



Netbiter EC300 Series

STARTUP GUIDE

SP2354 1.0 ENGLISH



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1 Preparation

1.1 About This Document

This document describes how to install a Netbiter EC300 Series gateway and set up a basic configuration.

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

Document Conventions

The following formatting conventions are used in this document to indicate safety information and other content of specific importance:

**WARNING**

This instruction must be followed to avoid a risk of death or serious injury.

**Caution**

This instruction must be followed to avoid a risk of personal injury.



This instruction must be followed to avoid a risk of reduced functionality and/or damage to the equipment, or to avoid a network security risk.



This is additional information which may facilitate installation and/or operation.

2 Installation



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

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

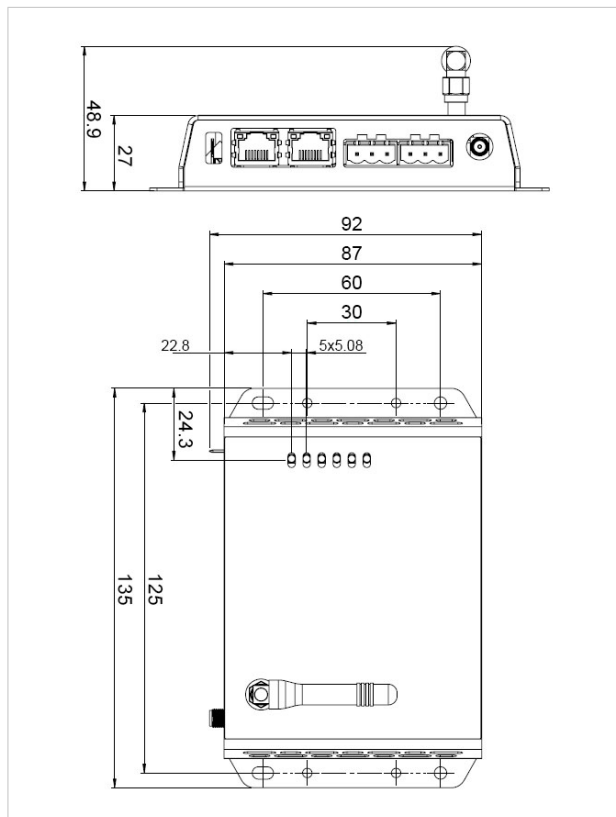
Basic Installation Steps

1. Mount the unit on a flat surface or on a DIN rail using the optional adapter kit.
2. Connect the slave devices and Ethernet network as needed.
3. Connect a suitable power supply and apply power.
4. **Mobile networking (EC350):**
 - Connect the 3G/GPRS antenna and insert the SIM card.
5. **Ethernet networking:**
 - Connect the Netbiter to a PC via the **USB** port and wait for the device driver to install.
 - Enter the IP address **169.254.200.200** in a web browser to access the local configuration pages. The username is **admin**, and the password is the activation code supplied with the unit.
 - Open the **Network Settings** tab and configure the IP settings for the **WAN** interface as needed.
6. Continue to [Configuration, p. 13](#)

The Modbus interfaces must be enabled in Netbiter Argos before they can be used. See the Netbiter Argos documentation for more information.

2.1 Dimensions

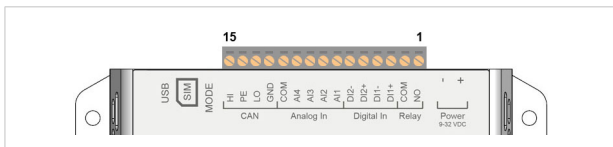
All measurements are in millimeters.



Dimensions are identical between models except for the antenna.

2.2 Connectors

2.2.1 I/O Terminal Block



Pin	Label	Function	Note
15	HI	CAN High	J1939
14	PE	CAN Shield	
13	LO	CAN Low	
12	GND	CAN Ground	
11	COM	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	AI1	Analog Input 1	0–20 mA or 0–10 VDC or PT100
6	DI2-	Digital Input 2	Dry contact type – do not apply power to these inputs
5	DI2+	Digital Input 2	
4	DI1-	Digital Input 1	
3	DI1+	Digital Input 1	
2	COM	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.

