu level or allows a value to be changed and accepted
- # Exit/Esc – exits from a menu level, abandons changes (unless already saved via Enter button)

Since a key can perform multiple functions at times, this will be shown on the relevant screen when applicable.

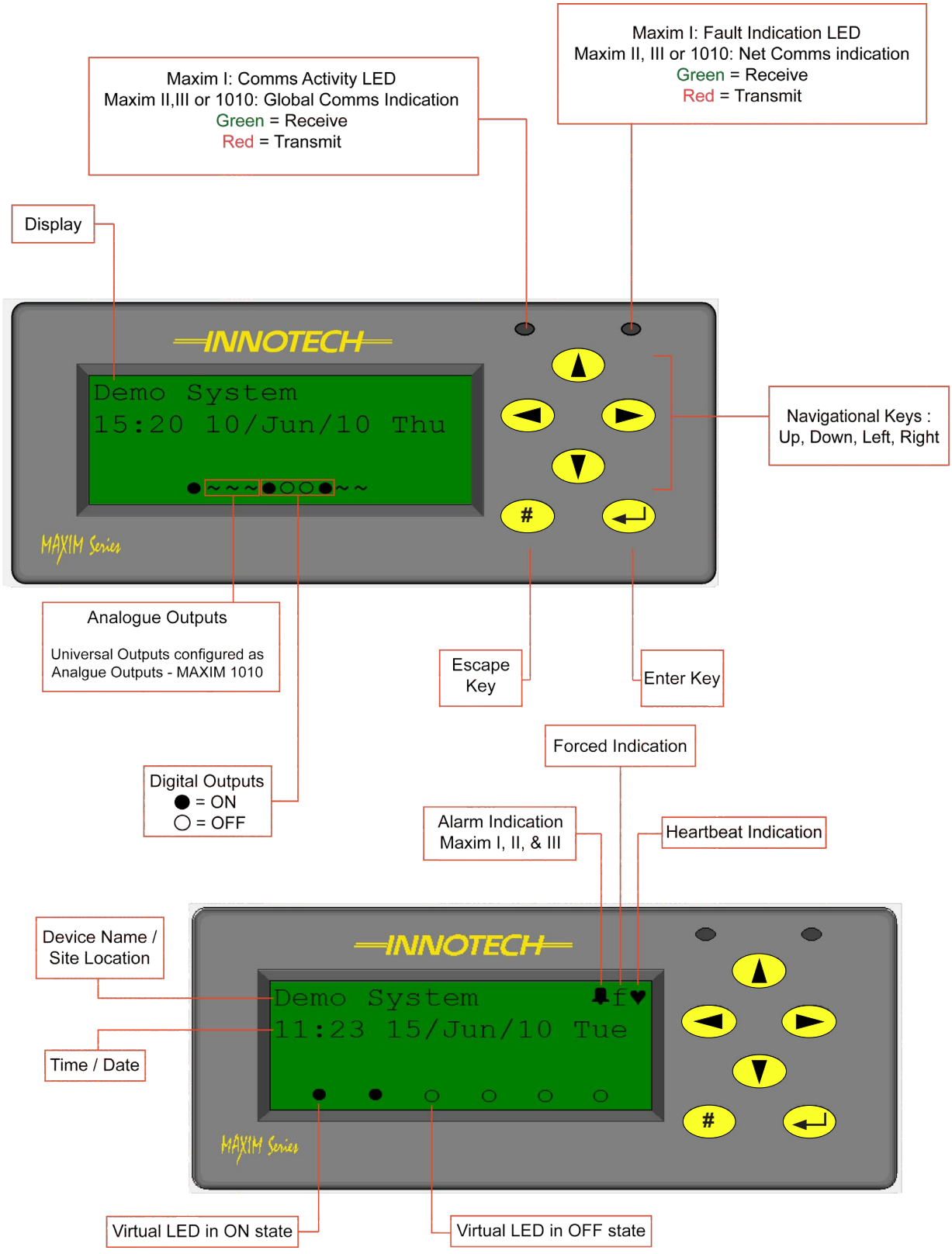

Figure 2-3 Front Layout

The CT-01 Commissioning tool will also provide the user with an identical interface for the control of sub-system devices such as VAVMax, MiniMAX and MicroMAX controllers.

2-4 Watches, Watch Pages and Flash Page

2-4.1 Overview

This section of the document provides information about the use of Flash Watch pages within the MAXIM Series Digital controllers. It also identifies the differences and restrictions on Flash Watch pages within the MAXIM family of digital controllers.

2-4.2 Watches & Watch Pages

When the unit is first configured by the MAXIM Configuration (MAXCon) software, it is possible to place the current status or value of an output node of any block within the configuration on what is called a Watch page. These Watch pages allow users to quickly view important I/O and block values on specified watch pages. Further information regarding watch pages can be found in section 3-2.2 of this manual.

2-4.3 Flash Pages

MAXIM controllers also contain a specific page known as a Flash page. Watches assigned to this page are displayed on the third and fourth lines of the Home Page at five second intervals. After start-up the first Flash Watch is displayed for five seconds, followed by the next Flash Watch for five seconds, and so on until the cycle is repeated.

Alarms are also displayed on the Flash page and will overrride any watch page information

The figure below is an example of how Flash Watches are cycled on a typical Home Page.

Figure 2-4 Flash Page

The Flash Watch feature is especially useful for applications containing many watches; it allows you to easily monitor a range of specified watches without having to access a Watch Page and manually scroll through it.

Depending on how the Flash and Watch Pages are configured, you can have a watch displayed both on the Flash Page and the Watch Page. It is important to know that Watch data cannot be edited from the Flash Watch.

Table 2-1 Maximum Number of Pages and Watches

Digital Controller	MAXIM I	MAXIM II	MAXIM III, MAXIM 1010	MicroMAX, VAVMax, MiniMAX
Maximum number of Pages	5	5	8	5
Maximum Watches per Page	5	5	10	5
Maxim Flash Watch Pages	5	5	10	5

2-5 Access Codes & Device Passwords

2-5.1 Overview

This section of the document provides information about the setup and use of Access Codes and Device Passwords within the MAXIM Series Digital Controllers.

Please note that the MAXIM Series Digital Controllers allow two levels of user access: User level and Supervisor level. This section mainly refers to User level access. Section 3 provides more detailed information regarding the extra functionality gained in Supervisor Mode.

2-5.2 Access Codes

When the controller is configured it is possible to prevent un-authorised access to any of the functions using Access Codes. These can only be configured within the MAXCon software and are downloaded to the controller during commissioning. The Access Codes are not enabled by default in MAXCon software, to utilise access codes, they must be enabled and configured via MAXCon as required.

If the Access Codes have been ENABLED, there are two options to choose from:

- Only Supervisor code required – This option allows User level access without the need to enter an access code. But an access code MUST be entered to gain Supervisor level access.
- Both User and Supervisor codes required – With this option an access code MUST be entered to gain access to either the User level or the Supervisor level. A User level access code will allow User level access, whereas a Supervisor code will allow Supervisor level access.

When a new configuration is created, the MAXCon software creates default access codes for both the User level and the Supervisor level. The default codes are:

- 0000 – User code
- 9999 – Supervisor code

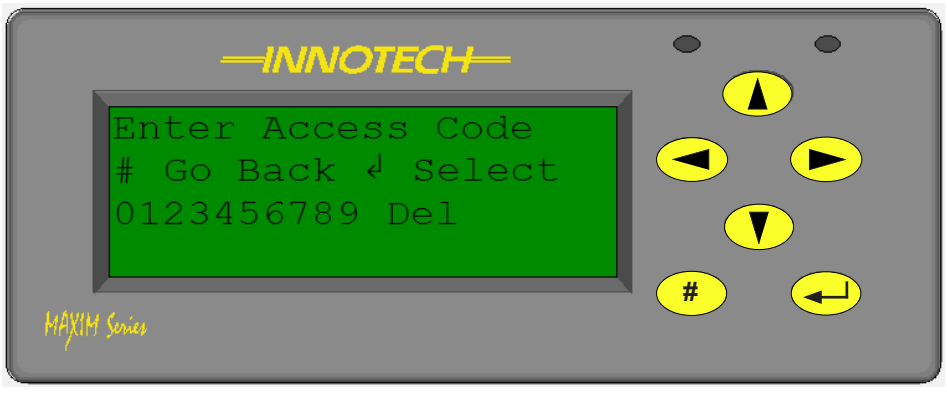

Figure 2-5 Access Codes

If you have lost or misplaced the access codes, it is possible to retrieve them by uploading the configuration file from the controller using the MAXCon software. Once the configuration file has been uploaded, the access codes can be retrieved from the Config → Access Codes menu option in the MAXCon software.

It is important to note that Access Codes are DISABLED by default.

To enter an Access Code, press any key on the Home Page and the Access Code screen is then displayed.

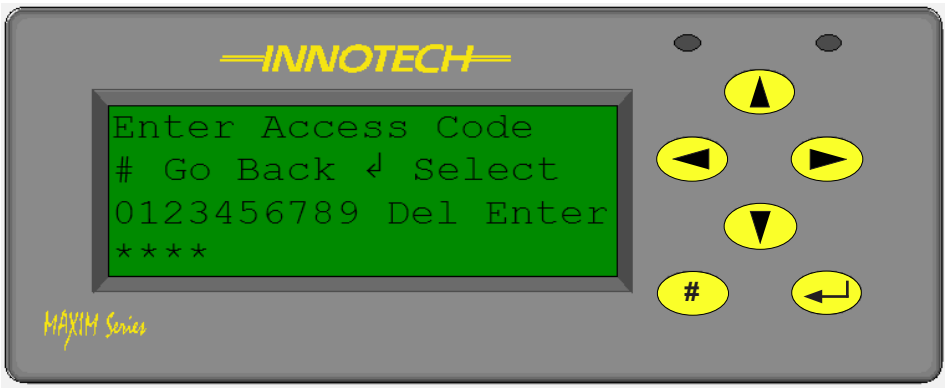

Figure 2-6 Enter Access Code Screen

Use the ◄ or ► keys to select the 4 digit code and as each number is highlighted press the ↵ key. An asterisk appears on the bottom line for each number entered. When all four numbers are entered correctly, press the ↵ key again. If an incorrect code is entered, the display shows Invalid Code, times out after 5 seconds and returns to the Home Page.

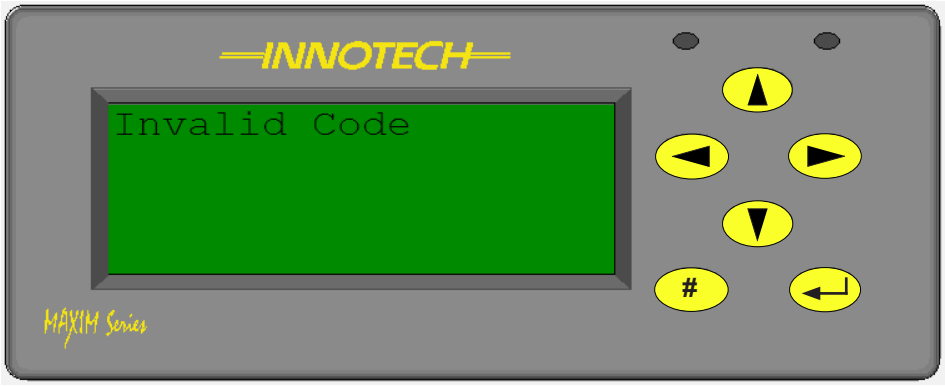

Figure 2-7 Invalid Access Code

If the correct code is entered, the display changes to the Navigate Screen. To change or delete an entry in the code, highlight Del and press the ↵ key. Press the ↵ key again to delete the next entry and so on.

2-5.3 Device Password

In order to prevent unauthorised reading of configurations loaded on MAXIM controllers, MAXCon software allows you to configure a device password. The password may be set by accessing the Communicate→Set Device Password menu option within MAXCon software.

Innotech does not set a device password by default. If you choose to set a device password from within MAXCon software, it is extremely important the you DO NOT FORGET or misplace it. Please contact Innotech for assistance should you require assistance the retrieval of a device password. Due to the complicated nature of the task there may be a cost involved for the process.

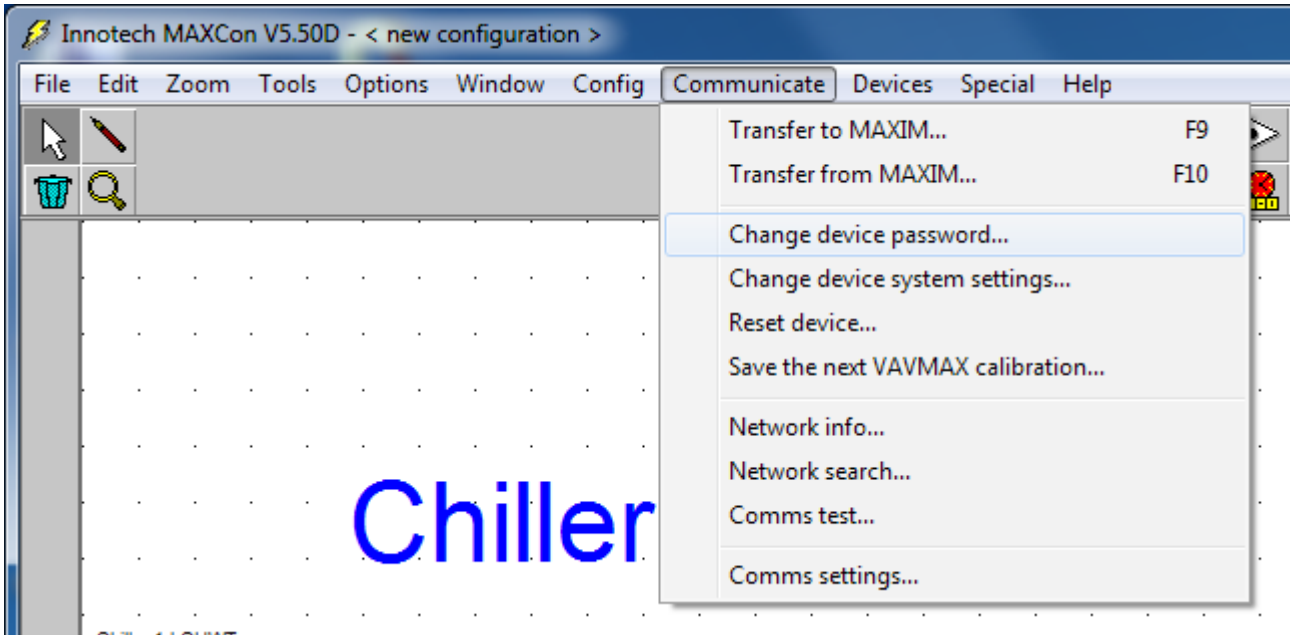

Figure 2-8 Changing the Device Password

2-6 Navigation Page

2-6.1 Overview

This section of the Operating Manual provides HMI information for the main Navigation Page of the MAXIM Series controllers.

2-6.2 Navigation Page

Most menu screens on the MAXIM Series Controllers follow a standard template for easy navigation. Depending on which menu you are in, there may be up to 4 lines of information that are displayed as shown in Figure 2-9. These are detailed in the subsequent paragraph.

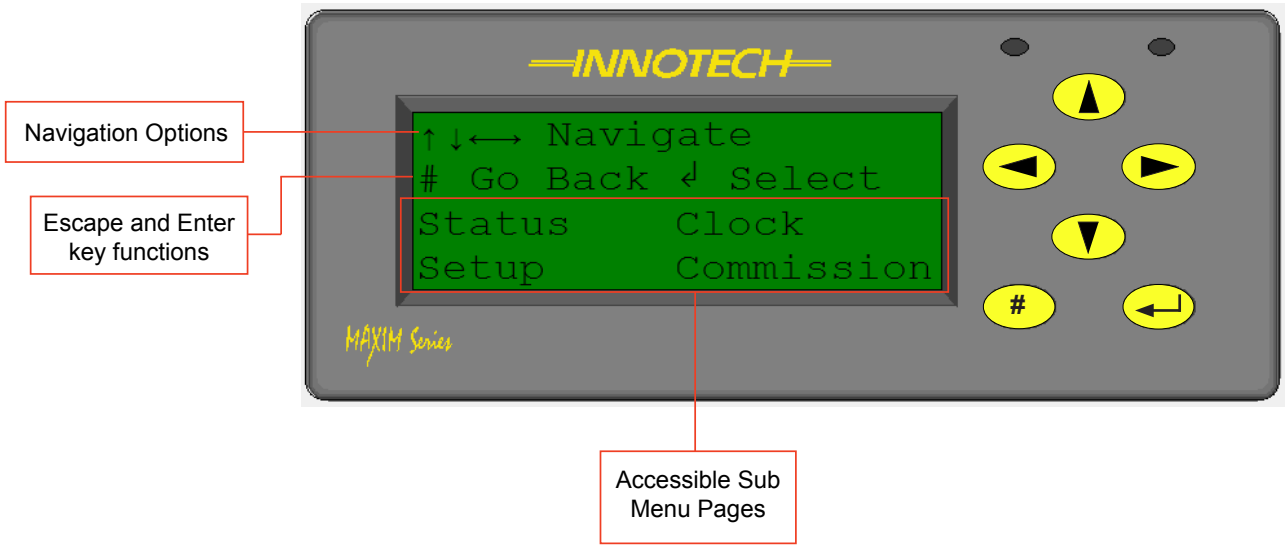

Figure 2-9 Main Menu structure of MAXIM Series Digital Controllers.

Line 1: Depending on the current menu screen, this line shows the arrow keys available for scrolling through the different sub-menus or various parameters.
Line 2: Depending on the current menu screen, this line shows the functions of the # key and the the ↲ key.
Lines 3 & 4: These 2 lines display any accessible sub-menus that may be available.

Navigation to a parameter within the menu may be done by using the ◄ , ► , ▲, and ▼ keys to move the cursor. A flashing parameter or menu item indicates it is selectable. Pressing the ↲ key selects the flashing menu item and allows you to navigate to any sub menus or execute a particular function.

2-6.2.1 Modes

It is important to know that when navigating through the various menus and parameters on the MAXIM Series controllers, different options are available depending on the mode of operation. There are basically two modes of operation available on the HMI for the MAXIM Series controllers:

Display Mode: This mode allows you to navigate around the menus and view various parameters and other information. This may include such things as watches and status information.

In this mode the ↵ key allows you to select the flashing parameter or menu. The # key allows you to return to the previous menu page.

Edit Mode: This mode allows you to change or edit certain parameters within the controller. This may also include toggling certain options ON or OFF.

In this mode the ↵ key allows you to apply and save your changes. The # key will allow you to undo any changes that have been made.

This page intentionally left blank.

