Converter MBUS to Ethernet for 15 devices

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User manual

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1. Device parameters

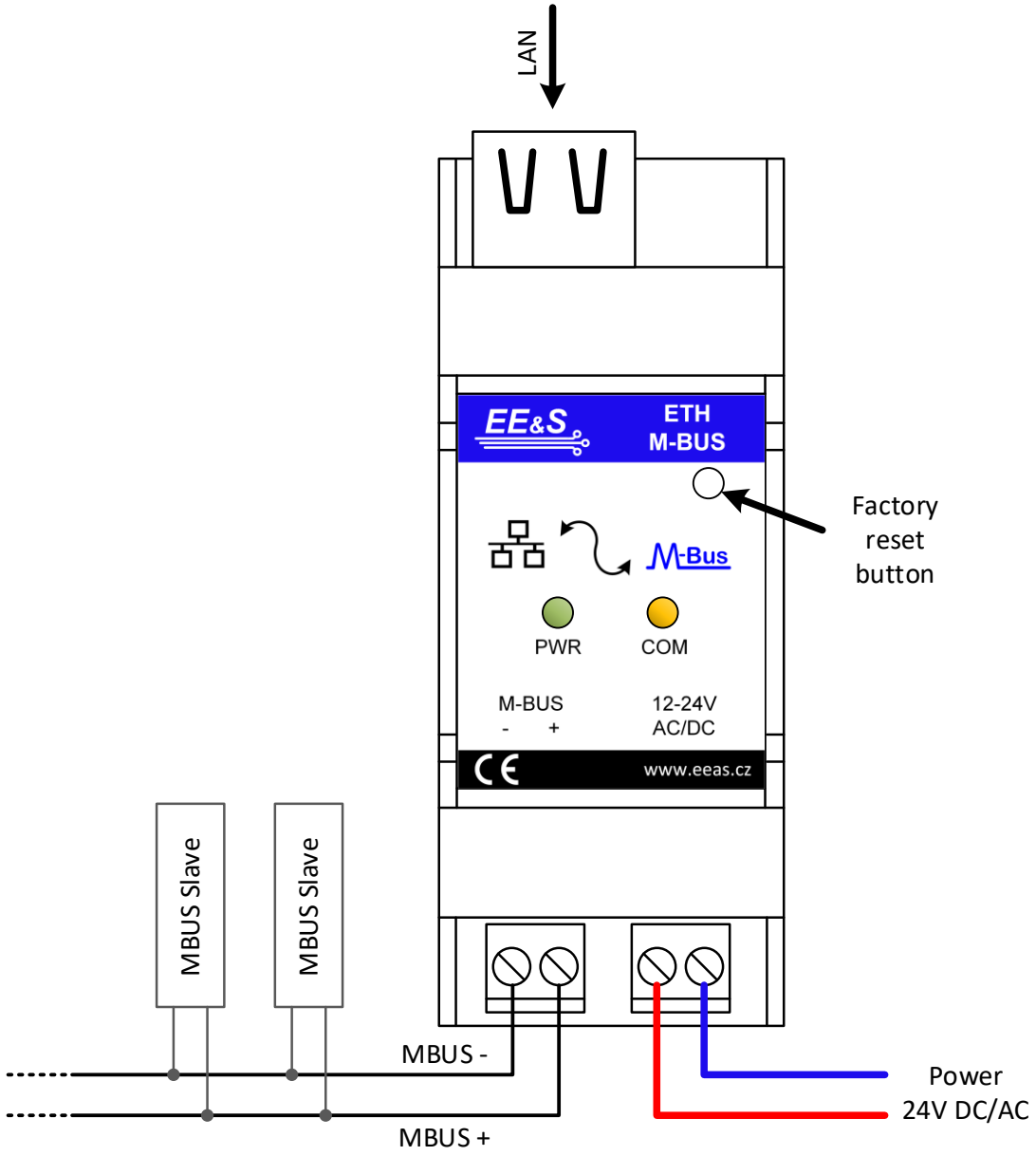
Power supply	12 – 24 V AC/DC*
Power consumption with no slave connected	1,2 W
Power consumption with 15 slaves connected	2,1 W
Galvanically isolated MBUS and Ethernet section	
Maximum number of MBUS slaves	15
Maximum MBUS cable length (300 baud)	1000 m
Dimension	93 x 36 x 61 mm

* preferably DC for better efficiency performance

2. Factory settings

IP adress	192.168.0.100
Subnet mask	255.255.255.0
Gateway	192.168.0.1
TCP Port	5000
TCP Port timeout	60 s
DHCP	disabled / static IP
MBUS Baudrate	9600
MBUS Parity	Even
Webserver Username	admin
Webserver Password	Leave empty

3. Front view and connection schematic



The device is equipped with two LEDs. The green LED labeled as “PWR” indicates the presence of the power supply with a steady light. The yellow LED labeled as “COM” flashes when a packet is sent to or received from the MBUS line. In addition there is a factory reset button on the right top part.