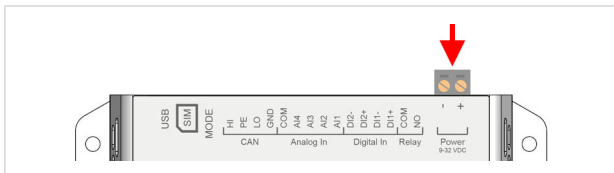


The relay output must be supplied from an isolating transformer using a secondary listed fuse rated at maximum 3.3 A and minimum 30 VDC.

2.2.2 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 correctly connected and of the recommended type.



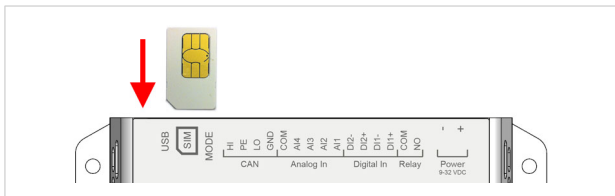
Connect a DC power supply of the recommended type to the + (plus) - (minus) terminals. See also [Technical Data, p. 15](#).

2.2.3 USB Connector



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

2.2.4 SIM Card (EC350)



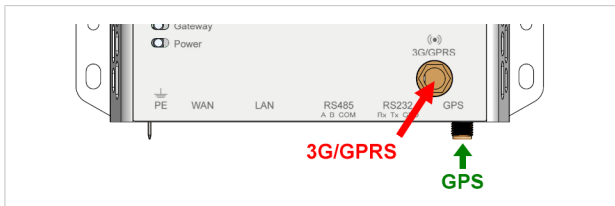
The SIM card must have a mobile data plan and allow text messaging. PIN code security must be disabled. Additional configuration in Netbiter Argos or in the local web interface is required.

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.

2.2.5 Antenna Connectors (EC350)

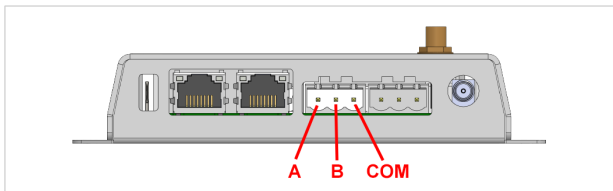


An external 3G/GPRS stub antenna is included with the unit¹. Other antennas are available from your supplier.

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

1. Antenna not included when sold in the U.S.

2.2.6 RS-485 Serial Interface (3-pin)

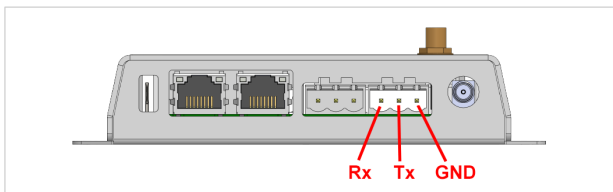


The RS-485 interface can be used for multiple Modbus RTU devices.

RS-485 connector pin layout

Pin	Function
A	RS-485 A line
B	RS-485 B line
COM	RS-485 common

2.2.7 RS-232 Serial Interface (3-pin)

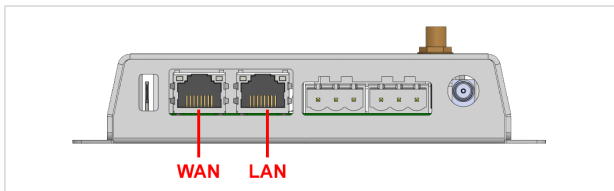


The RS-232 interface can be used for a single Modbus RTU device.

RS-232 connector pin layout

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

2.2.8 Ethernet Ports (RJ45)



WAN Use for Internet and Netbiter Argos

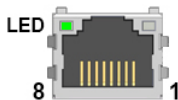
LAN Use for EtherNet/IP, Modbus TCP and Remote Access



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

RJ45 pin layout

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



Ethernet Port LED

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

2.3 LED Indicators

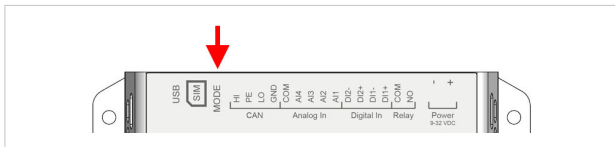
All indicators will light up while the unit is starting up. When the startup sequence has completed they will indicate system status.