INNOTECH®
Innovative technology

Section 3
HMI Menus

Section 3 - HMI Menus

3-1 Overview

This section of the document provides detailed information about the structure and functionality of the menus and sub-menus for the MAXIM Series Controllers. A brief description of each menu and information on configuring various parameters is also provided in this section.

Please note the screenshots used throughout this document are taken from a typical MAXIM Series II controller. Any differences among the various controllers will be detailed accordingly.

3-1.1 Operational Modes

There are two operational modes available on the MAXIM Series controllers, the difference being the level of access to the HMI menus provided by each mode of operation. This provides the ability to limit access to the controller to certain users. The process of configuration for the various user modes as well as the steps required to gain access to the modes of operation is outlined in Section 2-5 of the manual.

3-.1.1.1 User Mode

User Mode is the standard mode of operation on the MAXIM Series controllers. This is a restricted mode of operation allowing access to only the frequently used features.

3-.1.1.2 Supervisor Mode

Supervisor Mode provides a higher level of access to view or modify parameters not typically available in User Mode, and other features as listed below:

- The 'locking' of Set Points so that they may not be changed by a standard user
- Setting Universal Inputs / Analogue or Digital outputs to be manually overridden or 'forced'
- The ability to adjust internal block values for any PID control loops within the controller
- The ability to perform certain calibrations on the inputs and sensors
- The ability to run or stop the controller configuration
- The ability to set network baud rates for Global and Net Communications

3-2 Status Menu

3-2.1 Overview

This section of the document provides information on accessing and navigating through the Status Menu on the MAXIM Series controllers. The Status Menu can be accessed from the Home page by pressing the ↵ key. On the next screen you will see Status flashing. Press the ↵ key again to enter the Status Menu. Once you are at the Status Menu you will have access to all sub-menus that are described in more detail in the subsequent paragraphs.

3-2.2 Status Menu - Watches

One of the features of the MAXIM Series controllers is the ability to display various configuration block information using the Watch pages. The arrangement and content of each Watch page is programmed with the MAXCon configuration software. A controller may contain multiple watches per page and multiple watch pages. This makes the Watch pages unique for each application and configuration. Accessing the Watch pages is performed via the Status Menu as described in section 2-4.2. Once you are in the Status Menu, you will see Watches flashing on the HMI. You can access the Watch pages by pressing the ↵ key, and then navigate each watch via the arrow keys as required. The Watches can also allow you to view and process values such as set points. If editing is allowed at the User level access, then these values can also be edited and modified.

The contents of each Watch page is programmed using MAXCon software and can be customised to suit your particular application. Each Watch page can also be titled to suit the requirements of the configuration. For example, all the data on Watch page 3 may represent parameters for CHW Pumps at a particular site. You can rename Watch page 3 to reflect this and associate all information on this page to the CHW Pumps for easy reference (using MAXCon software). This can allow a logical navigation approach compared to the default naming convention as illustrated in Figure 3-1.

Please note that the representations of the Watch pages shown in this manual are typical examples only.

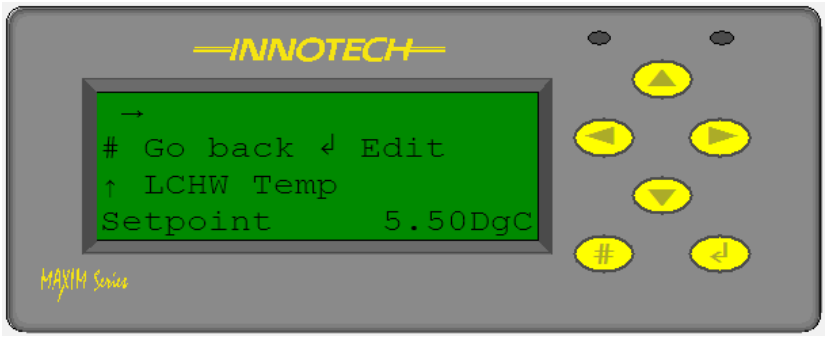

Figure 3-1 Typical Watch Page

As shown in Figure 3-1 the Flash Watches are displayed on lines 3 and 4 on the LCD of the MAXIM Series controllers while actual Watch pages are displayed on the entire HMI. In this example the CHW Pump 1 Watch is a status parameter or condition and cannot be edited.

You can view other Watches pages by using the ◄ and ► keys to scroll through each page. The name or designation of each page will be displayed in the top left corner of the LCD. Once you are at the desired Watch page, you can use the ▼ and ▲ keys to scroll through all available Watches for that particular page.

A Watch parameter can be edited directly on the controller. Figure 3-2 shows the LCHW Temp Setpoint on this Watch page as a process value which can be modified. Any parameter or process value that can be edited will display the Edit command on Line 2 of the LCD. You can press the ↵ key to modify the parameter.

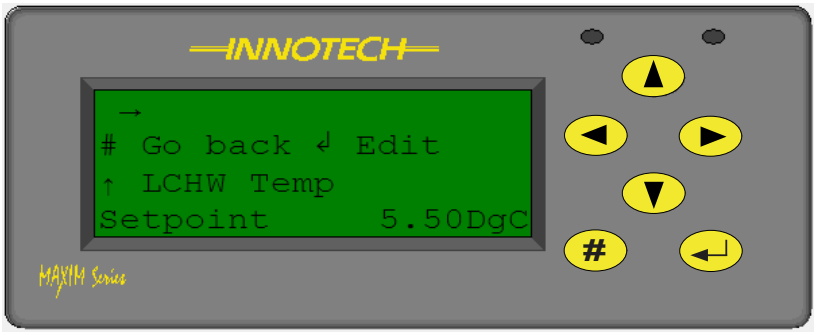

Figure 3-2 Typical Adjustable Watch Page

The table below shows the Maximum numbers of Watches pages that can be displayed on each controller described in this section.

Table 3-1 Maximum Number of Pages and Watches

Digital Controller	Maximum Number of Pages	Maximum Watches per Page	Maximum Flash Watches per Page
MAXIM Series I	5	5	5
MAXIM Series II	5	5	5
MAXIM Series III and 1010	8	10	10
MicroMAX, VAVMax, & MiniMAX	5	5	5

3-2.3 Status Menu - Alarms

Alarms on MAXIM Series Digital Controllers can be programmed to notify the operator via the HMI when a certain event occurs. These can be utilised to notify you of any critical events that are being monitored. Alarms can be configured with the Innotech MAXCon software. Alarms can either appear constantly on the controller LCD, or if more than one alarm is triggered rotate every 5 seconds. How these are displayed will depend on how the alarms have been configured. The Maximum number of alarms that can be configured on each controller is shown in Table 3-2.

Table 3-2 Maximum Number of Alarms

Digital Controller	Maximum Number of Alarms Per Device
MicroMAX, VAVMax & MiniMAX (MM02)	8
MAXIM Series I, II & MiniMAX (MM01)	16
MAXIM Series III and 1010	32

An alarm is indicated on the Home Page or default display by a flashing Alarm LED and an Alarm symbol appearing in the top right hand corner of the LCD. The description of the alarm is only displayed if the display option has been checked when configuring alarms with MAXCon software. The alarm description will be displayed on Line 3 and Line 4 of the LCD.

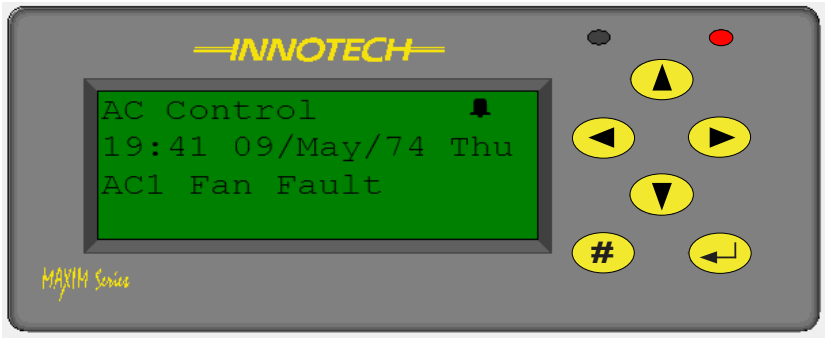

Figure 3-3 Typical Flash Page Alarm

Alternatively you can also view Alarms from their respective Alarms page found under the Status→Alarms menu. Once you are on the Alarms page the following information will be displayed on the LCD:

Line 1: Displays the Alarm Message.
Line 2: Displays what keys are available to execute commands specific to the indicated alarm page.
Lines 3 & 4: Display the time and date the alarm was activated and deactivated.

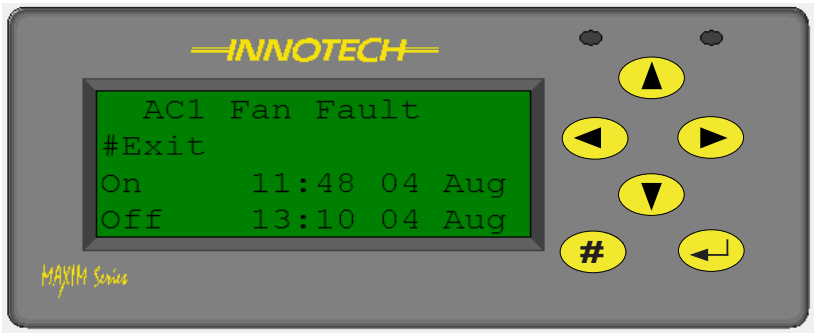

Figure 3-4 Typical Alarm Page

3-2.4 Status Menu - IO Values

The IO Values menu displays the input and output values directly on the controller LCD.

The first page viewable under the IO Values sub-menu is the Universal Inputs page as shown in Figure 3-5.

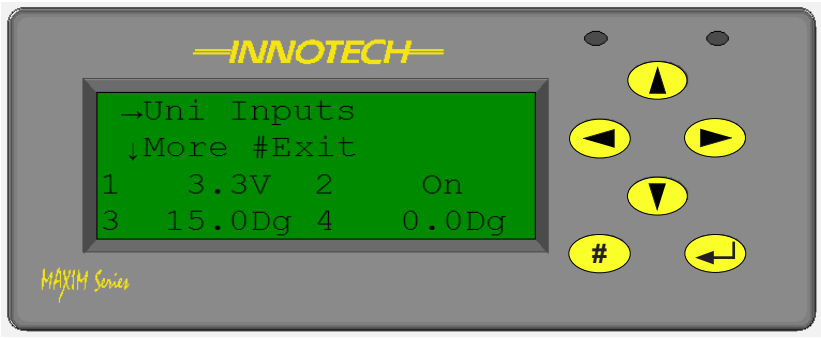

Figure 3-5 Universal Inputs Page

You can use the ▼ or ▲ keys to view the other Universal Inputs in this menu. Press the # to return to the previous menu. Use the ◄ and ► keys to scroll through the other inputs and outputs that are currently configured.

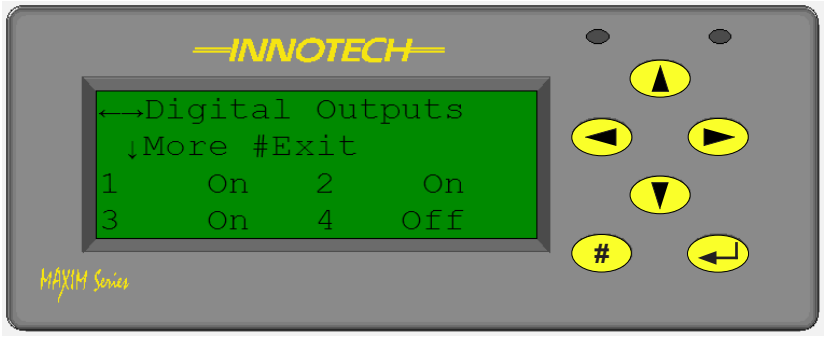

Figure 3-6 Digital Outputs Page

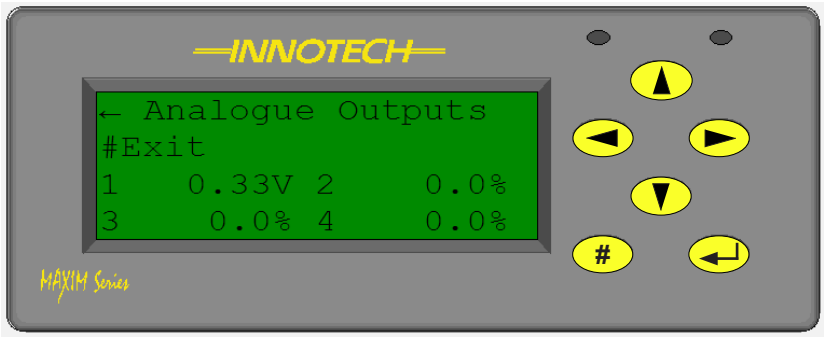

Figure 3-7 Analogue Outputs Page

In the IO Values sub-menu you can also view any values that have been "forced" to a different state and the value has been modified. Any parameter that has been "forced" and changed to a different value will be flashing as you view them in the IO Values sub-menu. Please Refer to Section 3-4.3 for more information.

On the MAXIM Series controllers that have TRIAC outputs, you can view these by pressing the ◄ and ► keys until you can see Triac Outputs. On the VAVMax controllers you will also see the Flow/Pressure Inputs as you scroll through (VAVMax HMI is only accessible through the CT01 Commissionning Tool or MP01 MiniPort).

3-2.5 Status Menu - System Info

The Sys Info menus display important system information about the MAXIM Series controller and can be useful in checking various controller parameters when a problem occurs. You can also view the current firmware version of the controller.

The first page under the System Info sub-menu displays the current firmware version and uptime of the controller as shown in Figure 3-8. The uptime indicates the running time since the last controller reset. You can press the ▼ and ▲ keys to view other system information. Press the # to return to the previous menu.

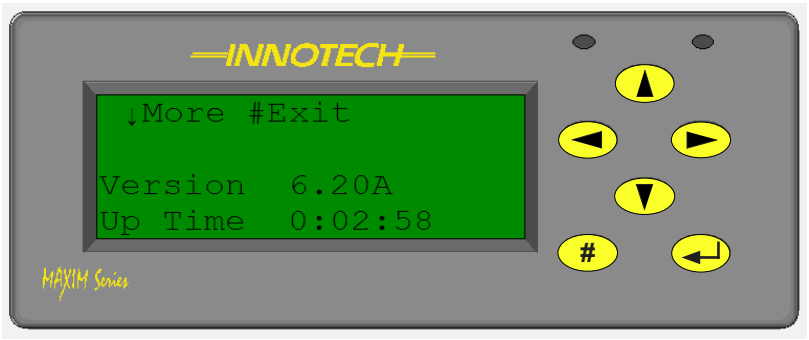

Figure 3-8 System Info - Firmware Version

The second page under the System Info sub-menu displays whether any data is being logged by the controller and the number of communication ports. As illustrated below in Figure 3-9, the logging feature is available on the controller and you can see that there are 2 communication ports (NET and GLOBAL). A MAXIM Series I controller would only display as having 1 Port as it contains only a single RS232 Port.

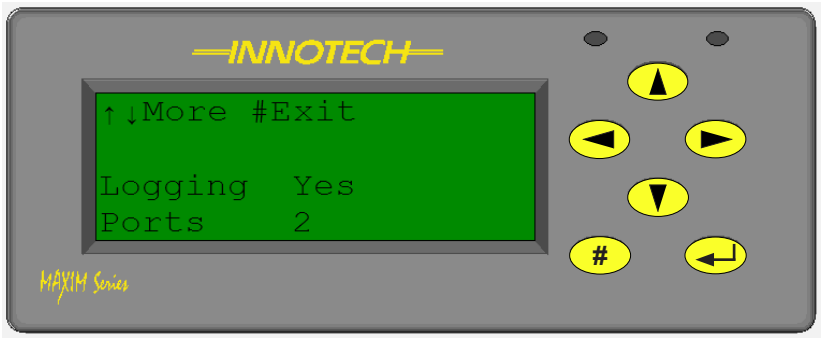

Figure 3-9 System Information - Data Logging / Communication Ports

The information displayed on the third page of the System Info sub-menu varies according to the type of controller. On the MAXIM I, II, III, 1010 and MiniMAX (MM01) controllers you will see the Network address of the controller as shown in Figure 3-10. On the MicroMAX, VAVMax, and MiniMAX (MM02) controllers you will see the MAC address as illustrated in Figure 3-11, if the controller is installed on the sub-system network through the Sub-system Gateway (IG01).

Please not that you will ONLY see the MAC address on controllers that are installed on the sub-system network through the Sub-system Gateway (IG01).

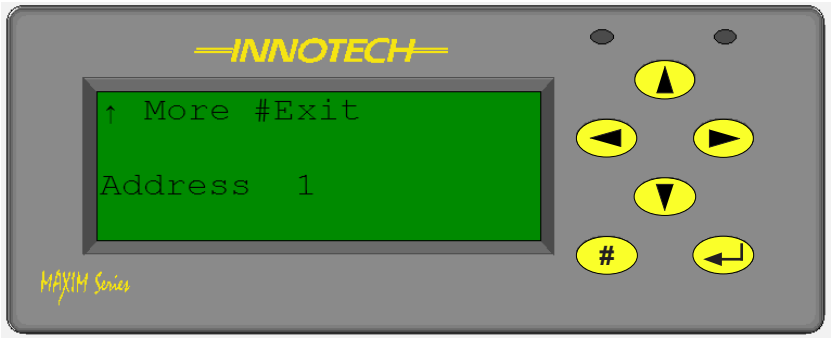

Figure 3-10 System Information - Network Address

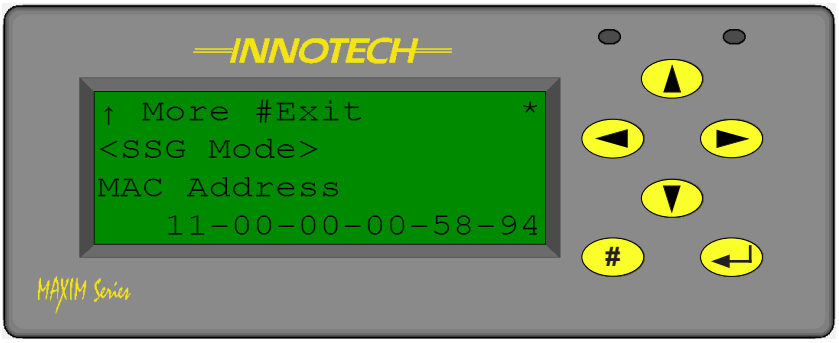

Figure 3-11 System Information - MAC Address

Table 3-3 shows how each controller can be assigned a network address depending on whether it is installed on a primary network or a secondary network with a Sub-system Gateway (IG01).

