

# Netbiter EC300 Series

## **USER MANUAL**

SCM-1202-012 2.3 en-US ENGLISH





# **Important User Information**

## Liability

Every care has been taken in the preparation of this document. Please inform HMS Industrial Networks of any inaccuracies or omissions. The data and illustrations found in this document are not binding. We, HMS Industrial Networks, reserve the right to modify our products in line with our policy of continuous product development. The information in this document is subject to change without notice and should not be considered as a commitment by HMS Industrial Networks. HMS Industrial Networks assumes no responsibility for any errors that may appear in this document.

There are many applications of this product. Those responsible for the use of this device must ensure that all the necessary steps have been taken to verify that the applications meet all performance and safety requirements including any applicable laws, regulations, codes, and standards.

HMS Industrial Networks will under no circumstances assume liability or responsibility for any problems that may arise as a result from the use of undocumented features, timing, or functional side effects found outside the documented scope of this product. The effects caused by any direct or indirect use of such aspects of the product are undefined, and may include e.g. compatibility issues and stability issues.

The examples and illustrations in this document are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular implementation, HMS Industrial Networks cannot assume responsibility for actual use based on these examples and illustrations.

## **Intellectual Property Rights**

HMS Industrial Networks has intellectual property rights relating to technology embodied in the product described in this document. These intellectual property rights may include patents and pending patent applications in the USA and other countries.

eWON<sup>°</sup>, Netbiter<sup>°</sup>, and Argos<sup>°</sup> are registered trademarks of HMS Industrial Networks AB. All other trademarks mentioned in this document are the property of their respective holders.

# **Table of Contents**

### Page

1	Prefa	ace 3
	1.1	About This Document
	1.2	Document history
2	Insta	llation4
	2.1	Basic Installation Steps4
	2.2	Factory Reset4
	2.3	Connectors
	2.4	LED Indicators
	2.5	MODE Button 11
	2.6	Wiring Examples
3	Loca	Configuration
	3.1	Connecting via USB
	3.2	Connecting via Ethernet
	3.3	Login
	3.4	Status
	3.5	Status – GPS16
	3.6	Network Settings – WAN
	3.7	Network Settings – LAN
	3.8	Modem Settings (EC320/EC350/EC360)19
	3.9	Time Settings (UTC) 20
	3.10	Firmware Update
	3.11	Logs
	3.12	System
Α	Ethe	rNet/IP Implementation
	A.1	Client
	A.2	Adapter
В	Tech	nical Data 25
	B.1	Technical Specifications25
	B.2	Installation Drawings

This page intentionally left blank

# 1 Preface

# 1.1 About This Document

This manual describes how to install and configure Netbiter EC300 Series gateways.

For additional documentation and software downloads, FAQs, troubleshooting guides and technical support, please visit <u>www.netbiter.com/support</u>.

# **1.2** Document history

Version	Date	Description
1.0	2016-10-03	First release with new layout
2.0	2017-10-07	Update for model name NB301A/B
2.1	2017-11-06	Minor update
2.2	2017-11-13	Added EC320 technical specifications
2.3	2019-02-21	Added: EC360 specifications

# 2 Installation

ė

## 2.1 Basic Installation Steps

This product contains parts that can be damaged by electrostatic discharge (ESD). Use ESD prevention measures to avoid damage.

Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.

Make sure that you have all the necessary information about the capabilities and restrictions of your local network environment before installation.

- 1. Mount the unit on a flat surface or on a DIN rail using the adapter kit (optional).
- 2. Connect the slave devices and/or Ethernet network as needed.
- 3. For mobile networking (EC320/EC350/EC360), connect the mobile antenna and insert the SIM card.
- 4. Connect a suitable power supply and apply power.
- 5. Configure the unit.

#### **Modbus Interfaces**

Modbus devices can be connected to more than one interface and/or physical connection on Netbiter EC300 Series gateways. These interfaces must also be enabled in Argos before they can be used. See the Argos documentation for more information.

### 2.2 Factory Reset

Keep the **MODE** button pressed while powering on to reset to the factory default settings.