4. Description

The converter translates packets between MBUS physical layer and the TCP/IP socket. The payload from TCP/IP socket **is sent transparently** to the MBUS and responses from the MBUS slaves are sent to the socket in return.

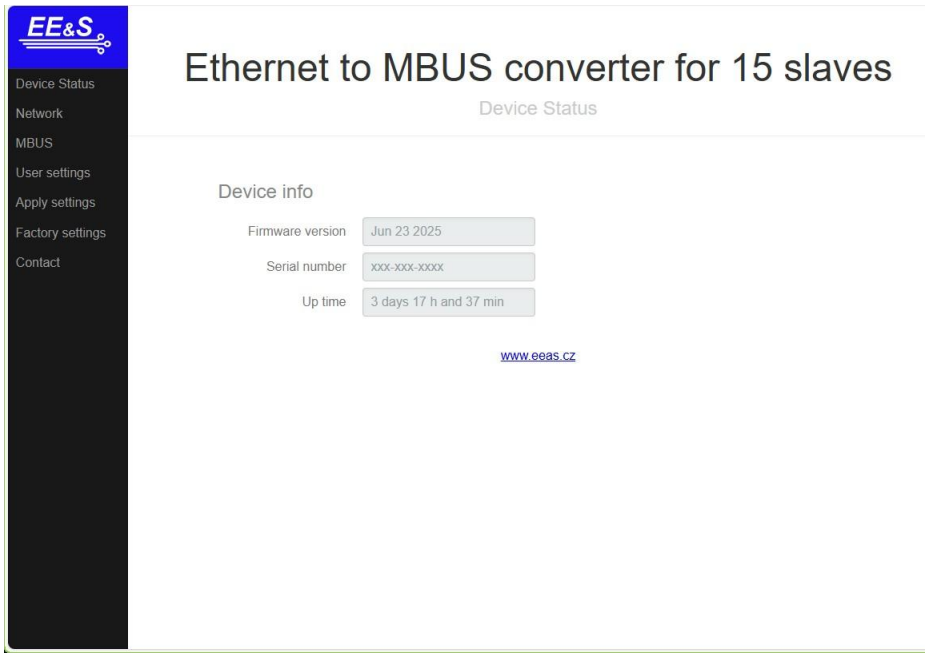
The MBUS line is galvanically isolated from the Ethernet and power supply.

The maximum length of the cable segment connected to the slave can be up to 1000 meters with a communication speed of 300 bps. For easier management of TCP/IP packets in the master system, a utility “COM Port Redirector (RFC2217)” is available. This utility allows redirection of TCP/IP packets to Virtual COM Port, alternatively to OPC server.