Table 3-3 Network Addressing for MAXIM Series Digital Controllers

MAXIM Controller	Addressing
MAXIM I	Stand-alone controller - always assigned a network address of 1.
MAXIM II	User assigned - can be assigned any address between 1 - 128.
MAXIM III	User assigned - can be assigned any address between 1 - 128.
MAXIM 1010	User assigned - can be assigned any address between 1 - 128.
MicroMAX	User assigned - can be assigned any address between 1-128 on primary network. SSG assigned - assigned an address by Sub System Gateway (IG01).
VAVMax	User assigned - can be assigned any address between 1-128 on a stand -alone network. Automatically assigned an address by Sub System Gateway (IG01).
MiniMAX (MM01)	User assigned - can be assigned any address between 1-128 on a stand-alone network. User assigned - can be assigned any address between 1-128.
MiniMAX (MM02)	User assigned - can be assigned any address between 1-128 on a stand-alone network. Automatically assigned an address by Sub System Gateway (IG01)
Sub-System Gateway (IG01)	User assigned - can be assigned any address between 1-128.

3-3 Clock Menu

3-3.1 Overview

This section of the document provides information on accessing and navigating through the Clock Menu on the MAXIM Series controllers. The Clock Menu can be accessed from the Home page by pressing the ↵ key. Next press the ► key to highlight the Clock menu; it will begin flashing when highlighted. Press the ↵ key to select the Clock menu. In the Clock menu you are presented with three sub-menu options. Each of these sub-menus is described in detail in the following sub-sections.

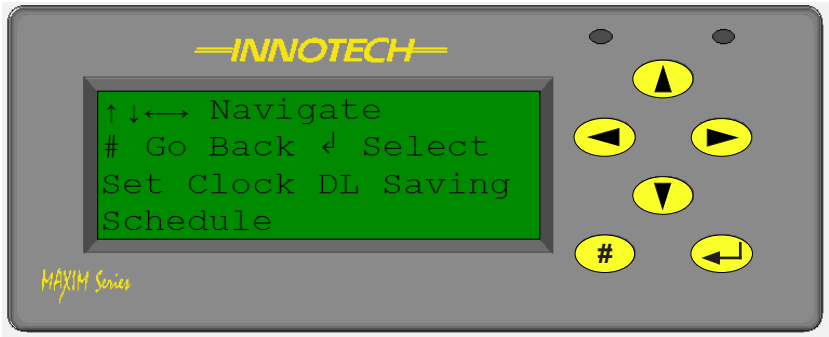

Figure 3-12 Clock Menu

3-3.2 Clock - Set Clock

The Set Clock sub-menu allows you to set the Time and Date on the controller. Once you are in the Clock menu, you will notice that the Set Clock option is flashing. You can access this option by pressing the ↵ key. The System Time will now be displayed on the LCD.

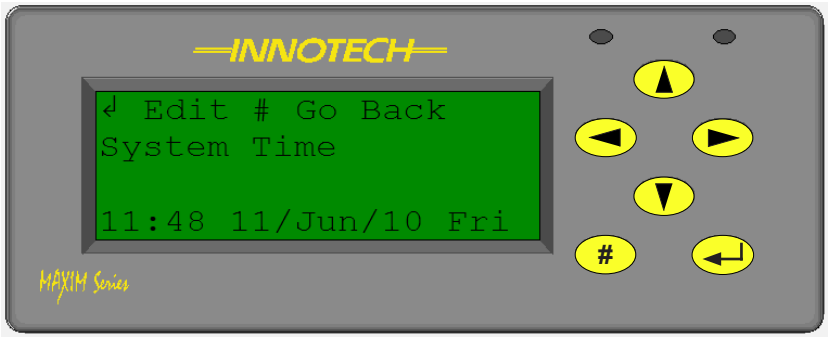

Figure 3-13 System Date and Time

The MAXIM Series controllers are factory configured for Australian Timezone. It may be necessary to configure the Time and Date according to your location.

To adjust the System Time and Date press the ↵ key and now you will see the Hours flashing. Use the ▼ and ▲ keys to adjust the value for the hours. Once the hours have been adjusted, you can scroll through the date, month, and year parameters by using the ◄ and ► keys. Use the ▼ and ▲ keys to edit the parameters as desired. Once the System Time and Date have been configured correctly, press the ↵ key to save your configuration. All changes can be aborted by pressing the # key. Pressing the # key again will return you to the previous menu.

3-3.3 Clock - DL Saving

The DL Saving sub-menu can be accessed from the Clock Menu. Once you have navigated to the Clock Menu, press the ► key and you will notice DL Saving will begin to flash. Press the ↵ key to view the status of the Daylight Savings feature, as illustrated in Figure 3-14 below.

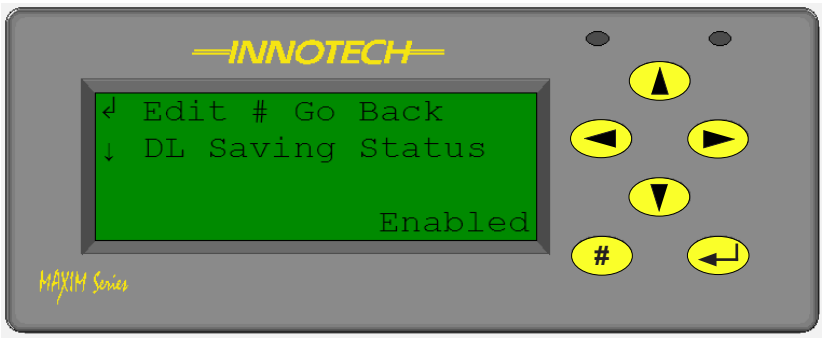

Figure 3-14 Status of Daylight Savings Feature

Please note that the DL Saving feature is NOT available on MicroMAX, VAVMax, and MiniMAX I controllers.

To enable or disable Daylight Savings on MAXIM Series controllers with this feature, press the ↵ key again and the current status will begin flashing. Use the ▼ and ▲ keys to either enable or disable this feature as desired.

You can scroll through the various options available by using the ▼ and ▲ keys. These will allow you to configure the DL Saving Start and DL Saving Stop parameters. Please remember that the Daylight Savings feature must be enabled for these parameters to be active.

The Daylight Savings feature operates by configuring the occurrence (First, Second, Third, Fourth, or Last); Day of the Week (Monday - Sunday); and the Month (January - December). To configure the DL Saving Start parameter use the ▼ and ▲ keys to navigate to the DL Saving Start parameter and press the ↵ key to select it. You will see that First will begin to flash.

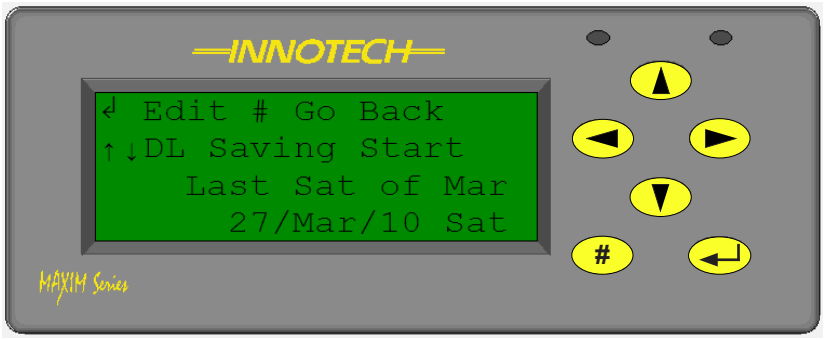

Figure 3-15 Configuring DL Saving Start

Configuring Daylight Saving settings on a MAXIM Series controllers consists of the following settings:

- Daylight Saving Start Day and Month
- Daylight Saving Stop Day and Month

Each setting is configured by using the ↵ key to begin editing the start day or stop day. The ▼ and ▲ keys are used to to change each parameter within the settings. The ◄ and ► keys are used to navigate between parameters. Using the # key will undo any changes while the ↵ key will save the settings. When you have completed configuring all necessary variables press the # key as necessary to return to the previous menu. Continuously pressing the # key will return you to the main menu.

Please note that the Daylight Savings time is configured with a one hour Universal Time Offset and cannot be changed.

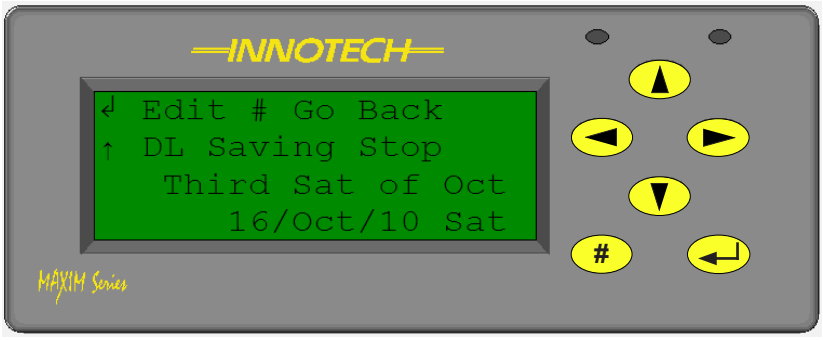

Figure 3-16 Configuring DL Saving Stop

3-3.4 Clock - Schedule

The Clock - Schedule sub-menu allows you to directly edit and modify the schedule blocks that have been programmed in the controller configuration using the HMI on the controller as an alternative method to using software. A schedule allows you to turn the output of the corresponding schedule block (Daily, Weekly, and Yearly) either ON or OFF based on the time combinations specified for each schedule block in the controller configuration file.

Please note that only existing schedules can be edited or modified; schedules cannot be added to the configuration or be deleted from the configuration using the HMI on the controller.

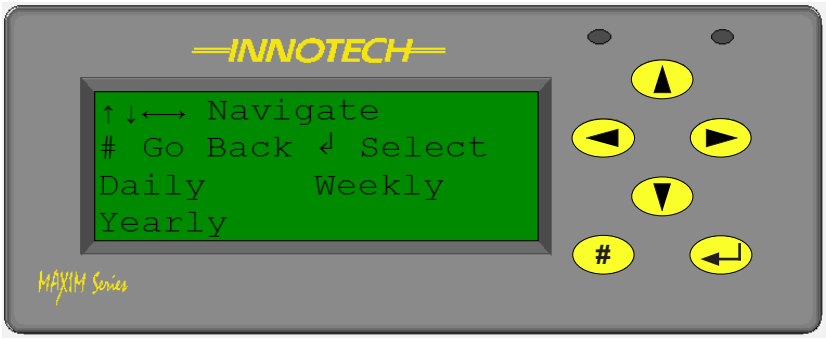

Figure 3-17 Clock - Schedule Menu

You are presented with three options in the Clock - Schedule sub-menu. The variables that you can configure in the menu depends upon the configuration that is currently loaded on the controller. A typical MAXIM Series Controller configuration can be programmed with the Daily, Weekly, or Yearly Schedule blocks. Each option is described in detail in the following paragraphs.

The Daily Schedule block in a MAXIM Series Controller configuration performs functions similar to a daily time clock. You can specify up to 8 Start/Stop pairs per day with an accuracy or resolution of one minute. Once you have configured the Daily Schedule block it is repeated on a daily basis.

The Weekly Schedule block in a configuration performs functions similar to a seven day time clock. You can specify up to 16 Start/Stop pairs per week with an accuracy or resolution of one minute on MAXIM Series I, II, MicroMAX, VAVMax, and MiniMAX Digital controllers. The MAXIM Series III and 1010 controllers allow up to 32 Start/Stop pairs per week.

The Yearly Schedule block provides an override function for programing holidays or exceptions. The schedule can contain up to the maximum number of individual time periods allowed (depending on the primary device selected) and output a state of ON or OFF over a 365 day period (366 days in leap years). The maximum number of time periods allowed on the MAXIM Series I, II, MicroMAX, VAVMax, and MiniMAX Digital Controllers is 16. The MAXIM Series III and 1010 controllers allow a maximum of 32 individual time periods. However only the first 16 of these can be set to ON events. The Yearly Schedule itself may be overridden with an input, providing you with the ability to chain together multiple Yearly schedules as necessary.

The Yearly Schedule block is also referred to as the Exception Schedule in the Innotech MAXCon software.

Selecting the Daily, Weekly, or Yearly Schedule allows you to Add, Edit, or Delete the date or time of any existing schedules currently programmed on the controller. These are described in detail in the subsequent sub-sections.

3-3.4.1 Clock - Schedule - Daily - Add Daily

The Add Daily sub-menu allows you to add an On/Off time combination to a schedule directly using the HMI on the controller. Please remember that the you can only add combinations up to the Maximum limit for the particular controller. You can access the Add Daily sub-menu from the Clock→Schedule→Daily menu.

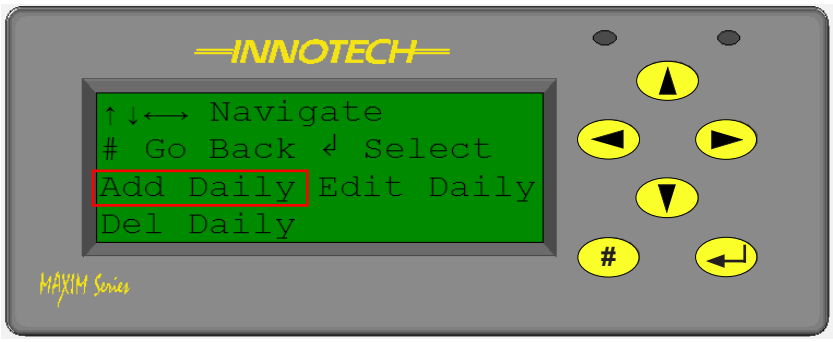

Figure 3-18 Daily Menu

You will notice that Add Daily will be flashing and pressing the ↲ key will allow you to add additional On/Off combinations up to the maximum limit allowed. Use the ◄ and ► keys to scroll through the different schedules programmed on the controller. The ▼ and ▲ keys allow you to scroll through all of the On/Off combinations for that particular schedule. As mentioned in the previous section, the HMI on the controller only allows you to add combinations to existing schedules that have been already programmed. You cannot add new schedules or delete existing schedules.

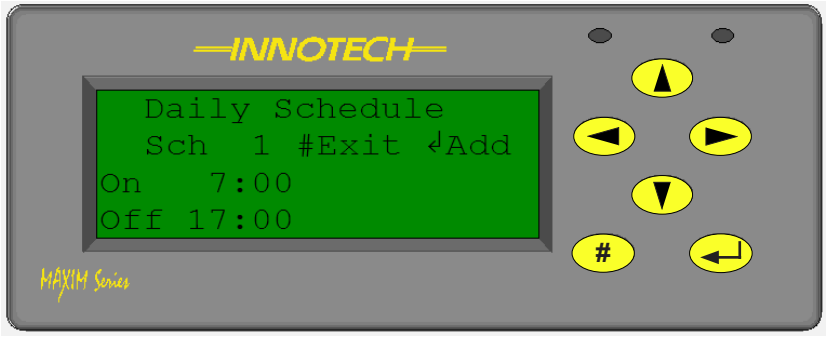

Figure 3-19 Daily Schedule - Add

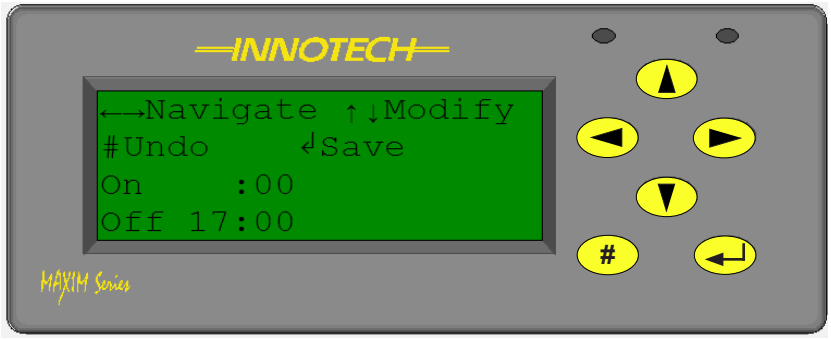

Figure 3-20 Daily Schedule - Save

Once you are at the Add screen press the ↵ key and you will see that the Hour variable for the On time will begin to flash as shown in Figure 3-19. Use the ◄ and ► keys to scroll through the Hours and Minutes variables for both the On time and Off time settings. Use the ▼ and ▲ keys to modify the variable that is flashing. When the correct time has been configured use the ↵ key to save your changes. Pressing the # key will abandon all changes and return you to the previous menu. To confirm that your changes have been saved, navigate to the Clock→Schedule→Daily→Edit Daily menu to view or edit the current settings. This menu is described in detail in the next section.

3-3.4.2 Clock - Schedule - Daily - Edit Daily

Whereas the Add Daily sub-menu only allows you to Add new On/Off combinations to existing schedules, the Edit Daily sub-menu allows you to edit or modify the existing On/Off combinations already programmed on the controller. The Edit Daily sub-menu can be accessed from the Clock→Schedule→Daily menu.

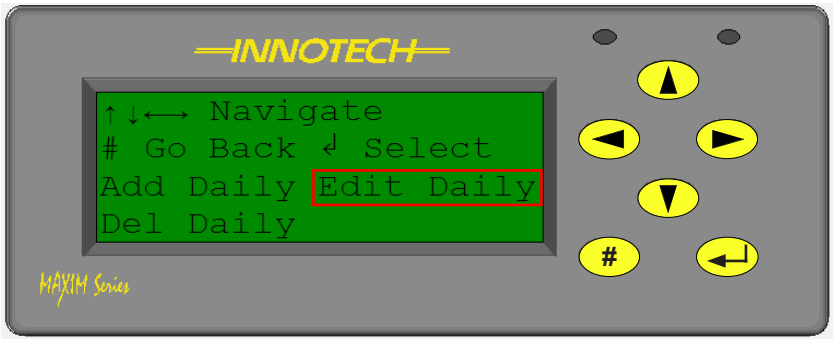

Figure 3-21 Edit Daily Menu

Use the ► key to highlight Edit Daily and press the ↵ key to view the current schedules. Use the ◄ and ► keys to view the different Daily schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations for that particular schedule.