## 2.3 Connectors

### 2.3.1 I/O Terminal Block

V

ė



#### Fig. 2 Terminal block

Pin	Label	Function	Note	
15	ні	CAN High		
14	PE	CAN Shield	11020	
13	LO	CAN Low	11222	
12	GND	CAN Ground		
11	СОМ	Analog Input common		
10	AI4	Analog Input 4	0–20 mA or 0–10 VDC	
9	AI3	Analog Input 3	0–20 mA or 0–10 VDC or PT100	
8	AI2	Analog Input 2	0–20 mA or 0–10 VDC	
7	Al1	Analog Input 1	0–20 mA or 0–10 VDC or PT100	
6	DI2-	Digital Input 2		
5	DI2+	Digital Input 2	Dry contact type – do not apply power to these inputs	
4	DI1-	Digital Input 1		
3	DI1+	Digital Input 1		
2	СОМ	Relay output common	Isolated inputs	
1	NO	Relay output, NO	Rated load: 1 A @ 24 VDC	

The analog inputs must be configured for voltage, current or PT100 input.

The digital inputs are of the dry contact type which require no control voltage.

Do not connect power to the digital inputs as this may damage the unit.

The relay output must be supplied from an isolating transformer using a secondary listed fuse rated at maximum 3.3 A and minimum 30 VDC.

#### 2.3.2 Power Supply

Connecting power with reverse polarity or using the wrong type of power supply may damage the equipment. Make sure that the power supply is connected correctly and of the recommended type.



Fig. 3 Power supply connector

Connect a DC power supply of the recommended type to the + (plus) - (minus) terminals. See also *Technical Data, p. 25*.

#### 2.3.3 USB Connector



#### Fig. 4 USB connector

The USB micro B connector can be used to connect a computer to the unit for local configuration, firmware upgrades and troubleshooting.

### 2.3.4 SIM Card (EC320, EC350 & EC360)



Fig. 5 Installing the SIM card

The SIM card must have a mobile data plan and allow text messaging. PIN code security must be disabled. Additional configuration in Argos or in the local web interface is required.

Insert the SIM card carefully and push it firmly downwards until it clicks into place. Observe the position of the cut-off corner and the contact surfaces.



Make sure that the SIM card does not slip behind the holder.

### 2.3.5 Antenna Connectors

A GPS antenna (not included) must be connected to the GPS antenna connector to use the builtin GPS receiver. The GPS antenna connector also provides power for active GPS antennas.

#### EC320 & EC350



Fig. 6 EC320 / EC350 antenna connectors

An external 3G/GPRS stub antenna is included with the unit <sup>1</sup>. Other antennas are available from your supplier.

#### EC360



Fig. 7 EC360 antenna connectors

An external 4G antenna is available from your supplier.

<sup>1.</sup> Antenna not included when sold in the U.S.

### 2.3.6 RS-485 Serial Interface (3-pin)



#### Fig. 8 RS-485 connector

The RS-485 interface can be used for multiple Modbus RTU devices.

RS-485 connector pin layout		
Pin	Function	
А	RS-485 A line	
В	RS-485 B line	
COM	RS-485 common	

## 2.3.7 RS-232 Serial Interface (3-pin)



#### Fig. 9 RS-232 connector

The RS-232 interface can be used for a single Modbus RTU device.

#### RS-232 connector pin layout

Pin	Function
Rx	Receive (input)
Tx	Transmit (output)
GND	Signal ground

1

#### Ethernet Ports (RJ45) 2.3.8



#### Fig. 10 **Ethernet Ports**

WAN	Use for Internet and Argos
LAN	Use for EtherNet/IP, Modbus TCP and Remote Access

Never connect the LAN and WAN ports to the same logical network.

#### RJ45 pin layout

Pin	Function	
1	TD+	
2	TD-	i munu
3	RD+	
4, 5, 7, 8	(reserved)	8
6	RD-	

#### Ethernet Port LED

Indication	Function
Off	No traffic
Orange, flashing	Traffic (10 Mbit/s)
Green, flashing	Traffic (100 Mbit/s)

### 2.4 LED Indicators

All indicators will light up while the unit is starting up. When the startup sequence has completed they will indicate system status.