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



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

2.4 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 (EC350)



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.

3 Configuration

3.1 Creating a Netbiter Argos Account

Before the Netbiter can be used it must be registered and activated from a user account in Netbiter Argos.

To register a Netbiter Argos account you will need the System ID and Activation Code that were supplied with the Netbiter. If the Activation Code has been lost, please contact Netbiter support.

1. Go to the Netbiter Argos website www.netbiter.net.
2. Click on **Create an account** and enter the required information in the registration form.
3. Click on **Register** after completing the registration form and approving the terms and conditions for using Netbiter Argos. An activation link will be sent to the email address that you provided.
4. Click on the activation link in the email.

When the account has been activated you can log in to your new account with the username and password that you supplied in the registration form.

Password Recommendations

A strong password is important to prevent unauthorized access to Netbiter Argos. The password you create for your account should:

- consist of at least 8 characters including upper and lower case letters, numerals, and special characters
- not contain personal user information
- not be the same as the username or the user's email address
- not be used on multiple sites

3.2 Activating the Netbiter

1. Make sure that the Netbiter is operating and connected to the Internet.
2. Log in to your account at www.netbiter.net.
3. On the **System activation** tab, your System ID and Activation code should already be filled in. If not, enter them now.

System activation

System ID *

Activation code *

Select primary usage for this system
This can be changed later.

Use system for View & Control (Remote management)
Primary usage will be logging, viewing live values and alarm management of the devices connected to the EC product.

Use system for Remote Access
Primary usage will be remote access and use of the EC product for access to connected devices via own software tools.

Note that it might take several minutes before the unit will come online when activating.

4. Select **Use system for View and Control (Remote Access)**.
5. Click on **Activate**. You will now be redirected to the **Management** page.

Management

Online since 2015-04-13 16:42:42
Signal: Excellent

Status Configuration Templates Dashboards Map Firmware Mobile network Properties

System ID 003011FD0EE2

Online History Data Traffic History

Time zone Europe/Stockholm

A green star in the tab bar indicates when the gateway is online.

4 Technical Data

4.1 Technical Specifications

Product name	Netbiter EC310	Netbiter EC320, EC350
Model name	NB301B	NB301A
Order code	NB1007-C	EC320: NB1021 EC350: NB1005-C EC350 (no antenna): NB1008-C
Mobile communication	–	Quad-band GSM/GPRS: 850, 900, 1800, 1900 MHz EC350 only: 5-band 3G + GSM/GPRS
Antenna connector	–	SMA female
Ethernet interfaces (WAN/LAN)	10/100 Mbit/s, RJ45 connector	
Relay output (NO)	Max. 24 V AC/DC, 1 A	
Digital inputs (DI1, DI2)	Dry contact type	
Analog inputs (AI1 - AI4)	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 % AI1 and AI3 also support PT100, -50 to +150 °C (16-bit)	
Serial port 1	RS-232 up to 115.2 kbit/s	
Serial port 2 (isolated)	RS-485 up to 115.2 kbit/s	
Supported protocols	Modbus-RTU, Modbus-TCP, EtherNet/IP, J1939	
Max. connected devices	32	
Baud rates	1200 to 115200 baud	
Proxy support	SOCKS (authentication: none, username/password) WEB (authentication: none, basic)	
Alarm messaging	E-mail, SMS	
Mounting	Screw mount or DIN rail using optional mounting kit	
Dimensions (L x W x H)	92 x 135 x 27 mm	
Operating temperature	-40 to +65 °C	
Storage temperature	-45 to +85 °C	
Housing class	IP20	
Input voltage range	9 to 32 VDC	
Recommended power supply	24 VDC, 25 W	
Power consumption, typical	2.5 W @ 24 VDC	4.5 W @ 24 VDC
Certifications	See www.netbiter.com/support	

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