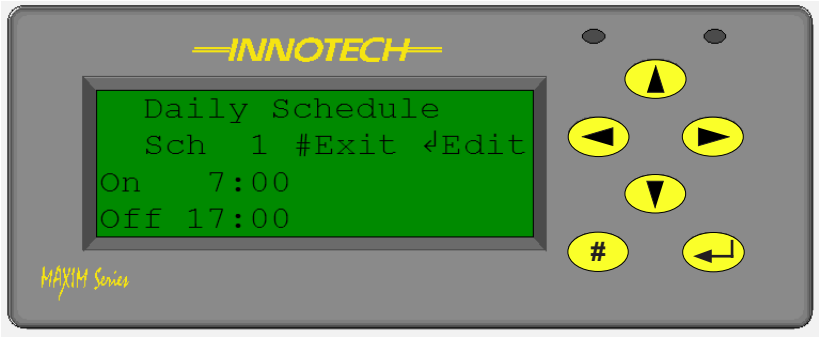

Figure 3-22 Edit Daily Schedule On/Off Time

Once the schedule and On/Off combination you would like to modify is displayed on the LCD, press the ↵ key to input your changes. You will see the Hour variable begin to flash for the On time. Use the ▼ and ▲ keys to change this variable as desired. Use the ◄ and ► keys to scroll through the other parameters and modify accordingly. Once you have correctly configured the On and Off time for that schedule press the ↵ key to save your changes as illustrated in Figure 3-23. Pressing the # key will abandon all changes and return you to the previous menu.

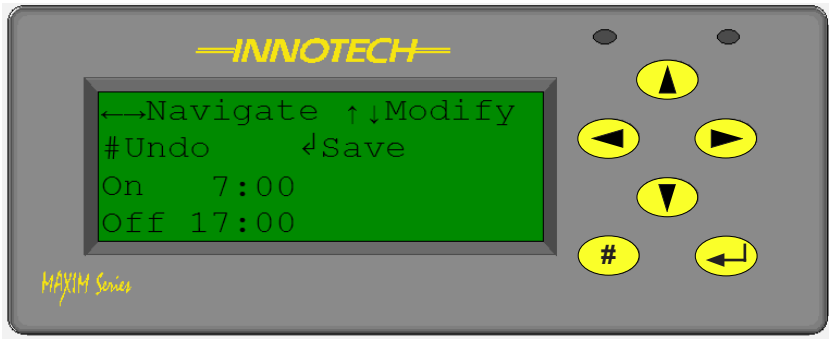

Figure 3-23 Saving Edited Schedules

3-3.4.3 Clock - Schedule - Daily - Del Daily

The Del Daily sub-menu allows you to delete On/Off time combinations from the schedules that have been programmed on the controller. The Del Daily sub-menu can be accessed from the Clock→Schedule→Daily menu. Use the ▼ key to highlight Del Daily and press the ↵ key to select it as shown in Figure 3-24.

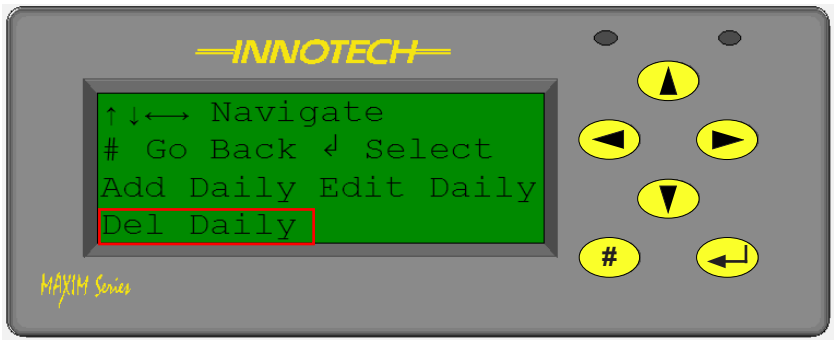

Figure 3-24 Del Daily Menu

Use the ◄ and ► keys to view the different Daily schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations that have been programmed on the controller. Once the schedule and On/Off combination you would like to delete is displayed on the LCD, press the ↵ key to delete this schedule. Press the # key to exit and return to the Daily menu.

Please note that once an On/Off time combination has been deleted from the schedule unintentionally, there is no way to retrieve it. It must be entered again from the Add Daily sub-menu as described in Section 3-3.4.1.

3-3.4.4 Clock - Schedule - Weekly - Add Wkly

The Add Wkly sub-menu allows you to add an On/Off time combination to a schedule directly using the HMI on the controller. Please remember that the you can only add combinations of clock schedules up to the maximum limit for the particular controller. The Add Wkly sub-menu can be accessed from the Clock→Schedule→Weekly menu.

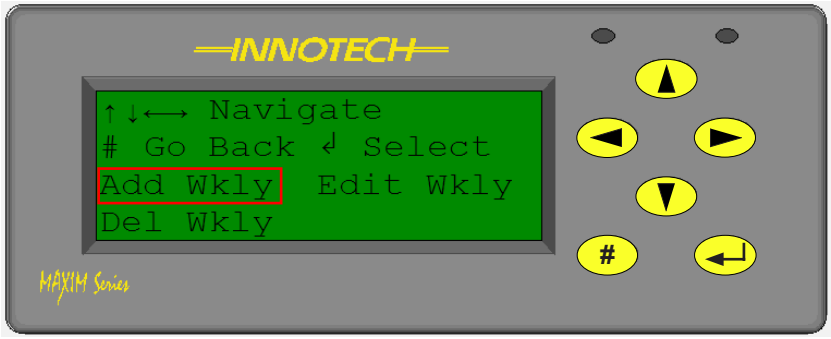

Figure 3-25 Weekly Menu

You will notice that Add Wkly will be flashing and pressing the ↲ key will allow you to add additional On/Off combinations up to the maximum limit allowed. Use the ◄ and ► keys to scroll through the different schedules programmed on the controller. The ▼ and ▲ keys allow you to scroll through all of the On/Off combinations for that particular schedule. As mentioned in the previous section, the HMI on the controller only allows you to add combinations to existing schedules that have been already programmed. You cannot add new schedules or delete existing schedules.

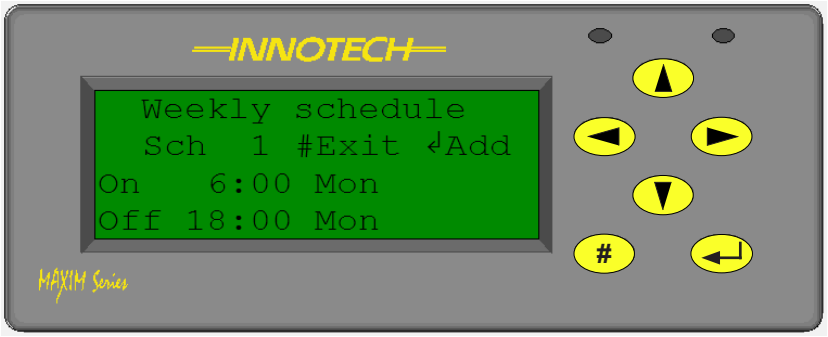

Figure 3-26 Weekly Schedule - Add

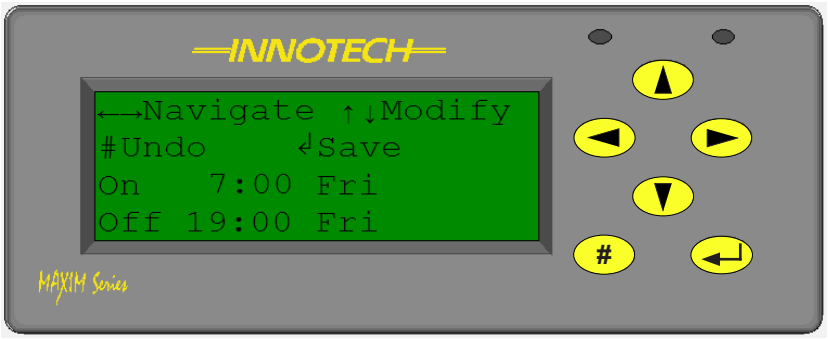

Figure 3-27 Weekly Schedule - Save

Once you are at the Add screen press the ↵ key and you will see that the Hour variable for the On time will begin to flash as shown in Figure 3-27 on the previous page. Use the ◄ and ► keys to scroll through the Hours and Minutes variables for both the On time and Off time settings. Use the ▼ and ▲ keys to modify the variable that is flashing. When the correct time has been configured use the ↵ key to save your changes. Pressing the # key will abandon all changes and return you to the previous menu. To confirm that your changes have been saved, navigate to the Clock→Schedule→Weekly→Edit Weekly menu to view or edit the current settings. This menu is described in detail in the next section.

Please note that the 7 day clock begins on Sunday morning at 00:00AM and ends on Saturday at 11:59PM.

3-3.4.5 Clock - Schedule - Weekly - Edit Wkly

Whereas the Add Wkly sub-menu only allows you to Add new On/Off combinations to existing schedules, the Edit Wkly sub-menu allows you to edit or modify the existing On/Off combinations already programmed on the controller. The Edit Daily sub-menu can be accessed from the Clock→Schedule→Weekly menu.

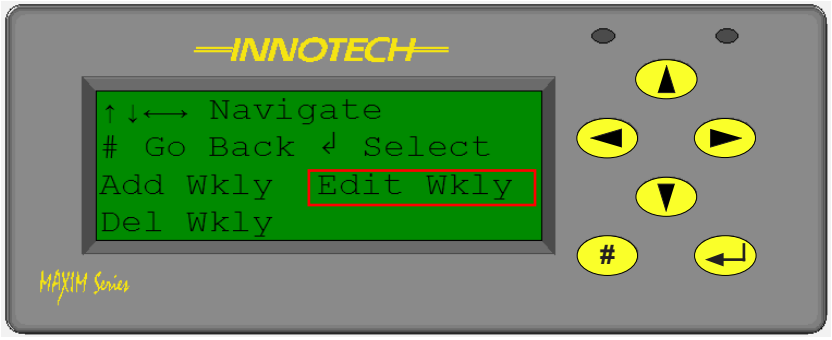

Figure 3-28 Edit Weekly Menu

Use the ► key to highlight Edit Wkly and press the ↵ key to view the current schedules. Use the ◄ and ► keys to view the different Weekly schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations for that particular schedule.

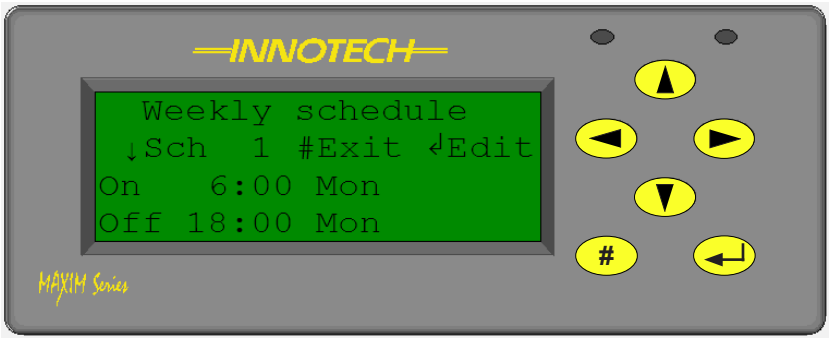

Figure 3-29 Edit Weekly Schedule On/Off Time

Once the schedule and On/Off combination you would like to modify is displayed on the LCD, press the ↵ key to input your changes. You will see the Hour variable begin to flash for the On time. Use the ▼ and ▲ keys to change this variable as desired. Use the ◄ and ► keys to scroll through the other parameters and modify accordingly. Once you have correctly configured the On and Off time for that schedule press the ↵ key to save your changes. Pressing the # key will abandon all changes and return you to the previous menu.

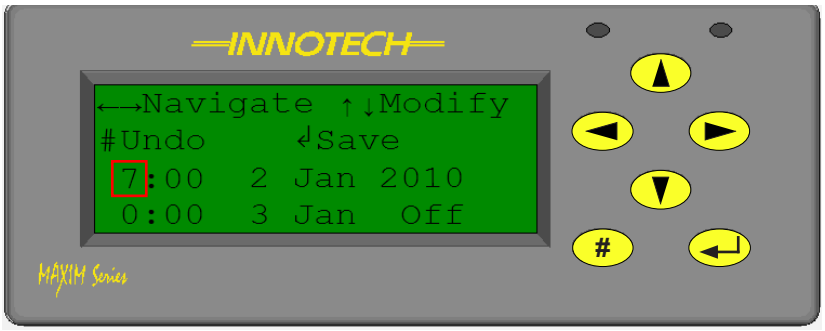

Figure 3-30 Saving Edited Schedules

3-3.4.6 Clock - Schedule - Weekly - Del Wkly

The Del Wkly sub-menu allows you to delete On/Off time combinations from the schedules that have been programmed on the controller. The Del Wkly sub-menu can be accessed from the Clock→Schedule→Weekly menu. Use the ▼ key to highlight Del Wkly and press the ↵ key to select it as shown in Figure 3-31.

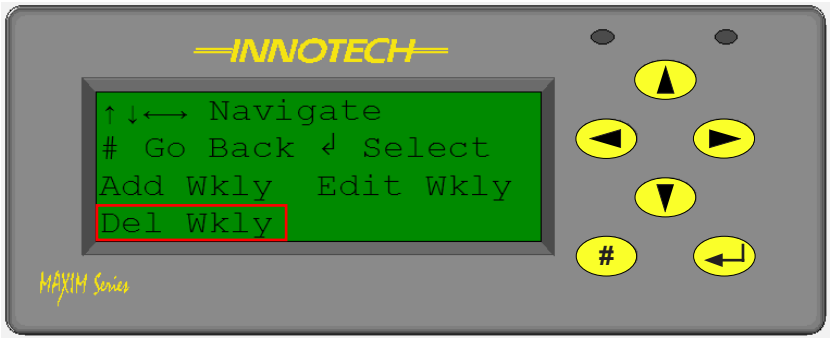

Figure 3-31 Del Weekly Menu

Use the ◄ and ► keys to view the different Weekly schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations that have been programmed on the controller. Once the schedule and On/Off combination you would like to delete is displayed on the LCD, press the ↵ key to delete this schedule. Press the # key to exit and return to the Weekly menu.

Please note that once an On/Off time combination has been deleted from the schedule unintentionally, there is no way to retrieve it. It must be entered again from the Add Wkly sub-menu.

3-3.4.7 Clock - Schedule - Weekly - Edit Wkly - 24 HR Operation

If you want to enable 24HR operation for a particular site or equipment, you can do this from the Edit Wkly sub-menu. The Edit Daily sub-menu can be accessed from the Clock→Schedule→Weekly menu.

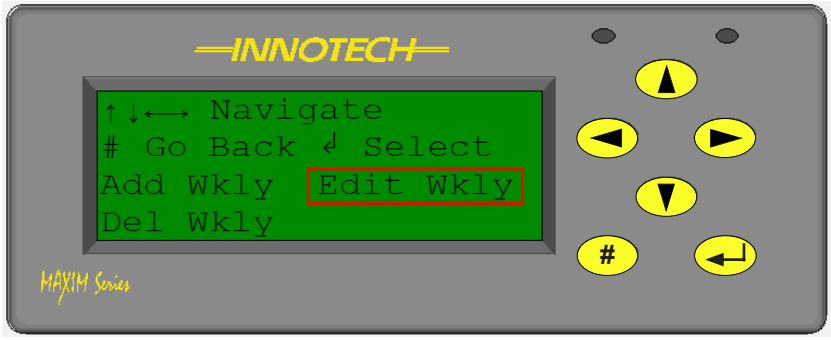

Figure 3-32 Edit Wkly Menu

Use the ► key to highlight Edit Wkly and press the ↲ key to view the current schedules. Use the ◄ and ► keys to view the different Weekly schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations for that particular schedule.

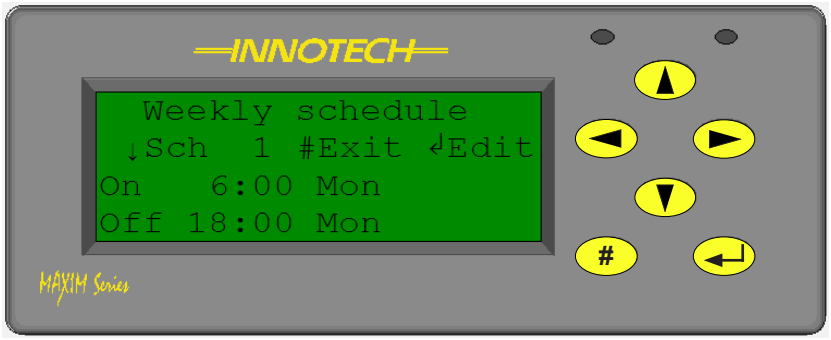

Figure 3-33 Edit Weekly Schedule On/Off Time

To begin editing a schedule for 24HR operation, press the ↲ key and you will see the hour value for On time begin to flash. Use the ▼ or ▲ key to set the hours to 0. Press the ► to highlight and adjust the minutes to 00. Press the ► key to highlight the day and change it to Sun using the ▼ or ▲ keys. Press the ► to highlight the hour value for Off time and follow the same process to set this to 0. Press the ► key to highlight the minutes and adjust to 00. Press the ► to highlight the day and change it to Mon. Press the ↲ key to save your changes.

Please note that the 7 day clock begins on Sunday morning at 00:00 and ends on Saturday at 23:59 midnight. So it is important that the above instructions are followed in order to correctly configure 24HR operation for your equipment.

3-3.4.8 Clock - Schedule - Yearly - Add Yrly

The Add Yrly sub-menu allows you to add an On/Off time combination to a schedule directly using the HMI on the controller. Please remember that the you can only add combinations up to the maximum limit for the particular controller. You can access the Add Yrly sub-menu from the Clock→Schedule→Yearly menu.

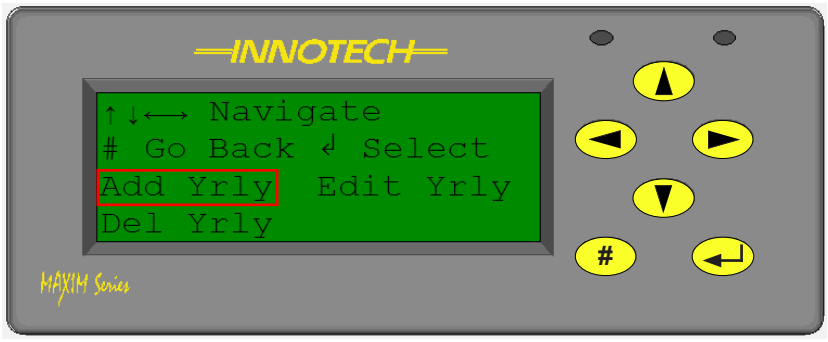

Figure 3-34 Yearly Menu

You will notice that Add Yrly will be flashing and pressing the ↲ key will allow you to add additional On/Off combinations up to the maximum limit allowed. Use the ◄ and ► keys to scroll through the different schedules programmed on the controller. The ▼ and ▲ keys allow you to scroll through all of the On/Off combinations for that particular schedule. As mentioned in the previous section, the HMI on the controller only allows you to add combinations to existing schedules that have been already programmed. You cannot add new schedules or delete existing schedules.