In case of an Uplink/WAN error, check the network and firewall settings. If using DHCP, also check that the DHCP server is active.

- Modem	Netbiter EC350
CAN	
RS232/RS485	
Uplink/WAN	
Galeway	
Power	

Fig. 11 EC320, EC350 & EC360 LED indicators

LED	Indication	Meaning
	Off	Modem disabled
	Red	Modem failure
Modem	Red, flashing	SIM card failure
(EC320, EC350 &	Orange	PIN code enabled on SIM card
EC360)	Orange, flashing	APN (Access Point Name) not set
	Green, flashing	Searching for mobile network
	Green	Connected to mobile network
	Off	Port disabled
CAN	Red	Port failure
	Green	Port enabled
	Off	Port disabled
RS232/RS485	Red	Port failure
	Green	Port enabled
	Off	No link
LIST AND	Red	No valid IP address
Uplink/WAN	Red, flashing	No connection to Argos
	Green	Connected to Argos
	Off	No power or initializing
	Red	Hardware failure
Gateway	Red, flashing	Application failure
	Green, flashing	Firmware update in progress
	Green	Unit is operational
Dowor	Off	No power
Power	Green	Unit has power

## 2.5 MODE Button



Fig. 12 Mode button

#### **Factory Reset**

Keep the **MODE** button pressed while powering on to reset the unit to the factory default settings.

#### Mobile Signal Strength Indication (EC320, EC350 & EC360)

Netbiter EC350	
(Signal Strength)	
Power	

Fig. 13 EC320, EC350 & EC360 mobile signal strength LED indicators

Press and release the **MODE** button to make the top 5 LED indicators indicate mobile signal strength for 60 seconds.

LED indication	Meaning
2–5 green LEDs, flashing	Good to optimum signal
1 green LED, flashing	Acceptable signal
1 orange LED, flashing	Poor signal
1 red LED, flashing	No signal or unknown signal

#### If mobile signal strength is poor

- Make sure that the antenna is correctly installed and of the correct type.
- The antenna should normally be vertically oriented. Signal quality may in some cases be improved by changing the antenna angle.
- Try moving the unit to another position, or use an external antenna.

### 2.6 Wiring Examples



#### Fig. 14 Analog Input – Voltage Sensor



#### Fig. 15 Analog Input – 2-wire Current Sensor



Fig. 16 Analog Input – 3-wire Current Sensor



#### Fig. 17 Analog Input – 4-wire Current Sensor







#### Fig. 19 Digital Input

Do not connect a power source to the digital inputs as this may damage the unit.



# 3 Local Configuration

ė

Local configuration is normally not required and should only be carried out when necessary. Please read the instructions below carefully.

The built-in web interface is primarily intended for informational purposes and troubleshooting. Argos is always the preferred way of configuring the gateway. The only configuration changes that should be made using the local web interface are:

- Proxy settings (if required);
- Modem/Ethernet connection mode (EC320/EC350/EC360 only);
- Firmware updates;
- Time settings.

### 3.1 Connecting via USB

Connect a USB Micro B cable between the computer and the USB port on the Netbiter.

The USB device driver will automatically load and create a virtual network interface on the computer with an IP address in the range 169.254.200.xxx. The local web interface of the gateway can then be accessed by entering the IP address **169.254.200.200** in a web browser.



Fig. 21 Network Connections

### 3.2 Connecting via Ethernet

Connect an Ethernet cable between the computer and the LAN port on the Netbiter.

The default IP address of the LAN port interface is **10.200.1.1**. The connecting computer must have an IP address within the same subnet (10.200.1.xxx). The LAN IP address can be changed after logging in or from Argos when the Netbiter is online.

#### 3.3 Login

Enter the IP address of the gateway in a web browser to log in. The default user name is *admin*, and the password is the activation code that was supplied with the unit.

0	A username and password are being requested by http://10.10.13.93. The site says: "Password protected area"	
User Name:		
Password:		

Fig. 22 Local configuration login

### 3.4 Status

The **Status** tabs present an overview of the configuration as well as detailed information about the current connections, which can be used when troubleshooting and when contacting Netbiter support.