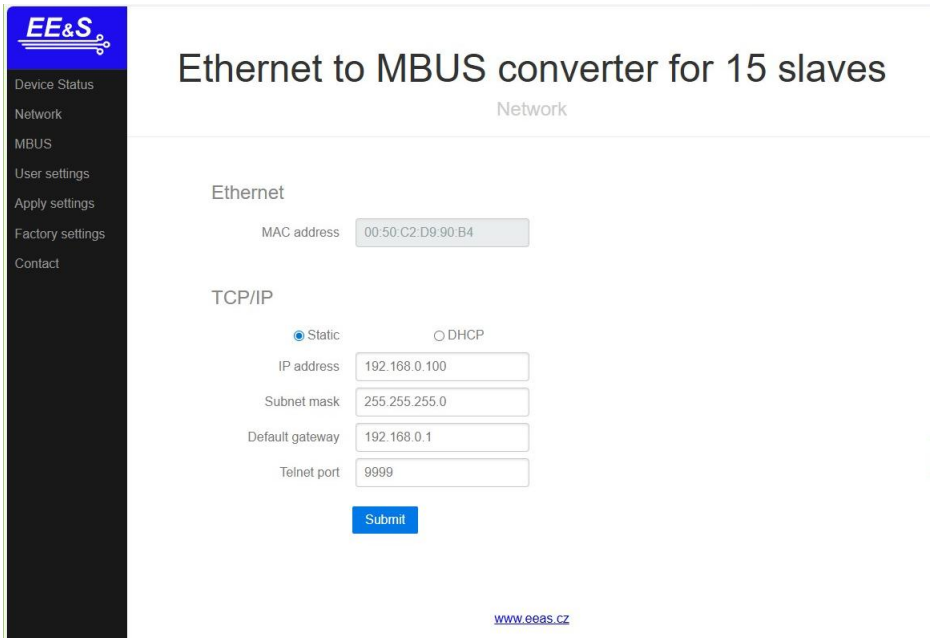
5. Device setup using webserver

The device is equipped with a webserver working on a standard HTTP port. Connect the device power supply and a LAN cable to your network and execute “http://192.168.0.100” in your web browser to access the webserver. If the device IP address has been changed, used the current IP address instead. The web server may ask for login credentials. **The device factory settings are admin as user and blank password**, then click on the **Submit** button (see picture below).

A main window of the web server will be shown after successful login. Basic device info is shown. Firmware version as well as the serial number of the device are displayed. Moreover the device uptime can be checked on this page.



If the Network (LAN settings) are to be adjusted, the **Network** button on the left side of the window can be clicked to access the network settings. A screenshot of the network tab is shown in the picture below. When any of the settings are changed, **Submit** must be clicked and afterwards **Apply Settings** on the left panel must be selected.

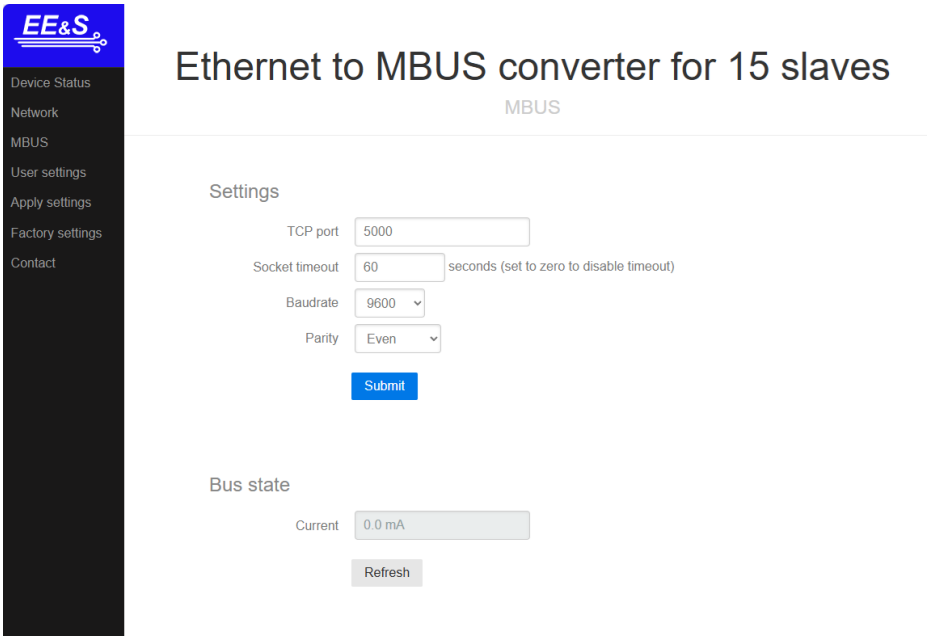


The MBUS interface setting is available under the **MBUS** panel on the left side. In the **Settings** section, the **TCP port** for the uplink communication as well

as the basic MBUS interface parameters like **baud rate** and **parity** can be changed.

Socket timeout parameter serves an automatic TCP socket closure procedure. When there is no active communication during particular time period in second device closes the TCP socket by itself. This value should can be set to 0 seconds, if user does not want any data transmission timeout. In this case automatic standardized TCP keep-alive process will take place to prevent TCP socket blockation during network failure.

In addition, the current consumption of the MBUS line can be checked in the **Bus State** section.