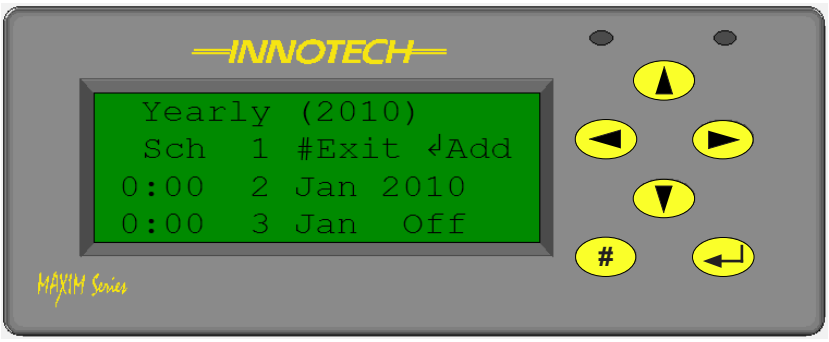

Figure 3-35 Yearly Schedule - Add

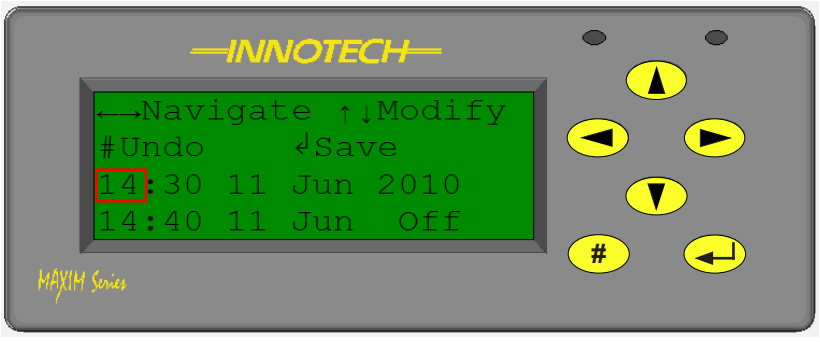

Figure 3-36 Yearly Schedule - Save

Once you are at the Add screen press the ↵ key and you will see that the Hour variable for the On time will begin to flash as shown in Figure 3-36. Use the ◄ and ► keys to scroll through the Hours and Minutes variables for both the On time and Off time settings. Use the ▼ and ▲ keys to modify the variable that is flashing. When the correct time has been configured use the ↵ key to save your changes. Pressing the # key will abandon all changes and return you to the previous menu. To confirm that your changes have been saved, navigate to the Clock→Schedule→Yearly→Edit Yrly menu to view or edit the current settings. This menu is described in detail in the next section.

3-3.4.9 Clock - Schedule - Yearly - Edit Yrly

Whereas the Add Yrly sub-menu only allows you to Add new On/Off combinations to existing schedules, the Edit Yrly sub-menu allows you to edit or modify the existing On/Off combinations already programmed on the controller. The Edit Yrly sub-menu can be accessed from the Clock→Schedule→Yearly menu.

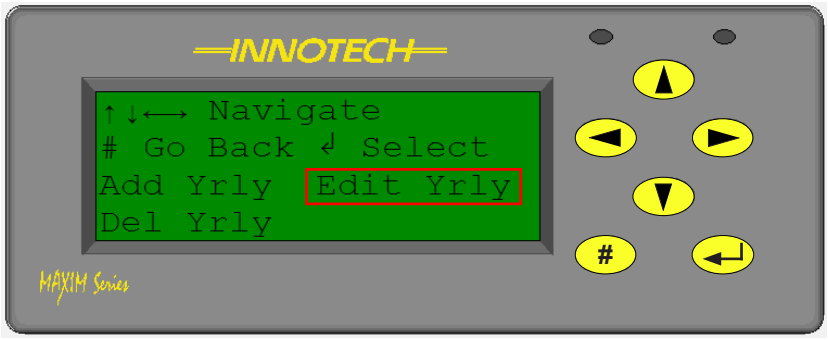

Figure 3-37 Edit Yrly Menu

Use the ► key to highlight Edit Yrly and press the ↵ key to view the current schedules. Use the ◄ and ► keys to view the different Yearly schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations for that particular schedule.

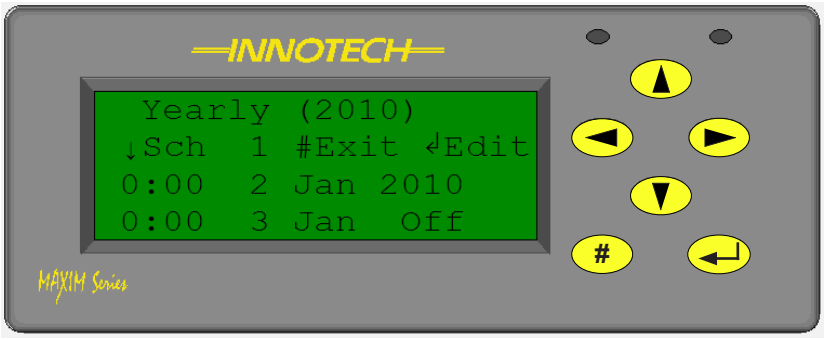

Figure 3-38 Edit Yearly Schedule On/Off Time

Once the schedule and On/Off combination you would like to modify is displayed on the LCD, press the ↵ key to input your changes. You will see the Hour variable begin to flash for the On time. Use the ▼ and ▲ keys to change this variable as desired. Use the ◄ and ► keys to scroll through the other parameters and modify accordingly. Once you have correctly configured the On and Off time for that schedule press the ↵ key to save your changes. Pressing the # key will abandon all changes and return you to the previous menu.

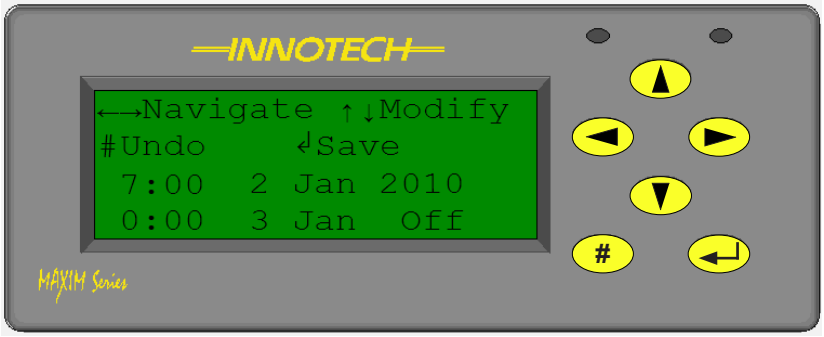

Figure 3-39 Yearly Schedule - Save After Editing

3-3.4.10 Clock - Schedule - Yearly - Del Yrly

The Del Yrly sub-menu allows you to delete On/Off time combinations from the schedules that have been programmed on the controller. The Del Yrly sub-menu can be accessed from the Clock→Schedule→Yearly menu. Use the ▼ key to highlight Del Yrly and press the ↵ key to select it as shown in Figure 3-40.

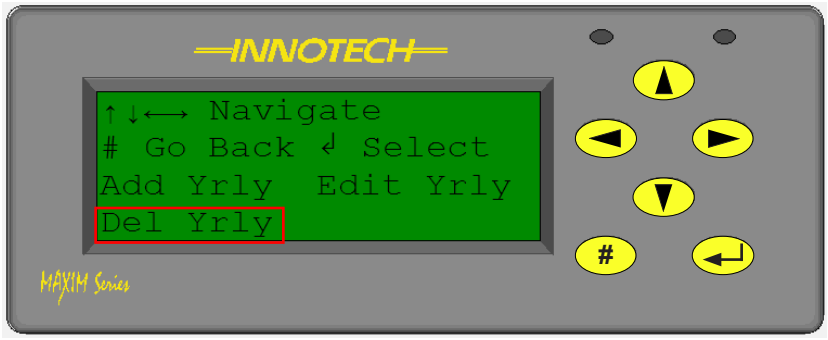

Figure 3-40 Del Yrly Menu

Use the ◄ and ► keys to view the different Yearly schedules that have been programmed on the controller. You can also use the ▼ and ▲ keys to scroll through all the On/Off combinations that have been programmed on the controller. Once the schedule and On/Off combination you would like to delete is displayed on the LCD, press the ↵ key to delete the On/Off combination currently displayed on the LCD. Press the # key to exit and return to the Yearly menu.

Please note that once an On/Off time combination has been deleted from the schedule unintentionally, there is no way to retrieve it. It must be entered again from the Add Yrly sub-menu.

3-4 Setup Menu

3-4.1 Overview

The Setup Menu is where you can view and retrieve information that has been configured on the controller. This is where you can view and scroll through Watches that have been configured, I/O information showing all of the inputs and outputs in the controller configuration, and the PID Block settings and variables that may be edited.

Depending on whether you are logged in at the Supervisor level or User level, information in this menu may only be viewable and you may not be able to edit or modify any information. You must have appropriate Access level and log into Supervisor Mode in order to edit or modify the variables or parameters in the Setup Menu.

You can access the Setup Menu from the Navigation Menu. Press the ▼ key from the Navigation Menu to highlight Setup and press the ↵ key to enter the Setup Menu. The sub-menus in the Setup Menu are described in detail in the subsequent sections.

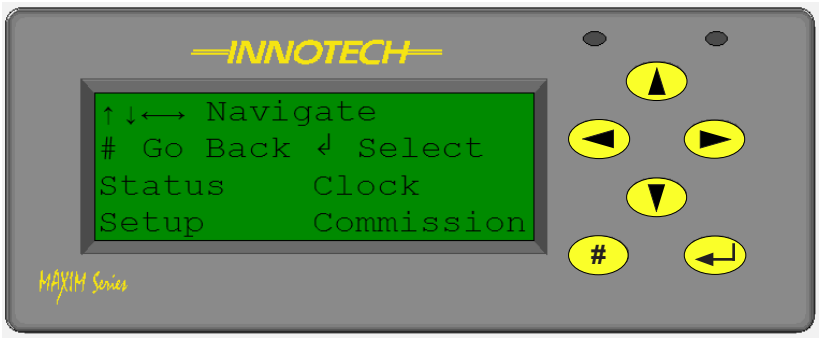

Figure 3-41 Setup Menu

3-4.2 Setup - Var Setup

The VAR Setup sub-menu allows you to view all of the Watches currently configured on the controller. You will also be able to view whether the Watches can be edited or modified. The Var Setup sub-menu can be accessed from the Setup Menu described in the previous section. Once you are in the Setup Menu you will see that Var Setup is flashing. Press the ↵ key to select and enter the Var Setup sub-menu.

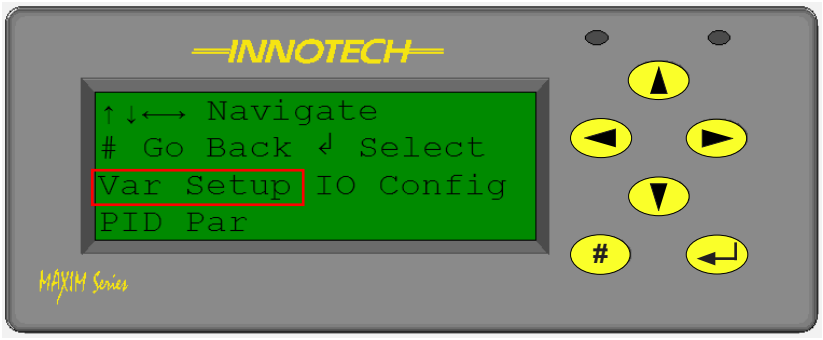

Figure 3-42 Var Setup Menu

Please note the Var Setup Menu is NOT available on the MicroMAX, VAVMax, and MiniMAX (MM02) controllers. The Var Setup Menu is only available on the MAXIM I, MAXIM II, MAXIM III, MAXIM 1010, and MiniMAX (MM01) controllers.

It is important to know that Watches that are configured as status points or measured values cannot be edited or modified. When viewing these Watches on the LCD of the MAXIM Series Controllers this will be signified with an N next to the Edit command on the bottom right corner of the LCD as shown in Figure 3-43.

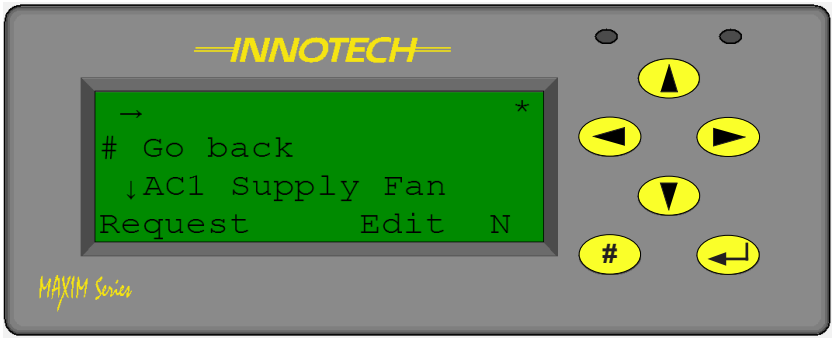

Figure 3-43 Var Setup

In order to edit or modify the Setpoint Watches that show Edit N on the LCD, you must return to the Home Page and log into the controller in **Supervisor Mode**.

The Watches that have been configured to allow editing are signified on the controller LCD with a Y next to the Edit command as shown in Figure 3-44.

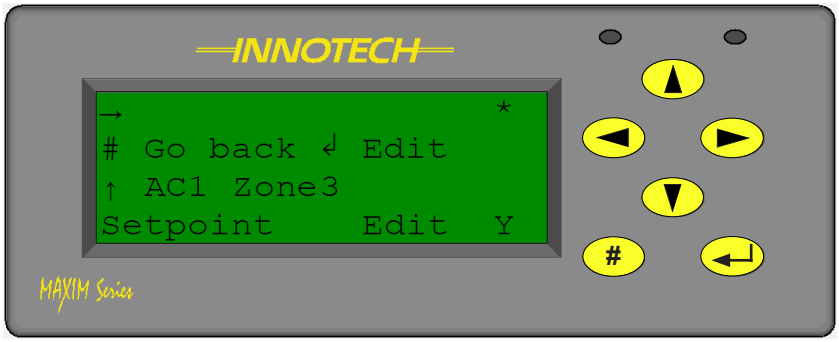

Figure 3-44 Var Setup - Edit

These Watches can be edited and modified directly on the MAXIM Series controllers using the HMI. Please note that these Watches marked with a Y can be edited in either User Mode or Supervisor Mode.

This is a simple mechanism for preventing unauthorised access to critical information on the controller.

Please note that the level of access for Watches and whether they can be edited or modified can only be configured in **Supervisor Mode**.

3-4.3 Setup - IO Configuration

The IO Configuration sub-menu is where you can view all of the Inputs and Outputs that have been configured in a MAXIM Series Digital Controller. This allows you easy access to the controller configuration file without having to transfer the configuration file to the Innotech MAXCon software on a computer. This is very helpful for onsite personnel who may not have access to a computer to view the configuration file and other circumstances. The IO Configuration sub-menu can be accessed from the Setup Menu. Once you are in the Setup Menu press the ► key to highlight IO Config and press the ↵ key to select it, as illustrated in Figure 3-45.

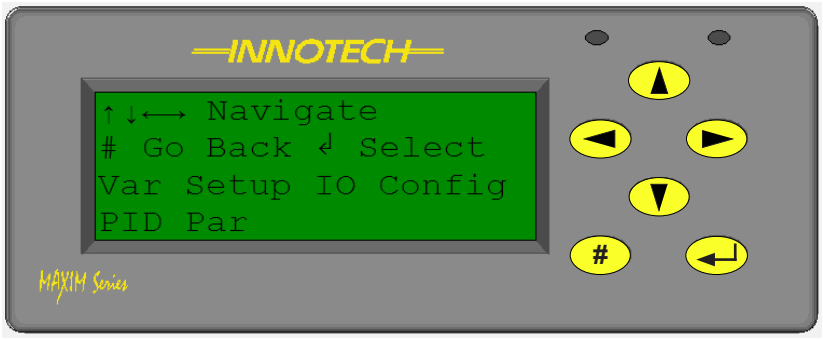

Figure 3-45 IO Config Menu

Depending on the configuration loaded on the MAXIM Series controller you will see a screen similar to the one shown in Figure 3-46. A brief description of each line is below.

Line 1: Shows Input/Output type; whether it is an Input or Output; and the corresponding I/O number
Line 2: Shows what keys are available and their respective functions
Line 3: Shows the type of IO Point
Line 4: Shows whether the current value has been modified by the user. If it has been "forced" to a different value then a Yes is displayed. The current "forced" value is also displayed in the bottom right corner. Otherwise this line will display No and the value will not be displayed.

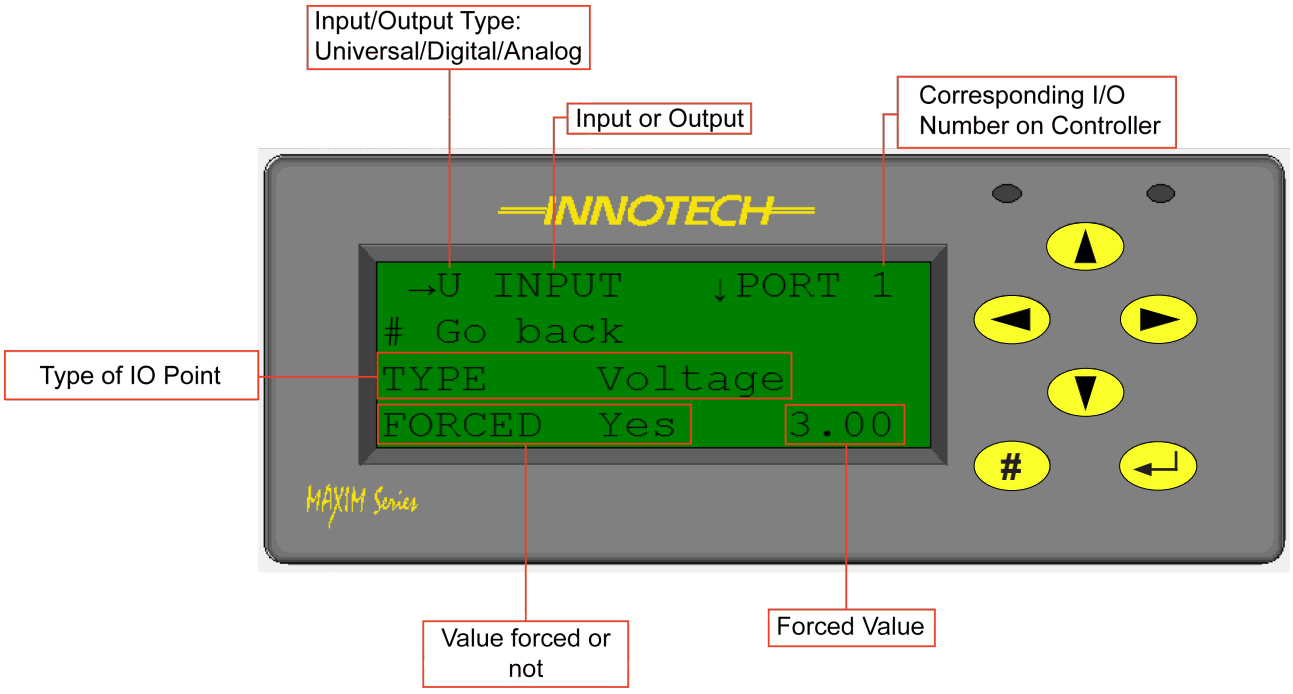

Figure 3-46 IO Config - Description

As shown in Figure 3-46 the first screen displays the Input correlating to Terminal 1 on the MAXIM Series controller. Use the ▼ and ▲ keys to scroll through all of the different input blocks contained in the current configuration file. Press the ► to view the output blocks contained in the current configuration file. Again use the ▼ and ▲ keys to scroll through all of the different output blocks currently contained in the configuration file. If you want to "force" and change an input/output value, scroll to the desired variable and press the ↵ key. When No begins to flash you can use the ▼ and ▲ keys to change it to Yes. Once you see Yes flashing you will notice that a third parameter is now visible and it can be modified. Press the ► key to highlight the value and change it by using the ▼ and ▲ keys. Once the input/output has been correctly configured, press the ↵ key to save your changes and press the # key to exit. At any time you can press the # key to abandon your changes and exit to the previous menu.