Status	Status		
Network Settings		Contra data	
Modem Settings	Overview	WAN LAN	Modem Uplink GPS
Time Settings			
Firmware Update		Netbiter Argos	Connected
Logs		Connection	WAN
System		System ID	003011FAFE8A
About		Serial Number	C011AB29
		System Time	2019-02-06 13:16 UTC

Fig. 23 Status – Overview

### 3.4.1 Status – WAN/LAN

Status	Status		
Network Settings Modem Settings	Overview	WAN LAN	Modem Uplink GPS
Time Settings			
Firmware Update		Active	Yes
Logs		DHCP	Yes
System		IP Address	10.10.13.44
About		Netmask	255.255.255.0

Status	Status		
Network Settings			
Modem Settings	Overview VVAN	LAN	Modem Uplink GPS
Time Settings			
Firmware Update		Active	Yes
Logs		DHCP	No
System	IP A	ddress	10.200.1.1
About	N	etmask	255.255.255.0

The WAN and LAN status tabs present the current IP settings of the Ethernet interfaces.

### 3.4.2 Status – Modem

Status	
ork Settings Overview WAN LA	N Modern Linlink GPS
em Settings	
e Settings	
ware Update Data Connection	1 Yes
S Signal Strengt	1 11/11/11/11 12/31
Network	K Telavox
Network Typ	e 3G
Service Stat	<ul> <li>Registered to home network</li> </ul>
	Hide advanced information
Cellular Network Typ	e UTRAN
Signal Quality (3G/4G	) 1111111111111111111111111111111111111
AP	online.telia.se
IP Addres	s 10.155.188.221
Netmas	k 255.255.255.255
Tower MC0	2 240
Tower MN(	3 01
Tower Location Area Code	e OOFF
Tower Cell If	0 0FF55A3
Modem Temperatur	a 41 ℃
Manufacture	r Cinterion
Mode	I PHS8-P
Revisio	n 03.320
A-Revisio	n 01.000.06
IMS	240017431192640

Fig. 26 Modem Status

The **Modem** status tab presents basic and advanced information about the current mobile network connection.

Basic information	
Data Connection	Indicates if data connection is established
Signal strength	The strength of the mobile signal
Network	Mobile network operator
Network type	Mobile network type (4G, 3G or GSM)
Service state	Network registration status
Advanced information	
Cellular network type	Network type details
Cellular network type Signal quality (3G only)	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB
Cellular network type Signal quality (3G only) APN	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB Access Point Name
Cellular network type Signal quality (3G only) APN IP, Netmask	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB Access Point Name IP settings for the modem connection
Cellular network type Signal quality (3G only) APN IP, Netmask Tower MCC	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB Access Point Name IP settings for the modem connection Country code of the connected base station
Cellular network type Signal quality (3G only) APN IP, Netmask Tower MCC Tower MNC	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB Access Point Name IP settings for the modem connection Country code of the connected base station Network code of the connected base station
Cellular network type Signal quality (3G only) APN IP, Netmask Tower MCC Tower MNC Tower Location Area Code	Network type details Signal-to-noise ratio of the 3G signal. 0 = -24 dB, 49 = 0 dB Access Point Name IP settings for the modem connection Country code of the connected base station Network code of the connected base station Area code of the connected base station

Modem temperature	The temperature of the modem in $^{\circ}\mathrm{C}$
Manufacturer	The manufacturer of the modem
Model	Model of the modem
Revision	Revision of the modem
A-Revision	A-Revision of the modem
IMSI	The IMSI number of the modem

#### 3.4.3 Status – Uplink

Status	Status		
Network Settings Modem Settings	Overview WAN LAN	Modem Uplink GPS	
Time Settings			
Firmware Update	Default Route	Modem	
Logs	Default Gateway	0.0.0.0	
System	DNS 1	195.67.199.18	
About	DNS 2	195.67.199.19	

#### Fig. 27 **Uplink Status**

The Uplink status tab shows the default connection type (modem or Ethernet), the default gateway and DNS servers for the uplink connection.

