

Netbiter LC300 Series

STARTUP GUIDE

SP2262 1.1 ENGLISH



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1 Preparation

1.1 About This Document

This document describes how to install a Netbiter LC300 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.

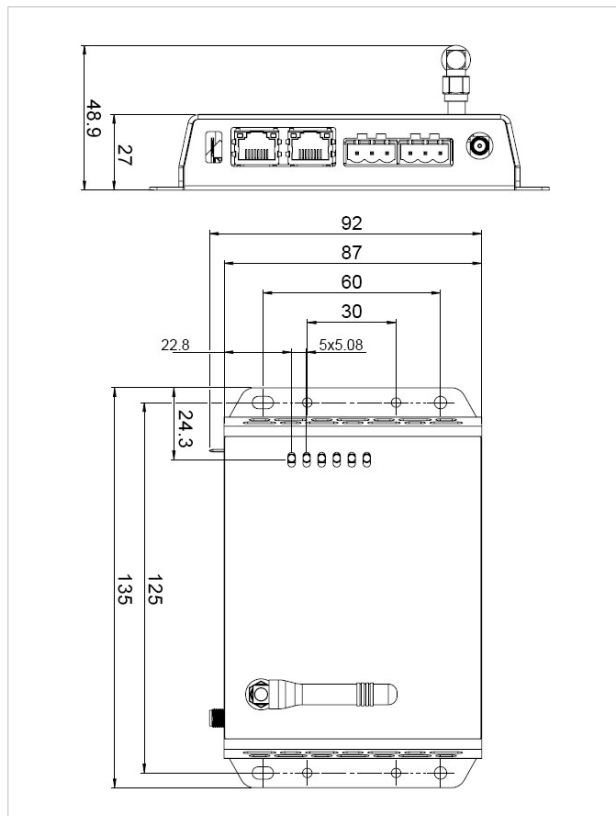


This is additional information which may facilitate installation and/or operation.

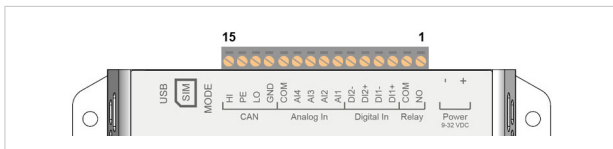
1.2 Product Description

1.2.1 Dimensions

All measurements are in millimeters.



1.2.2 I/O Terminal Block



| Pin | Label | Function | Note |
|-----|-------|---------------------|--|
| 15 | HI | CAN High | (reserved for future use) |
| 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 can be configured for either current, voltage, or PT100 temperature sensors (AI1, AI3 only).

The digital inputs are of the dry contact type which require no control voltage and can be used with switches, relays, etc.



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

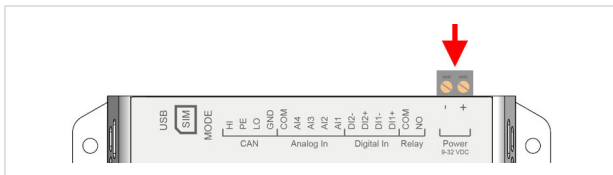


The relay output must be supplied from an isolating transformer using a secondary listed fuse rated at maximum 3.3 A and minimum 30 VDC.

1.2.3 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](#).

1.2.4 USB Connector

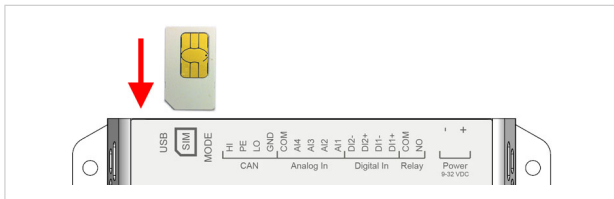
The USB micro B connector can be used to connect a computer locally to the unit for configuration, firmware upgrades and troubleshooting.



1.2.5 SIM Card (LC350)

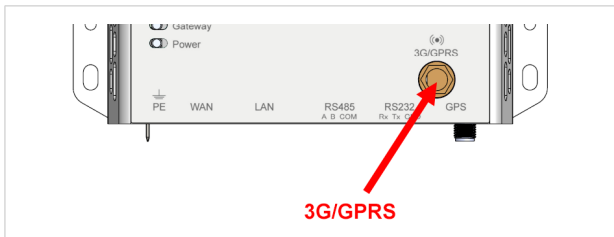
The SIM card must have a mobile data plan and PIN code security must be disabled. Additional configuration via the local web interface is required.

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.

1.2.6 Antenna Connector (LC350)

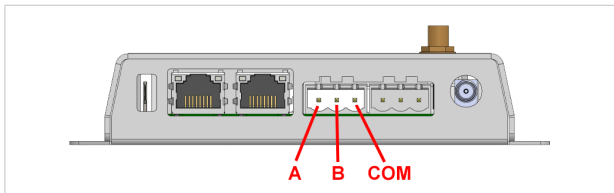


The antenna connector is a standard female SMA screw connector.

Make sure that you attach the antenna to the **3G/GPRS** connector on the front panel. The other antenna connector (GPS) is reserved for future use.