In order to "force" and change an input/output value, you must be in Supervisor mode.

When an input/output state is changed from Forced=No to Forced=Yes directly from the HMI of a MAXIM Series controller, the "forced" input/output block will be displayed in red when the controller configuration is uploaded from the controller to the MAXCon software. This is regardless of whether the actual value has changed or not.

To change the value of an already "forced" variable, scroll to the desired variable and press the ↵ key to highlight it. When you see Yes flashing press the ► key to highlight the appropriate variable and use the ▼ and ▲ keys to change the value. Once the variable has been correctly configured, press the ↵ key to save your changes and press the # key to exit. At any time you can press the # key to abandon your changes and exit to the previous menu.

It is important to know that once an input/output state has been "forced" you will not be able to determine the actual value the parameter has been "forced" to in the IO Config sub-menu. The "forced" values can be viewed in the IO Values sub-menu as described in Section 3-2.4. These values will be flashing when viewed in the IO Values sub-menu.

Please remember that on controllers with Universal Inputs/Outputs, these will be displayed on the same screen. You can scroll through all the inputs/outputs by using the ▼ and ▲ keys. On these controllers when viewing the universal inputs/outputs Line 3 on the LCD will show the type of input/output. Use the ◄ and ► keys to scroll through the controller specific inputs and outputs. For example on the VAVMax the TRIAC outputs and the Pressure or Flow input can be viewed by using the ◄ and ► keys as shown in Figure 3-47. You can then use the ▼ and ▲ keys to scroll through the different TRIAC outputs. Follow the previously mentioned instructions to "force" a parameter to a different value.

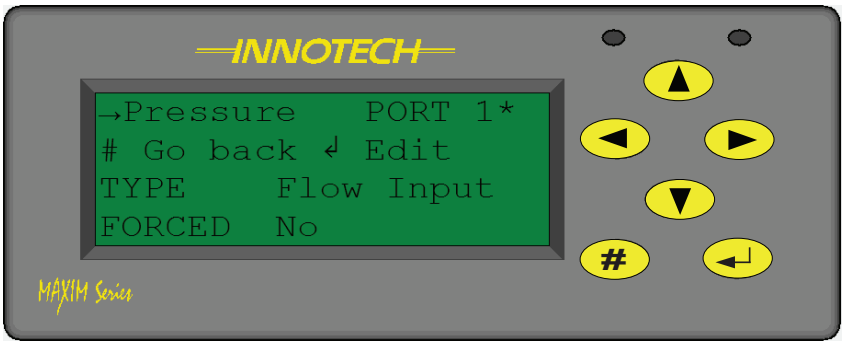

Figure 3-47 Edit Daily Menu

3-4.4 Setup - PID Par

The PID Par sub-menu gives you the ability to view the parameters of the PID Blocks that have been configured on the MAXIM Series controllers. The PID Loop Block is a dual output, proportional plus integral, and derivative control loop. It is one of the primary control blocks used for maintaining constant temperature, humidity, or other controlled variables. The PID Par sub-menu can be accessed from the Setup Menu. From the Setup Menu press the ▼ key to highlight PID Par and press the ↵ key to select it as illustrated in Figure 3-48.

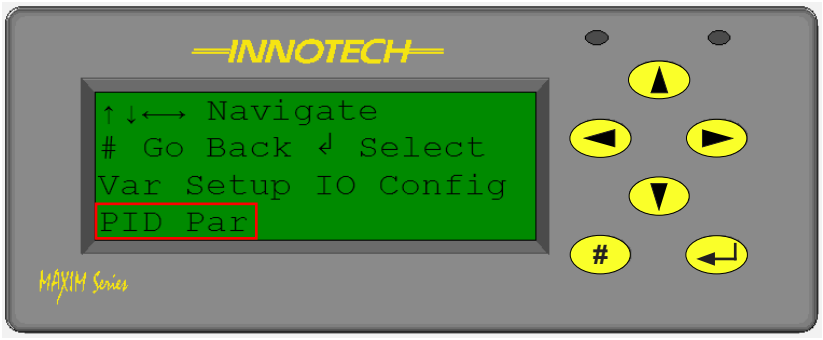

Figure 3-48 PID Par Menu

Once you are in the PID Par sub-menu use the ◄ and ► keys to scroll through the different PID Blocks that have been configured on the MAXIM Series Digital Controllers. With the ▼ and ▲ keys you can scroll through the different PID parameters for each PID Block on the controller.

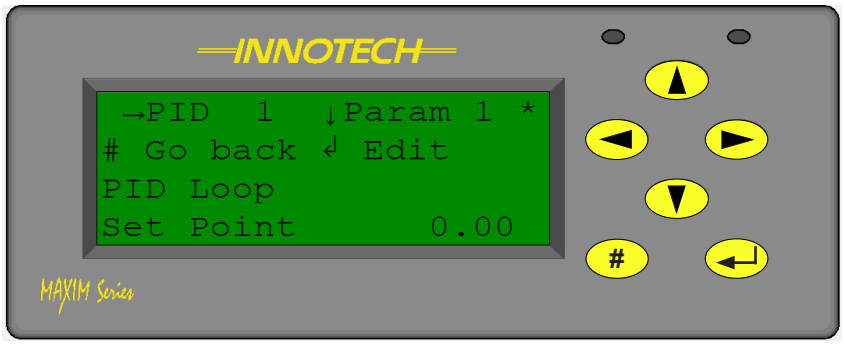

Figure 3-49 PID Parameters

The setpoint within a PID may not be the controlling setpoint. If an external user variable is connected to the PID Loop, the internal setpoint settings are not used.

A brief description of what each line shows follows below, and you can also refer to Figure 3-50:

Line 1: Shows the PID Block number and the parameter number
Line 2: Shows what keys are available and their respective funcitons
Line 3: Shows the name of the PID Block as defined in the configuration
Line 4: Shows the actual parameter and the current value

Please note PID Block number does not refer to the block sequence number but only the number of the PID block.

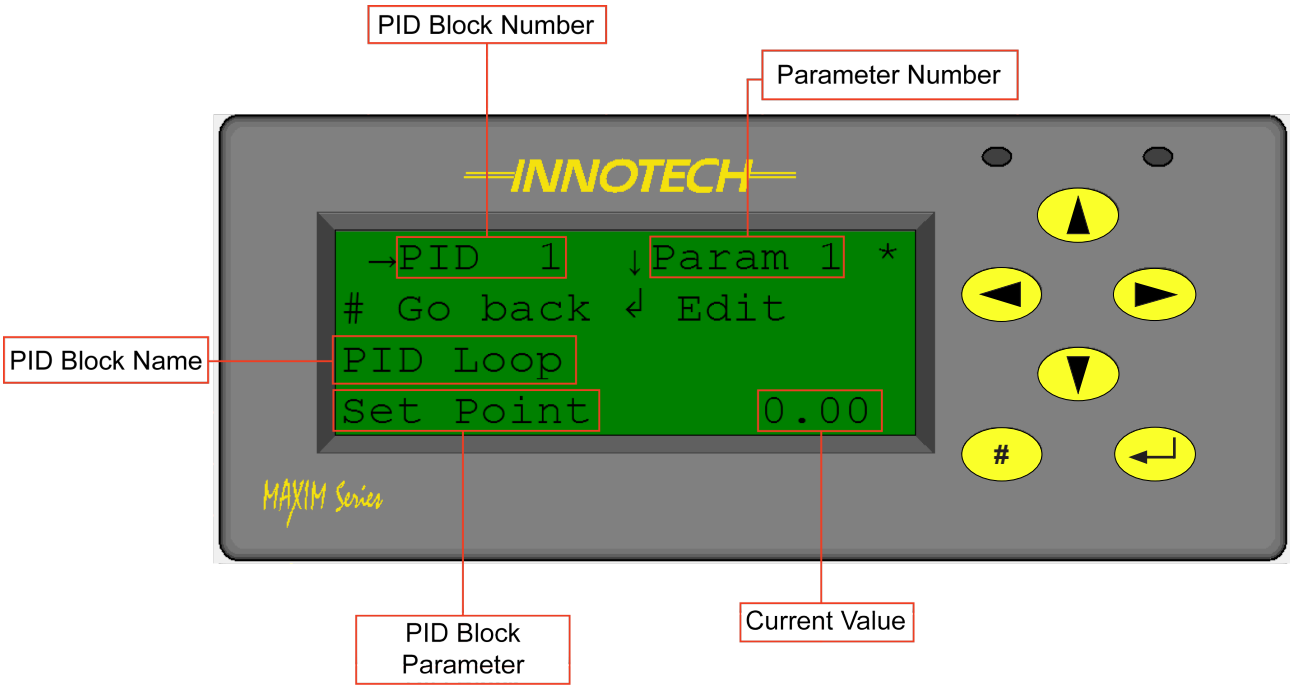

Figure 3-50 PID Par Description

To change a PID Par value, highlight the value you would like to change and press the ↵ key. The current value will begin to flash. Use the ▼ and ▲ keys to decrease or increase the value and press the ↵ key to save your changes. At any time you can press the # key to abandon all changes and return to the previous menu.

Please note that PID Par values may only be edited or modified when in Supervisor Mode. Only experienced technicians should be modifying PID parameters as incorrect settings can have adverse effects on equipment operation.

3-5 Commission Menu

3-5.1 Overview

The Commission Menu on the MAXIM Series controllers provide the ability to view the current status of the configuration, calibrate the controller, and allow you to view and modify the network baud rate. As described in the subsequent sections you can Run or Stop a configuration directly using the HMI on the controller. You also have the ability to calibrate the analog inputs and configure the network settings of the controller. The Commission Menu can be accessed from the Navigation Menu. From the Navigation Menu highlight by pressing the ► key followed by the ▼ key, and press the ↵ key to select it as shown in Figure 3-51.

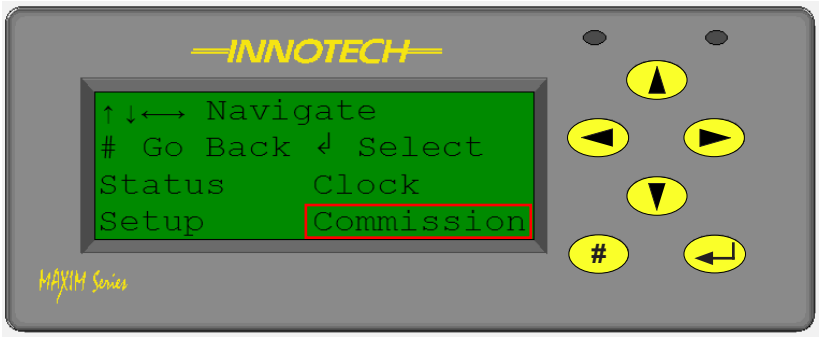

Figure 3-51 Commission Menu

3-5.2 Commission - Run/Stop

The Run/Stop sub-menu allows you to Run or Stop the controller processing the configuration that is currently loaded on the MAXIM Series controller. The Run/Stop can be accessed from the Commission Menu. When you are in the Commission Menu you will see Run/Stop flashing and you can press ↵ key to select it.

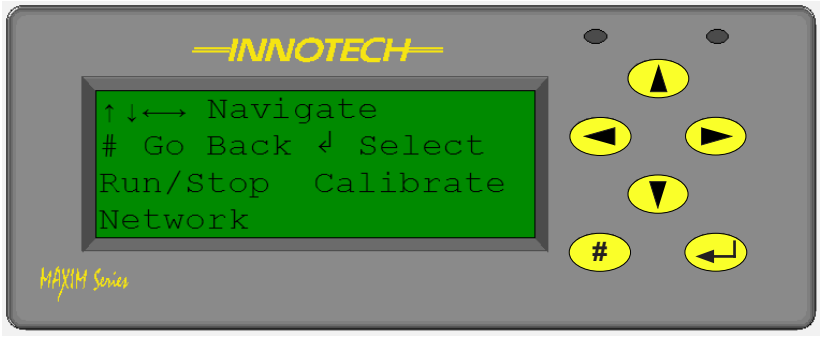

Figure 3-52 Run/Stop sub-menu

Please note that in addition to the menus shown in Figure 3-52, the VAVMax controller will also have the VAV Cal sub-menu available. Please refer to Section 3-5.4 for more information. It is also important to note that VAVMax menus will only be accessible via the CT01 Commissioning Tool.

When the controller is in Run mode the current loaded configuration is being processed and the input and output values are processed accordingly. If there is a configuration currently running on the controller, Running will be displayed on the controller LCD as shown in Figure 3-53. You can stop the running configuration by pressing the ↵ key once. Pressing the ↵ key again will start running the configuration again.

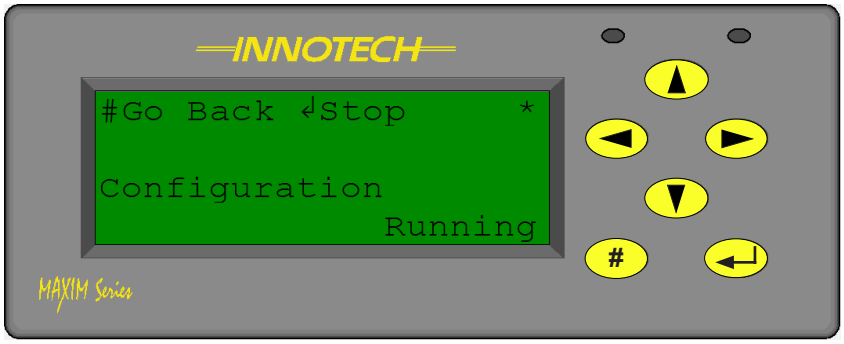

Figure 3-53 Running Configuration

Please note that the Run/Stop status of a configuration can only be modified when in Supervisor Mode.

When the configuration is Stopped it means that all processing on the controller has been halted. Just like if the controller was actually turned off, when the configuration is Stopped the analog outputs are effectively at 0V and the digital outputs are in the Off state. If the configuration has been stopped on the controller, Stopped will be displayed on the controller LCD. A running configuration can be stopped and started by pressing the ↵ key.

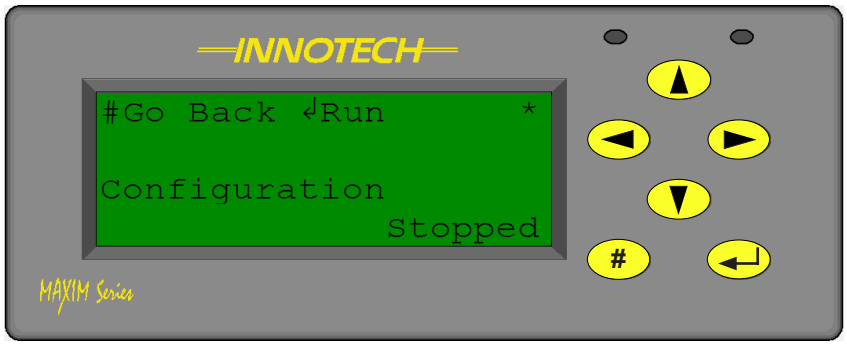

Figure 3-54 Stopped Configuration

This function is extremely useful because it allows you to program the MAXIM Series controller prior to it being dispatched to a remote site and allows the field personnel to safely power it on with the configuration in Stopped mode. Once the commissioning process is completed and verified, and all external devices have been properly connected to the controller and properly configured the field, personnel can safely start the configuration and place it in Running mode.

3-5.3 Commission - Calibrate

The Calibrate sub-menu allows you to view and analyse the signal of the analog inputs on the controller to verify that they have been properly calibrated. The analog inputs can be calibrated to take into consideration any variances in the cable resistance and the sensors.

Please note that the calibration process can only be performed while you are in Supervisor Mode.

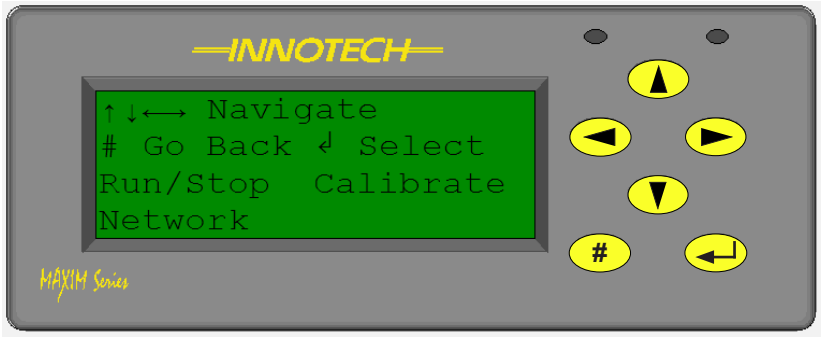

Figure 3-55 Calibrate Menu

Once you are in the Calibrate sub-menu use the ▼ and ▲ keys to scroll through the different Inputs available on the MAXIM Series controllers.