#### 3.5 Status – GPS

Status	Status		
Network Settings		Madam Unlink ODC	
Modem Settings	OVERVIEW WAIN LAIN	Modelin Opilink GF3	
Time Settings			
Firmware Update	Active	Yes	
Logs	Latitude	-	
System	Longitude	1	
About	Altitude	2	
	Time	-	
	Satellites In View		
	Satellites In Use	i	
	Signal Strength	No info	

The **GPS** status tab shows if the GPS is enable and information from the GPS.

### 3.6 Network Settings – WAN

Network Settings	
Modem Settings	- WAN LAN
Time Settings	Enable WAN interface
Firmware Update	
Logs	Use DHCP to assign an IP address automatically
System	
About	IP address
	Netmask
	Gateway
	D
	Primary DNS
	Secondary DNS
	Enable Proxy settings

#### Fig. 29 WAN settings

The WAN interface should be enabled when connecting to Argos via Ethernet.

When DHCP is enabled the unit will automatically receive the settings for IP address, subnet mask, default gateway, and DNS. Contact your network administrator if in doubt.

A change in the **Network settings** needs a reboot of the Netbiter and is indicated by a flag icon near the **System** label in the menu. For more information, refer to *System*, *p.* 22

#### 3.6.1 Proxy Settings

Proxy IP address	192.168.0.99
Draw part	112
Proxy port	443
Proxy protocol	HTTP
🛛 Use Proxy authentication	n
Username	JoeUser
Password	zX58xjuop

Fig. 30 Proxy settings

If you are connecting to the Internet via a proxy, check **Enable Proxy settings**, select the **Proxy protocol** and fill in the IP address and port number for the proxy server. If the proxy requires authentication, check **Use Proxy authentication** and fill in the username and password.



Click on Save settings when finished.

A change in the **Proxy** settings needs a reboot of the Netbiter and is indicated by a flag icon near the **System** label in the menu. For more information, refer to *System*, *p. 22* 

For information about supported proxy types, see *Technical Data, p. 25*.

### 3.7 Network Settings – LAN

The **LAN** interface must be enabled when using EtherNet/IP or Modbus TCP applications and when using the Netbiter Remote Access service.

These settings can also be made in Argos. See the Argos documentation.

Network Settings		
Modem Settings	WAN LAN	
Time Settings	2 Enable I AN interface	
Firmware Update		
Logs	Use DHCP to assign an IP address automatically	
System		
About	IP address 10.200.1.1	
	Netmask 255.255.255.0	

Fig. 31 LAN settings

To avoid potential address conflicts when setting a static IP address and netmask for the LAN port, use only the address spaces that are reserved for private networks:

- 10.0.0.1 10.255.255.254
- 172.16.0.1 172.31.255.254
- 192.168.0.1 192.168.255.254

Do not connect the LAN and WAN ports to the same logical network.

Click on Save settings when finished.

A change in the **Network settings** needs a reboot of the Netbiter and is indicated by a flag icon near the **System** label in the menu. For more information, refer to *System*, *p. 22* 

### 3.8 Modem Settings (EC320/EC350/EC360)

Modem settings and information about the mobile connection.

These settings can also be made in Argos. A SIM card with SMS capability is required. See the *Argos documentation.* 

status Network Settings	Modem Settings			
Modem Settings	Preferred network type	Auto		
Time Settings				
Firmware Update	Enable data connection	on modem (Use modem	for uplink connection)	
Logs				
System	APN	online.telia.se		
About				
	User			
	Password			

Fig. 32 Modem settings (EC320/EC350/EC360)

Preferred network type	The network type used by the Netbiter (Auto, 4G, 3G or 2G) depending on supported network type embedded in the Netbiter. A SIM card must be inserted in the Netbiter to change this setting.
Enable data connection on modem Use modem for uplink connection towards Argos.	By default: enabled.
APN	The APN (Access Point Name) is the identifier for the mobile network. The APN is supplied by the network operator for the SIM card.
User/Password	Required by some mobile network operators.

Click on Save settings when finished.