1.2.7 RS-485 Serial Interface (3-pin)

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

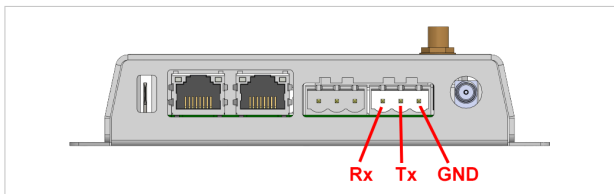


RS-485 connector pin layout

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

1.2.8 RS-232 Serial Interface (3-pin)

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



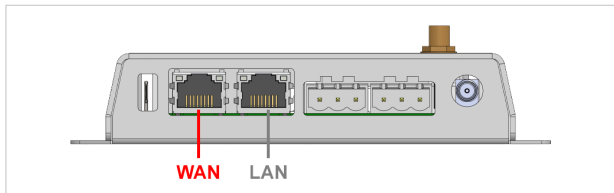
RS-232 connector pin layout

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

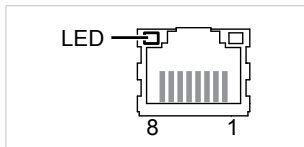
1.2.9 Ethernet Port (RJ-45)

The WAN Ethernet port allows Modbus TCP communication via Ethernet at the same time as Modbus RTU communication on the serial interfaces. It can also be used for accessing the web configuration interface over Ethernet.

The LAN port is reserved for future use.



| 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) |

1.2.10 LED Indicators

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



| LED | Indication | Meaning |
|-----------------------|------------------|---------------------------------|
| Modem (LC350 only) | 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 |
| Status | Green | Port enabled |
| | Orange, flashing | Clock not set |
| Gateway | Green | Normal operation |
| | Off | No power or initializing |
| | Red | Hardware failure |
| | Red, flashing | Application failure |
| | Green, flashing | Firmware update in progress |
| Power | Green | Unit is operational |
| | Off | No power |
| | Green | Unit has power |

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. Connect the slave devices and/or Ethernet network as needed.
2. If using mobile networking (LC350, optional), connect the mobile antenna and insert the SIM card.
3. Connect the power supply and apply power.



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.

4. Continue to [Configuration, p. 12](#)

3 Configuration

3.1 Accessing the Web Interface

The Netbiter is configured via a built-in web interface which can be accessed by connecting a computer directly to the USB port (recommended), or over the local network connected to the WAN Ethernet port.

USB Port Access

1. Connect a computer to the USB port on the Netbiter. The USB device driver should automatically load and create a new virtual network interface on the computer.

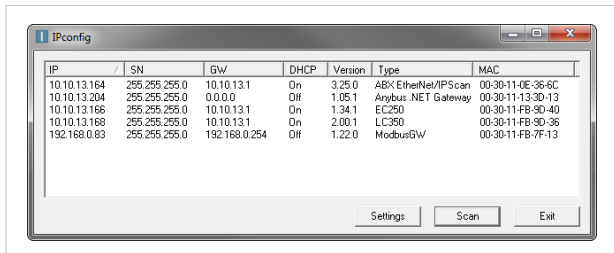


The USB driver can be downloaded from www.netbiter.com/support if it cannot be located automatically by the computer.

2. Enter the IP address **169.254.200.200** in the address field of a web browser.

Ethernet Port Access

1. Connect a computer to the local network connected to the WAN port. The WAN port uses DHCP addressing as default.
2. Use the IPconfig tool to find the IP address of the Netbiter. IPconfig can be downloaded from www.netbiter.com/support.



3. Enter the IP address of the Netbiter in the address field of a web browser.

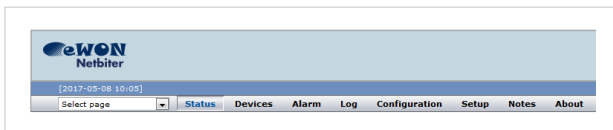
3.2 Login Screen



The default username is **admin**. This user has administration level access.

The password for the admin account is the activation code delivered with the Netbiter. This password cannot be changed.

3.3 Main Menu Bar



The web interface allows access to different configuration settings and information depending on the access level.

The recommended workflow is to start by setting up users and hardware communication from the **Setup** menu, and then continue to the **Configuration** menu to set up data presentation, logs and alarms.

| Task | Menu |
|---|-----------------------------|
| Configuring hardware and setting up users | Setup |
| Setting up data presentation, logs and alarms | Configuration |
| Everyday use | Status, Devices, Alarm, Log |

See the Netbiter LC300 Series User Manual for more information.



The web interface is designed for the latest stable versions of Internet Explorer, Firefox, Chrome and Safari. Other web browsers may not support all functions.

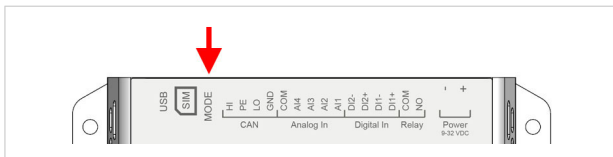
3.4 Mobile Networking Setup (LC350)

The following settings on the Modem tab are required for mobile networking:

| | |
|--------------------------------|--|
| Enable/Disable | Enables/disables mobile networking |
| Access point name (APN) | Gateway name for the SIM card operator |
| User name | User name assigned by the operator |
| Password | Password assigned by the operator |

The APN, user name and password are supplied by the SIM card operator.

3.5 Factory Reset



Keeping the **MODE** button pressed while powering on the unit will restore it to the factory default settings.

A Technical Data

| Technical Specifications | Netbiter LC310 | Netbiter LC350 |
|---------------------------|--|----------------------------------|
| Model name | NB301B | NB301A |
| Order code | NB1012-C NB1014-C (ThingWorx) | NB1013-C NB1015-C (ThingWorx) |
| Mobile communication | – | 5-band 3G + GSM/GPRS |
| Antenna connector | – | SMA female |
| Ethernet interface | 10/100 Mbit/s | |
| Alarm messaging | E-mail | |
| 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 | |
| Max. connected devices | 32 | |
| Baud rates | 1200–115200 baud | |
| 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 | 9–32 VDC | |
| Recommended power supply | 24 VDC, 25 W | |
| Power consumption | Max. 2.5 W @ 24 VDC | Max. 4.5 W @ 24 VDC |
| Certifications | See www.netbiter.com/support | |

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