A brief description of what each line shows follows below, and you can also refer to Figure 3-56:

Line 1: Displays the Input/Output type and Universal Port numbers
Line 2: Shows what keys are available and their respective functions
Line 3: Displays the measured value + the Offset
Line 4: Displays current Offset value

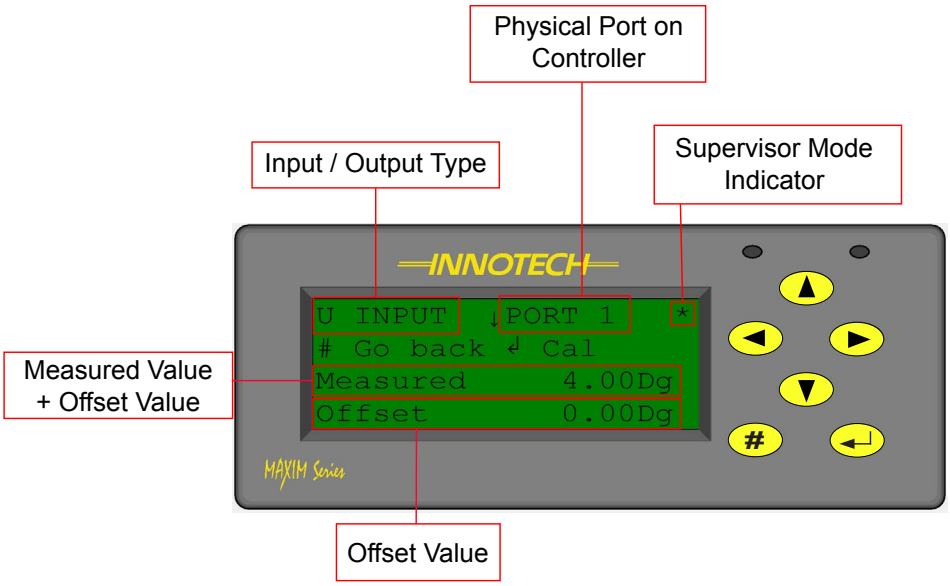

Figure 3-56 Sensor Readings within Calibrate Menu

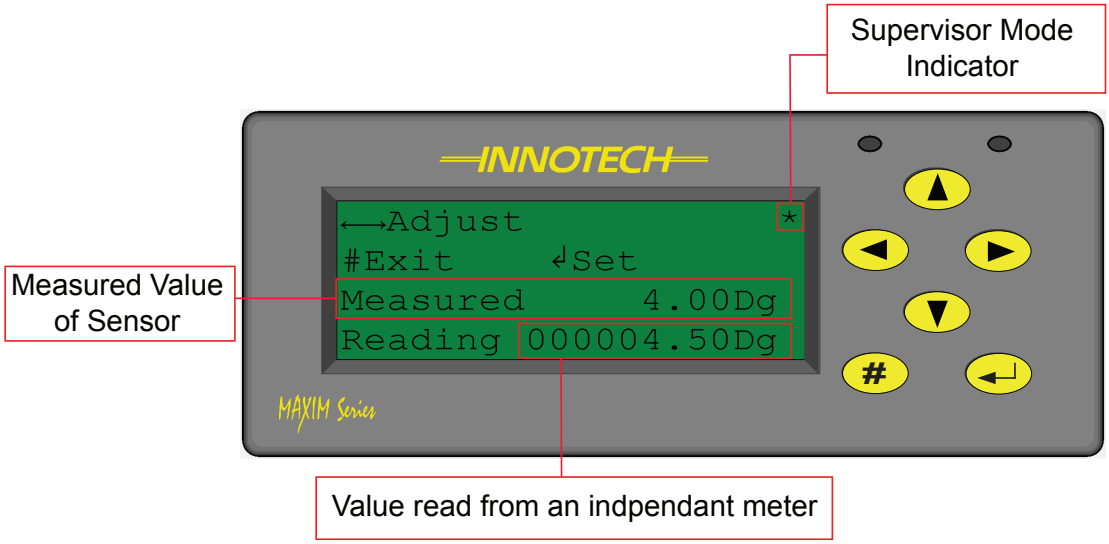

Figure 3-57 Calibrating Sensor Readings

The calibration process involves using an independent meter in order to obtain a measured value of the sensor input. This value is then entered within the calibration option of the MAXIM menu. To calibrate a sensor value, highlight the sensor you would like to calibrate and press the ↵ key. The measured value and the reading value will be shown. The final digit of the reading value will begin to flash. Use the ◄ and ► keys to navigate through each digit and the ▼ and ▲ keys to decrease or increase the value. Once the reading value obtained form the independent meter is entered press the ↵ key to save your changes. At any time you can press the # key to abandon all changes and return to the previous menu.

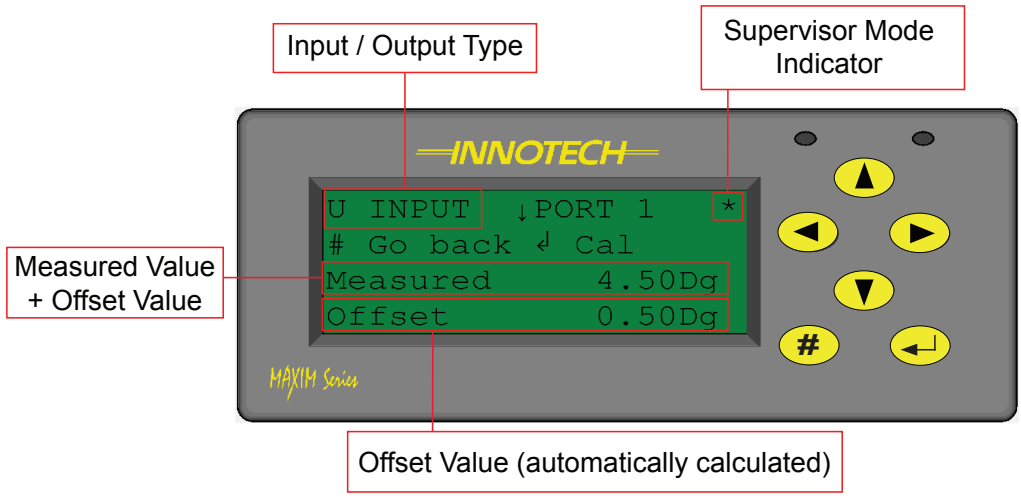

Figure 3-58 Calibrated Sensor Readings

Once the calibration settings have been saved, the input should display as in Figure 3-58 above.

The offset value will be automatically calculated based on the value entered when calibrating.

3-5.4 Commission - VAV Cal

The VAV Cal sub-menu is only available on the VAVMax Digital Controller and is used for zeroing the pressure sensor. The pressure sensor can be zeroed with the pressure at less than 200 Pa. If the pressure is greater than 200 Pa then you must press ↵ to force Next Calibration to zero the pressure sensor.

It is important to note that as the VAVMax controller does not have a built in LCD, its menus will only be accessible via the CT01 Commissioning Tool.

When measuring pressure using the pressure sensor on a VAVMax controller, the pressure-loss factors must also be considered. On the VAVMax controller the K-Factor is the conversion factor used to calculate the Flow Input from the measured pressure input. This conversion factor encompasses the pitot tube K Factor, duct area, and the unit conversions. The K-Factor can be adjusted from the Commission→Calibrate Menu. From the Calibrate sub-menu press the ↵ key to view the Universal I/Os as shown in Figure 3-59. The calibration process involves using an independent meter in order to obtain a measured value of the pressure input.

Setting may also be adjusted uisng MAXMon Software.

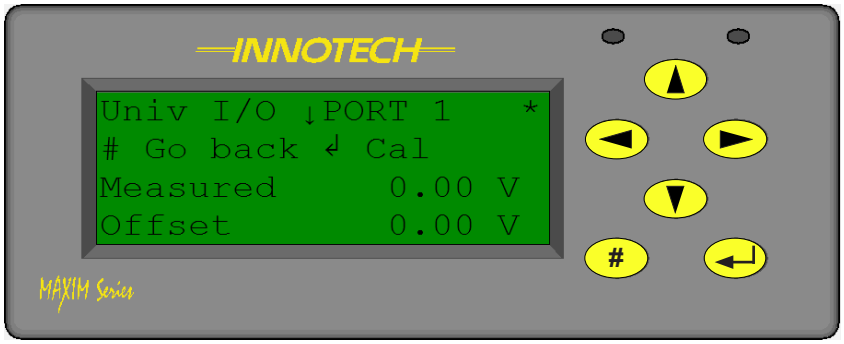

Figure 3-59 VAVMax Calibrate Menu

You can adjust the K-Factor by scrolling down using the ▼ key until you see Flow I/P PORT 4 on Line 1 of the LCD and press the ↵ key to calibrate it as shown in Figure 3-60.

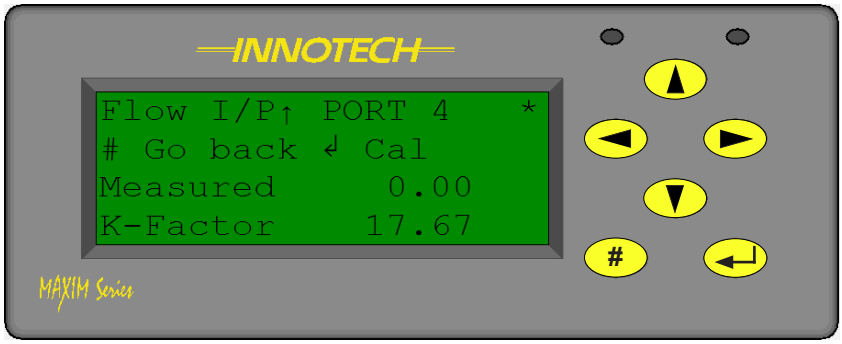

Figure 3-60 K-Factor Variable

The first digit of the Reading will begin to flash. Use the ▼ and ▲ keys to decrease or increase the value and the ◄ and ► keys to scroll through each digit to adjust. Once you have input the desired value press the ↵ key to save your settings as shown in Figure 3-61. Pressing the # key will abort all changes and return you to the previous menu.

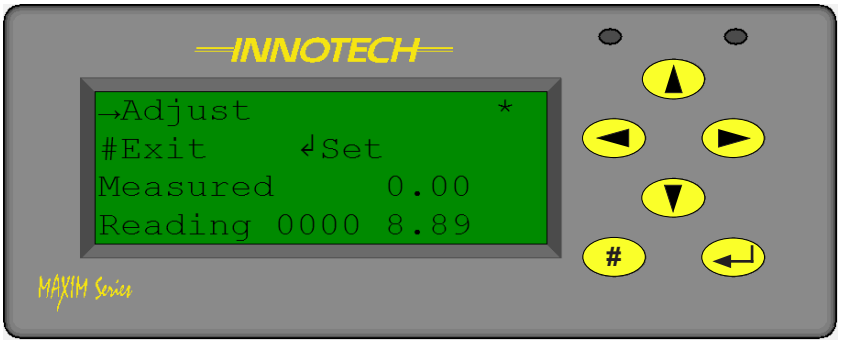

Figure 3-61 Adjust K-Factor Variable

The Reading value is entered by a Technician based on a calculation derived from the measured air flow and duct area.

3-5.5 Commission - Network

The Network sub-menu allows you to view current network status and the baud rate that has been configured for the MAXIM Series controllers. When you test the communication between the controller and the Innotech software you can view the messages that are sent to the controller from the PC in the Network sub-menu as described in the subsequent sections. You can access the Network sub-menu from the Commission Menu. When you are in the Commission Menu press the ▼ key to highlight Network and press the ↵ key as illustrated in Figure 3-62.

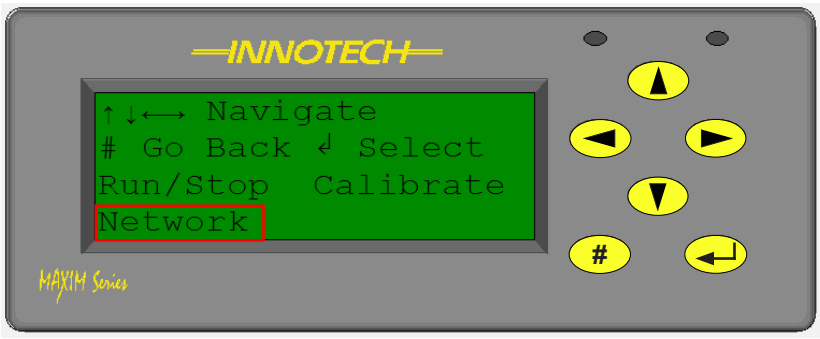

Figure 3-62 Network Menu

3-5.5.1 Commission - Network - Status

The Status sub-menu provides information on the current network status and data traffic through the MAXIM Series controllers. This is also where you can view the data transfer between the controller and the computer during the communications test with the Innotech software. The data messages originating from the PC and received by the controller can be viewed from the Status sub-menu. This menu can be accessed from the Commission→Network Menu and pressing the ↵ key when Status flashes as illustrated in Figure 3-63.

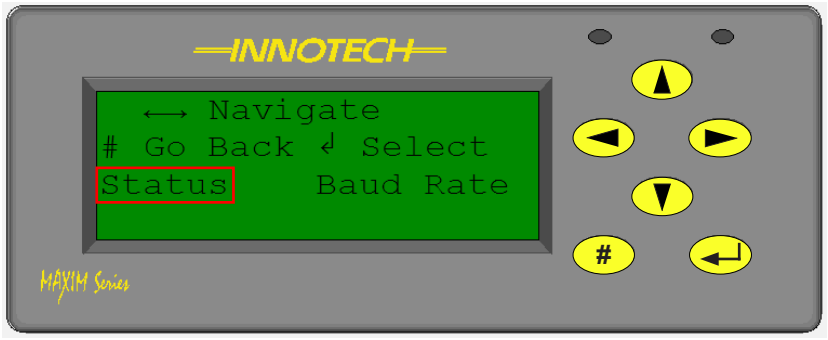

Figure 3-63 Status Menu

Once in the Status sub-menu you will be able to view the message count and any error encountered by the controller during network communication. The controller will provide all messages that have been sent from the controller and received from other devices as illustrated in Figure 3-64 on the next page.

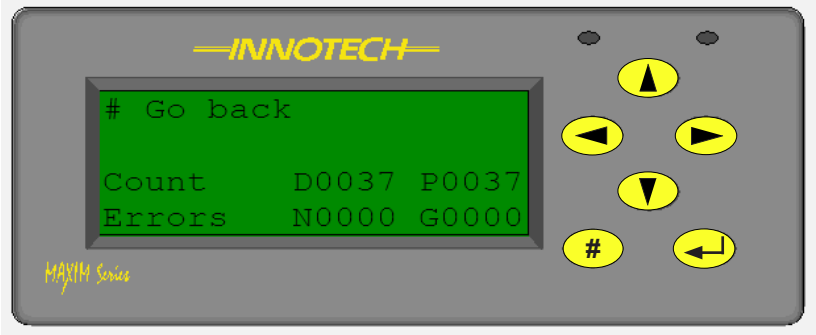

Figure 3-64 Network Status - Messages

This screen shows the number of messages that have been received and transmitted by the controller. A detailed description of this screen follows:

Line 3: This line shows the count for messages received and the messages transmitted. The D0037 count is the number of messages that have been received by the controller from the computer. The P0037 count is the number of messages that actually have been transmitted by the computer.

Line 4: This line shows the network errors encountered by the controller. The N0000 count refers to the errors encountered for the Net comms data traffic. The G0000 count refers to the errors encountered for the Global comms data traffic.

It is important to note that the G0000 count is NOT available on all MAXIM Series controllers. The MicroMAX, VAVMax, and MiniMAX (MM02) will only show the N0000 error count as there are no Global network comms available on these controllers.

This information contained in Line 3 is extremely useful when you are testing communication between the controller and the Computer with the Innotech software installed. When you conduct the Communications test from the computer, this is a simple way of verifying whether the data being sent from the computer is being received by the controller. A large discrepancy between the received (D0037) and transmitted (P0037) messages could imply faulty connections or possibly a faulty network.

It is highly recommended to run a communications test for several minutes to collect enough data to determine any discrepancies between received and transmitted data messages.

It is important to realise that the errors in the Global and Net comms traffic are ONLY based on the data received by the MAXIM Series controllers. The information or data transmitted from the controllers is not checked or verified. Please note that the Global and Net comms errors on Line 4 have no relationship with the error count displayed on Line 3. The controller recognizes errors in data traffic by examining the message header and the message checksum. It is important to know that if the message is completely corrupted the controller will not display it as an error but rather ignore it until it recognizes a proper message.

3-5.5.2 Commission - Network - Baud Rate

You can view the current network communication speed for both the Global and Net networks from the Baud Rate sub-menu. The Baud Rate sub-menu can be accessed from the Network Menu. From the Commission →Network Menu press the ► key to highlight Baud Rate and select it by pressing the ↵ key as shown in Figure 3-65.

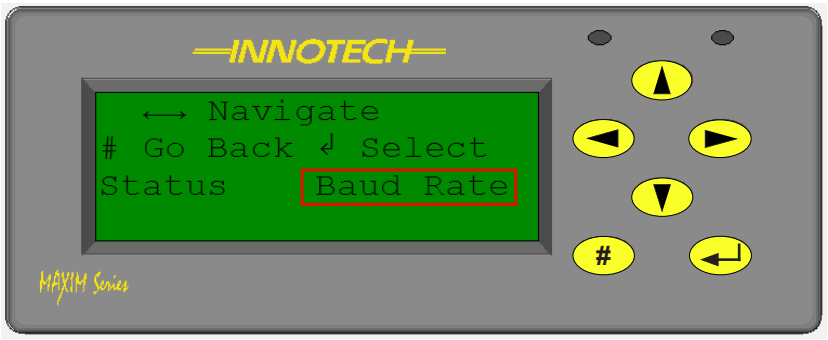

Figure 3-65 Baud Rate Menu

Once you are in the Baud Rate sub-menu you will see the baud rate displayed for both the Net and Global comms networks respectively as shown in Figure 3-66. This is helpful when attempting to establish a connection with the Innotech iComm server, or if you are having difficulty communicating with the controller from iComm. A mismatch of the network baud rate between the iComm server connection and the MAXIM Series Digital Controllers is often the cause of communication problems.

The baud rate values may be changed when logged into the controller in Supervisor mode and navigating to the Commission - Network - Baud Rate menu.

All Innotech controllers and devices need to communicate at the same baud rate on the entire network. Once set this should not be altered.