A change in the **Modem settings** needs a reboot of the Netbiter and is indicated by a flag icon near the **System** label in the menu. For more information, refer to *System*, *p.* 22

# 3.9 Time Settings (UTC)

Naturade Cattinga	Time Settings (UTC)	
Modem Settings	Date (vvv-mm-dd) 2019 - 0	2 - 06
Time Settings		
Firmware Update	Time (hh:mm:ss) 13 : 37	52
Logs		
System		
About	Save setting	Cancel

#### Fig. 33 Time Settings

Manual configuration of the date and time in UTC for the internal clock.

### 3.10 Firmware Update

Firmware updates can also be made through Argos. See the Argos documentation.

Status	Firmware Update	
Network Settings	Current Version 2.01.05	
Iodem Settings	Current version 2.01.05	
Time Settings	Update Progress Not running	
Firmware Update	Firmware Update File Choose File	No file chosen
ogs		
System		
About	Chart undete	

#### Fig. 34 Firmware update

ė

The Netbiter must have the correct date and time to perform the update. If the Netbiter is connected to the Internet, the internal clock is synchronized, otherwise refer to *Time Settings (UTC)*, *p. 20* 

- 1. Download the latest firmware from <u>www.netbiter.com/support</u>.
- 2. Click on **Browse** and select the firmware file you downloaded.
- 3. Click on **Start upgrade** to start the update.

Do not close the web page while the update is in progress.

### 3.11 Logs

Network Settings	A seatte street	Quarter	Mada	Character the date	Marker DTU	Madhar TOD	
Modem Settings	Application	System	Modem	Firmware Update	MODUS RTU	Modbus TCP	
Time Settings							
Firmware Update	2.1						
Logs							
System							
About							

Fig. 35 Logs

Shows the internal logs that you can export by clicking the **Download logs** button.

# 3.12 System

Status Network Settings	System
Time Settings	
Firmware Update	
Logs	Reboot
System	
About	
Fig. 36 System	
rig. 36 System	System
rig. 36 System Status Network Settings Modem Settings Time Settings	Reboot needed to make modem settings take effect!
rig. 36 System Status Network Settings Modem Settings Time Settings Firmware Update	Reboot needed to make modern settings take effect!
tig. 36 System Status Network Settings Modern Settings Time Settings Firmware Update Logs	Reboot needed to make modern settings take effect!      Reboot
Fig. 36 System Status Network Settings Modern Settings Time Settings Firmware Update Logs System I■	Reboot needed to make modern settings take effect!      Reboot

Fig. 37 System requiring a reboot

If a modification in the settings has been made and implies a reboot of the device, a flag icon is added near the **System** menu label which indicates the necessity of a device reboot.

# A EtherNet/IP Implementation

See also the Argos documentation on how to configure EtherNet/IP.

### A.1 Client

### **Connection Type**

UCMM (Class 1 and 3 connection not supported)

#### **Adapter Timeout**

1000 ms

#### Services

The following services are implemented:

Code	Service Name	Addressing	Note
0x0E	Get_Attribute_Single	Class, Instance, Attribute	
0x10	Set_Attribute_Single	Class, Instance, Attribute	
0x4C	Read_Tag_Service	Symbolic Segment	Can be used to access Controller Tags.
0x4D	Write_Tag_Service	Addressing	Vendor specific service code (see note below).

**1** Read\_Tag\_Service and Write\_Tag\_Service using symbolic segment addressing is only supported by some PLCs. Please refer to the PLC vendor's documentation for more information.

### A.2 Adapter

### A.2.1 Identity Object (0x01)

#### **Class Attributes**

No attributes are implemented.

#### Instances

Instance 1 is implemented with the following attributes:

ID	Access	Name	Value
1	Get	Vendor ID	90
2	Get	Device Type	100
3	Get	Product Code	85
4	Get	Revision	1
5	Get	Status	1
6	Get	Serial Number	
7	Get	Product Name	Netbiter

#### Services

The following services are implemented:

Code	Class	Instance	Service Name
0x01	No	Yes	Get_Attribute_All
0x0E	No	Yes	Get_Attribute_Single

#### A.2.2 TCP/IP Interface Object (0xF5)

#### **Class Attributes**

The following class attributes are implemented:

ID	Access	Name
1	Get	Revision

#### Instances

Instance 1 is implemented with the following attributes:

ID	Access	Name
1	Get	Status
2	Get	Configuration Capability
3	Get	Configuration Control
4	Get	Physical Link Object
5	Get	Interface Configuration
6	Get	Hostname
13	Get/Set	Encapsulation Inactivity Timeout

#### Services

The following services are implemented:

Code	Class	Instance	Service Name
0x0E	No	Yes	Get_Attribute_Single
0x10	No	Yes	Set_Attribute_Single

#### A.2.3 Ethernet Link Object (0xF6)

#### **Class Attributes**

No attributes are implemented (= Rev 1).

#### Instances

Instance 1 is implemented with the following attributes:

ID	Access	Name
1	Get	Interface Speed
2	Get	Interface Flags
3	Get	Physical Address

#### Services

The following services are implemented:

Code	Class	Instance	Service Name
0x0E	No	Yes	Get_Attribute_Single

# B Technical Data

# B.1 Technical Specifications

Product name	Netbiter EC310	Netbiter EC320, EC350	biter EC320, EC350 Netbiter EC360				
Model name	NB301B	NB301A	NB302B – No modem NB302E – European version NB302U – US version				
Order code	NB1007-C	7-C EC320: NB1021 EC360 for EU: NB1022 EC350: NB1005-C EC360 for US: NB1023 EC350 (no antenna): NB1008-C		022 023			
2G comm. frequency	-	850, 900, 1800, 1900 MHz	For NB302E: 900, 1800 MHz	For NB302U: 850, 900, 1800, 1900 MHz			
3G comm. frequency	-	For EC350: 850/800, 900, 1900, 2100 MHz	For NB302E: Bands 8, 3, 1	For NB302U: Bands 5, 4, 2			
4G comm. frequency	_	-	For NB302E: Bands 20, 8, 3,7,1	For NB302U: Bands 17, 5, 4, 2			
Antenna connector	-	SMA female	SMA female	-			
Ethernet interfaces (WAN/LAN)	10/100 Mbit/s, RJ45 c	10/100 Mbit/s, RJ45 connector					
Relay output (NO)	Max. 24 V AC/DC, 1 A	Max. 24 V AC/DC, 1 A					
Digital inputs (DI1, DI2)	Dry contact type	Dry contact type					
Analog inputs (Al1 - Al4)	0 to 20 mA, R = 3.3 %, 0 to 10 VDC, R = 1.7 % Al1 and Al3 also supp	0 to 20 mA, R = 3.3 %, A/D = 0.1 mV+0.15 % 0 to 10 VDC, R = 1.7 %, A/D = 0.1 mV+0.15 % Al1 and Al3 also support PT100, -50 to +150 °C (16-bit)					
Serial port 1	RS-232 up to 115.2 kb	RS-232 up to 115.2 kbit/s					
Serial port 2 (isolated)	RS-485 up to 115.2 kb	RS-485 up to 115.2 kbit/s					
Supported protocols	Modbus-RTU, Modbus	s-TCP, EtherNet/IP, J1939, SNMP					
Max. connected devices	32	32					
Baud rates	1200 to 115200 baud	1200 to 115200 baud					
Proxy support	SOCKS (authentication WEB (authentication:	SOCKS (authentication: none, username/password) WEB (authentication: none, basic)					
Mounting	Screw mount or DIN r	Screw mount or DIN rail using optional mounting kit					
Dimensions (L x W x H)	92 x 135 x 27 mm	92 x 135 x 27 mm					
Operating temperature	-40 to +65 °C	-40 to +65 °C					
Storage temperature	-45 to +85 °C	-45 to +85 °C					
Housing class	IP20	IP20					
Input voltage range	9 to 32 VDC	9 to 32 VDC					
Recommended power supply	24 VDC, 25 W	24 VDC, 25 W					
Power consumption, typical	2.5 W @ 24 VDC	4.5 W @ 24 VDC	2.5W @ 24 VDC				
Certifications	See <u>www.netbiter.con</u>	See www.netbiter.com/support					

# B.2 Installation Drawings

### Dimensions (EC320/EC350/EC360)

All measurements are in millimeters.



This page intentionally left blank