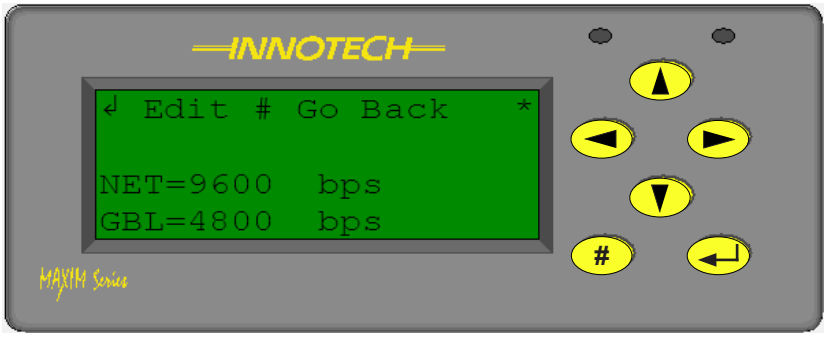

Figure 3-66 Baud Rate for NET and Global Networks

The Baud Rate settings may only be changed in Supervisor Mode

The Net comms (NET) network allows you to communicate with the MAXIM Series Digital Controllers from a PC at a baud rate of either 9600bps or 57600bps. You must have the baud rate on the controller match to that for the appropriate iComm server connection. The Net comms network is utilised to transfer configurations to the controller, or to upload configurations from the controller to a Computer as well as data collection and logging and peer to peer DDC communications.

The Global comms (GBL) network is reserved to be utilised for communication among Innotech Digital Controllers and other Innotech devices. However these baud rates cannot be changed independently; the Global comms baud rates are set according to your Net comms baud rate. If you select a baud rate of 57,600 for your Net comms, then the Global comms baud rate will automatically be set to 38,400. If the Net comms baud rate is set to 9600, then the Global comms baud rate will be set to 4800. You cannot connect a computer to the Global comms network to transfer or receive information.

Please note that the Global comms Baud Rate is NOT available on the MicroMAX, VAVMax, and MiniMAX (MM02) controllers. So on these controllers the Baud Rate sub-menu will only display the baud rate for the sub system network. This value CANNOT be edited even in Supervisor mode.

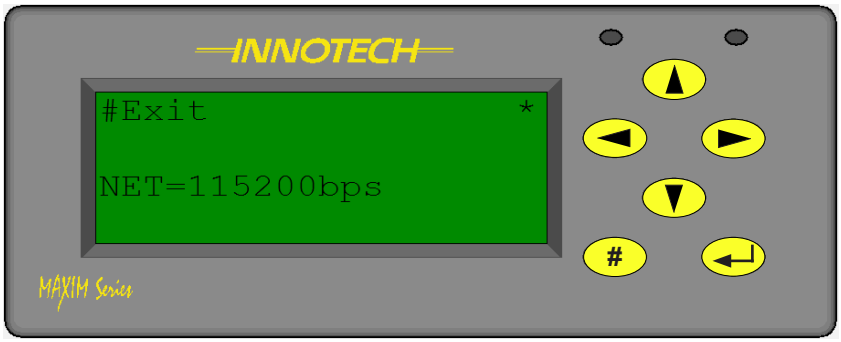

Figure 3-67 VAVMax Sub-System Network Baud Rate

INNOTECH®
Innovative technology

Appendix A
Using the CT01 Commissioning Tool

Appendix A - Using the CT01 Commissioning Tool

A-1 Overview

The Commissioning Tool – Sub System Network (CT01) is a Human Machine Interface (HMI) that allows you to configure controllers on a Sub System Network. It provides full access and navigation through the menu structure of the Sub System controllers. You can use the CT01 to commission the controllers as an alternative to the software method. The CT01 can interface directly with the following controllers:

- VAVMax VM01
- MiniMAX MM02
- MicroMAX UM01

It can also interface directly with the Sub System Network using the provided adapter cable. Once connected to a Sub System Network, the CT01 can be used to search for controllers on that network. You can then log onto and access any controller on that network.

The steps involved in commissioning your controllers using the CT01 are listed below:

- Connecting to the Sub System Network device.
- Logging onto the controller
- Configuring settings on a controller
- Commissioning the controller (Checking Max/Min airflows, Heater Bank testing & Temperature Calibration)

A-2 Connecting to Sub Network devices

A-2.1 Overview

There are three options when connecting the CT01 to the Sub System network, and each is described and illustrated in the following sections.

A-2.2 Connecting directly to controller on sub system network

If you connect the CT01 directly to a controller on the sub system network, such as a VAVMax, you will only be able to communicate to that particular controller. You will not be able to connect to other controllers on the same network, as illustrated in Figure A-1 on the next page.

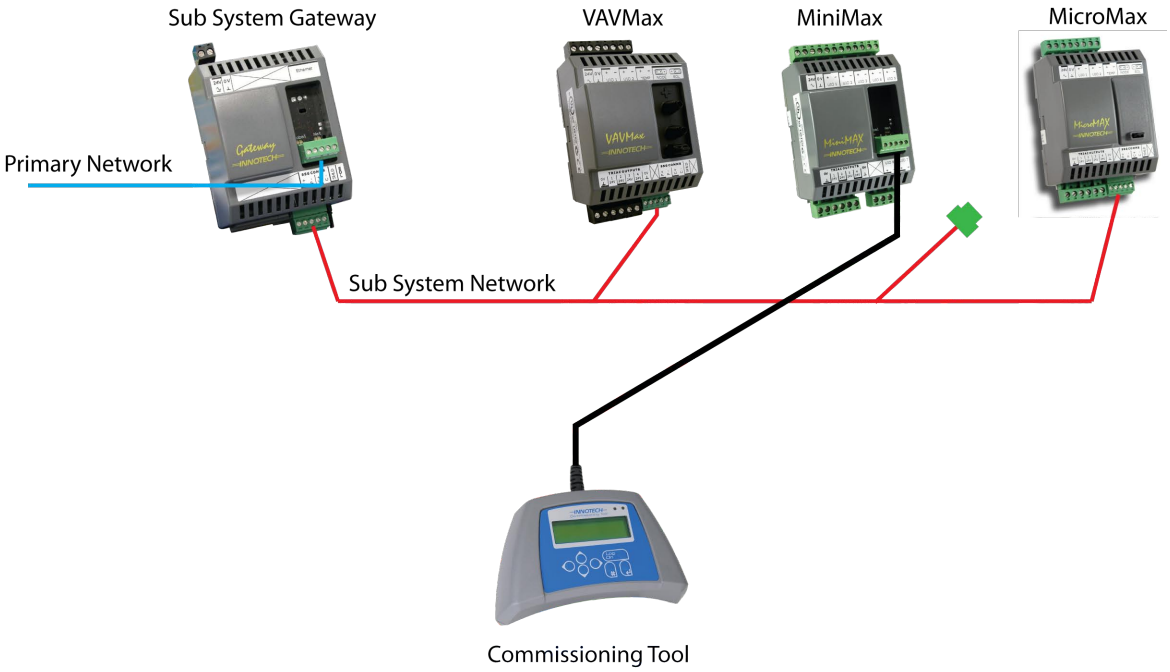

Figure A-1 Connecting the Commissioning tool to a Sub System Network Device

A-2.3 Connecting to Sub System Gateway (IG01)

When you connect the CT01 to the Innotech Sub System Gateway (IG01) using the provided adaptor cable, the CT01 can communicate with all sub system controllers on that network that are connected to the IG01, as illustrated in Figure A-2 below.

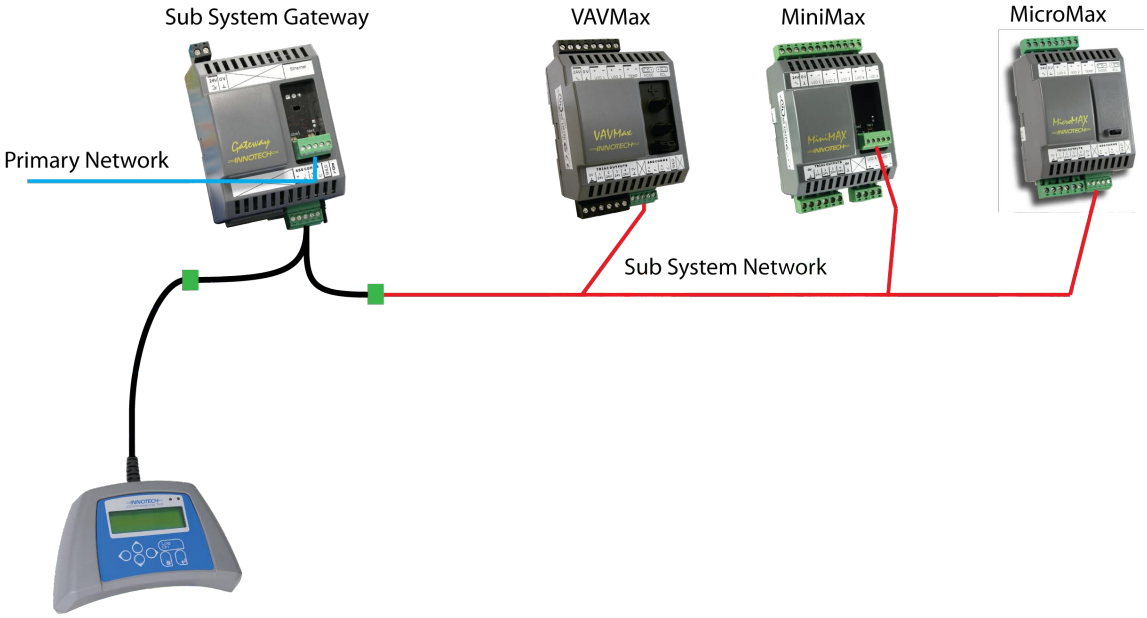

Figure A-2 Connecting the Commissioning tool to a Sub-System Gateway IG01

The sub system network must be reconnected as it was before once the commissioning process is complete.

A-2.4 Connecting to sub system network

When you connect the CT01 to the sub system network at any point using the provided adaptor cable, the CT01 can communicate with all controllers on the sub system network that are connected to the IG01, EXCEPT for the controller that is directly connected to the CT01.

The IG01 will need to be unplugged from the sub system network to allow this type of connection to work, as illustrated in Figure A-3 below.

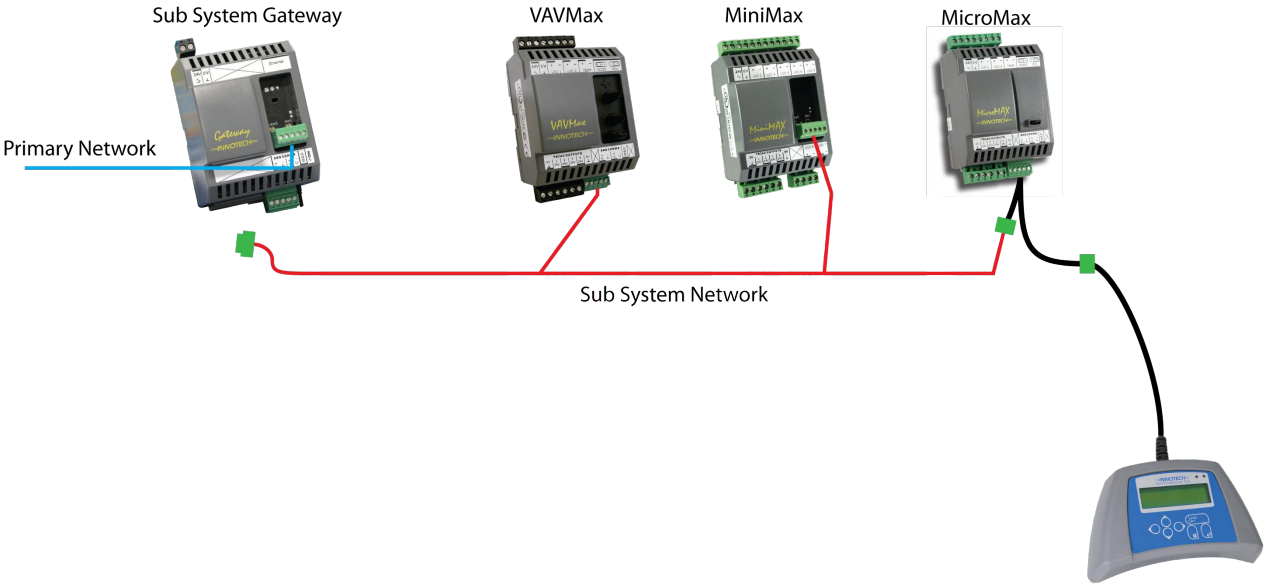

Figure A-3 Connecting the Commissioning tool to a Sub-Network Device

The IG01 must be reconnected to the network as it was before once the commissioning process is complete.

A-2.5 CT01 Menus and Navigation

The interface of the CT01 is relatively easy to navigate. To access the Menu page press the **Exit** button. To select how the CT01 is connected to the controller, select *Setup* and press the **Enter** button. Use the **Up** and **Down** navigation buttons to select between *Network* or *Standalone*. If the CT01 is connected directly to a controller as illustrated in Figure A-1 preivously, you will need to select *Standalone*. If the CT01 is connected to the network as illustrated in Figures A-2 and A-3, you will need to select *Network*.

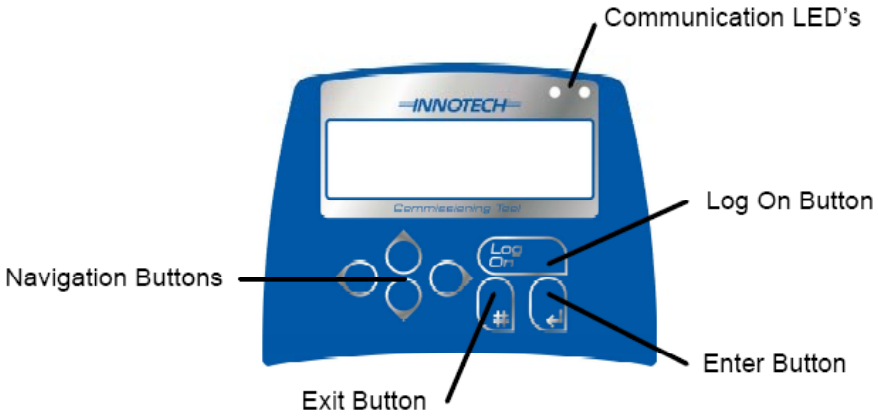

Figure A-4 CT01 Interface - navigation and menus

A-3 Logging onto the Controller

Connect the CT01 to the desired controller, or to the sub system network as described earlier, and the screen should activate.

Press the **Log On** button.

Select the controller to communicate with and press the **Enter** button. If you are connected to a sub system network, you will have a list of controllers on that network to choose from.

To navigate to the Watch Menu, select *Status* and press the **Enter** button. Now select *Watches* and press the **Enter** button. You can now use the **Up** and **Down** navigation buttons to scroll through the available selections. When indicated at the top of the LCD, you can press the **Enter** button to edit the applicable set points. Pressing the **Exit** button will take you back to the previous menu or page. You can view the following parameters in the Watch Menu:

- Zone temperature and temperature set point
- Cooling and heating demand
- Heater bank request
- Minimum and maximum air flow
- Airflow(L/S), air volume(m/3) and actual airflow set point
- Actuator travel time (only on DODC motors)
- Actuator demand
- Manual VAV calibration (for calibrating the pressure sensor and actuator position)
- Velocity Pressure (Pa)
- Pressure sensor fault status
- Commission mode enable, actuator manual enable, and actuator manual position.

A-4 VAVMax settings

Configuring a VAVMax controller requires a number of parameters that have to be calibrated. You can use the CT01 to calibrate the following parameters on a VAVMax controller to suit your requirements:

1. Zone temperature set point.
2. Minimum Flow rate (L/s) – The minimum design air flow for that particular VAVMax controller.
3. Maximum Flow rate (L/s) – The maximum design air flow for that particular VAVMax controller.
4. K factor – The K factor is a value of calibration so the VAV Max can translate a pressure differential at the VAV into an air volume passing through the VAV.
5. Calibration of temperature sensor(s).

A-5 Commissioning

The Commissioning Mode on the CT01 is used for heater bank testing and driving the VAVMax controller to a manual position for a time period of 4 hours. The Commissioning Mode can be enabled by following the instructions below:

1. Log onto a VAVMax controller as per the instructions in the previous section.
2. Select *Status* and press the **Enter** button**.** Now select *Watches* and press the **Enter** button.
3. Looking at the top of the LCD for menu names, use the navigation buttons to scroll left to the *Commissioning* menu.

The *Commissioning* menu contains the following information:

- *Commissioning Mode Enable* – Toggling this ON will enable the commissioning mode for 4hrs, after which it will turn OFF. Toggling it ON again will turn commissioning mode OFF again.
- *Commission mode for 4hrs* – This is a count down timer that will indicate the time remaining before the commissioning mode turns OFF.
- *Actuator Manual Enable* – This is to allow manual operation of the VAV actuator whilst commissioning mode is ON.
- *Actuator Manual Position* – This is the required position when the Actuator Manual Enable is switched ON.

A-5.1 Configuring the K-Factor

The K factor value is required to be calibrated to allow the VAVMax controller to correctly read the pressure and calculate the airflow. The VAVMax does not need to know the duct size because it is contained within the K factor. The K factor can be set manually, or the VAVMax can calculate it automatically by following the steps below:

1. Log onto a VAVMax controller as per the instructions in the previous section.
2. Select *Commission* and press the **Enter** button.
3. Select *Calibrate* and press the **enter** button.
4. Scroll down to **Port 4.** The parameters *Measured* and *K factor* should be visible on the LCD. The *Measured* value is the airflow the VAVMax is currently reading.
5. Press the **Enter** button to calibrate the *Measured* value. Using the navigation buttons enter your total measured air volume in L/S for that particular VAVMax controller, and press the **Enter** button.
6. The VAVMax will now be calibrated and the K factor will be calculated.
7. Press the **Exit** button repeatedly to return to the main menu.

The K-Factor may need to be rechecked and calibrated when the airflow is set to VMax.

A-5.2 Calibration of sensors

The calibration of sensors is normally completed by the Innotech commissioning technicians. However the CT01 can be used to calibrate the sensor if the need arises. Follow the steps below to calibrate sensors:

1. Log onto a VAVMax controller as per the instructions in the previous section.
2. Select *Commission* and press the **Enter** button.
3. Select *Calibrate* and press the **enter** button.
4. Each port corresponds to an input on the VAVMax controller. Port 3 is a dedicated temperature input.
5. To calibrate temperature input, take a note of the sensor reading with a reliable thermometer.
6. Scroll to *Port 3* and press the **Enter** button.
7. Using the navigation buttons enter the correct measured temperature and press the **Enter** button.
8. This will calibrate the sensor and provide an offset reading.
9. This same process can be used if Ports 1 or 2 are used for temperature inputs.
10. Press the **Exit** button repeatedly to return to the main menu..
11. The commissioning process is now complete.

It is recommended to access and view the watch pages again to verify the controller is operating correctly. Verify that the temperatures are correct, and the minimum and maximum air flows have been calibrated.

Product Support

Direct support and product information can be obtained by Internet, Email, Fax or Mail:

Internet: www.innotech.com.au

Email: sales@innotech.com.au

Fax: (61) 7 3841 1644

Mail: Innotech Software Support
P.O. Box 292
Sunnybank
QLD 4109
Australia