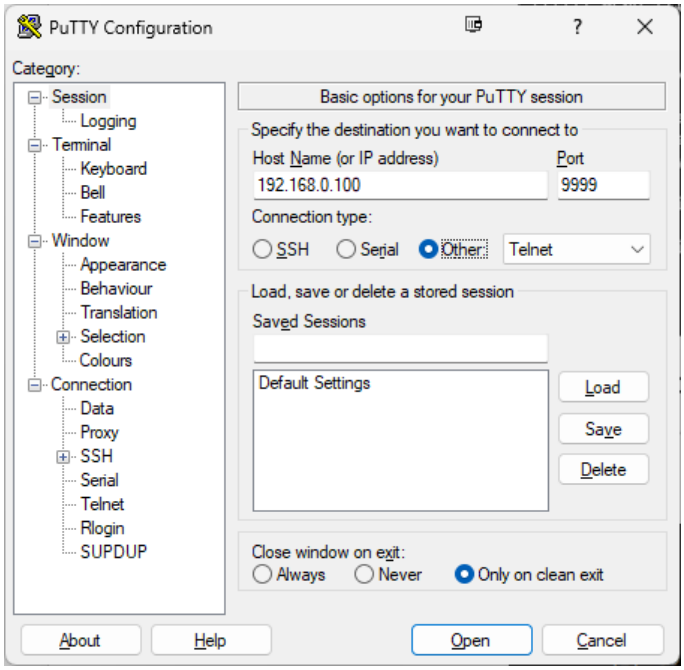


Do not forget that after clicking **Submit** user has to select **Apply settings** as well.

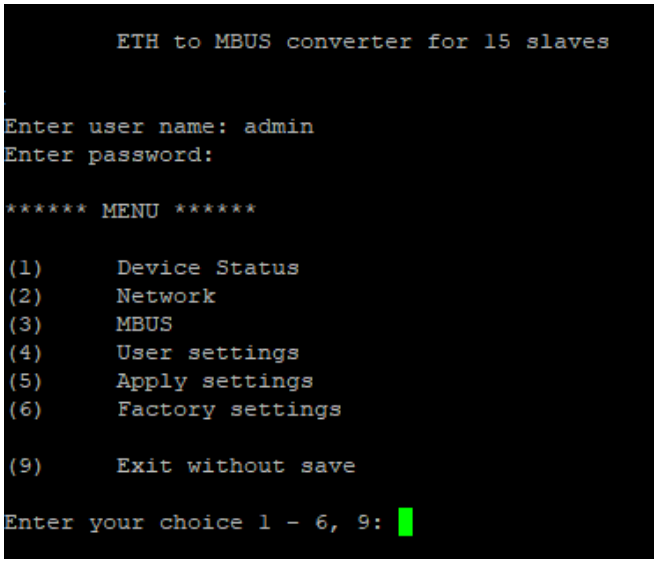
User can change login credentials under the **User Settings** tab and also reset the device to its factory settings under the tab **Factory settings**.

6. Device setup using Telnet

An alternative way to the web server is to use a Telnet server to set up the network and serial parameters. Connect the device power supply and a LAN cable to your network. Run the command line and type ***"telnet 192.168.0.100 9999"*** on the Windows operation system, see the picture below. If the device IP address has been changed, use the current address instead. Type command ***"telnet 192.168.0.100:9999"*** on Unix operating system. In addition you an use GUI based application like Putty with following connection parameters:



Press Enter/Open and the server will ask you for login credentials. After logging in the device offers menu for further steps.



The telnet interface will guide you through selected settings. For instance, setting the MBUS interface (menu **“3”**) flow looks like. The value shown in brackets remains unchanged if the user just presses Enter without typing a new value.

```
****** MBUS ******

TCP port (5000) ?       5000
Socket timeout (60) ?   60
        (1) 300 baud
        (2) 600 baud
        (3) 1200 baud
        (4) 2400 baud
        (5) 4800 baud
->      (6) 9600 baud
        (7) 19200 baud
        (8) 38400 baud

Enter number between 1 and 8 or press Enter     6
        (1) No parity
        (2) Odd
->      (3) Even

Enter number between 1 and 3 or press Enter     3
```

After completing all necessary settings do not forget to press **“5”** – this will apply you settings. If you want to discard your changes just press **“9”.** If you want to recall factory settings press **“6”**

7. Factory settings button

There is a factory reset button on the top panel of the device. This button allows the user to resets the device to the factory state. For succesful factory reset follow the steps:

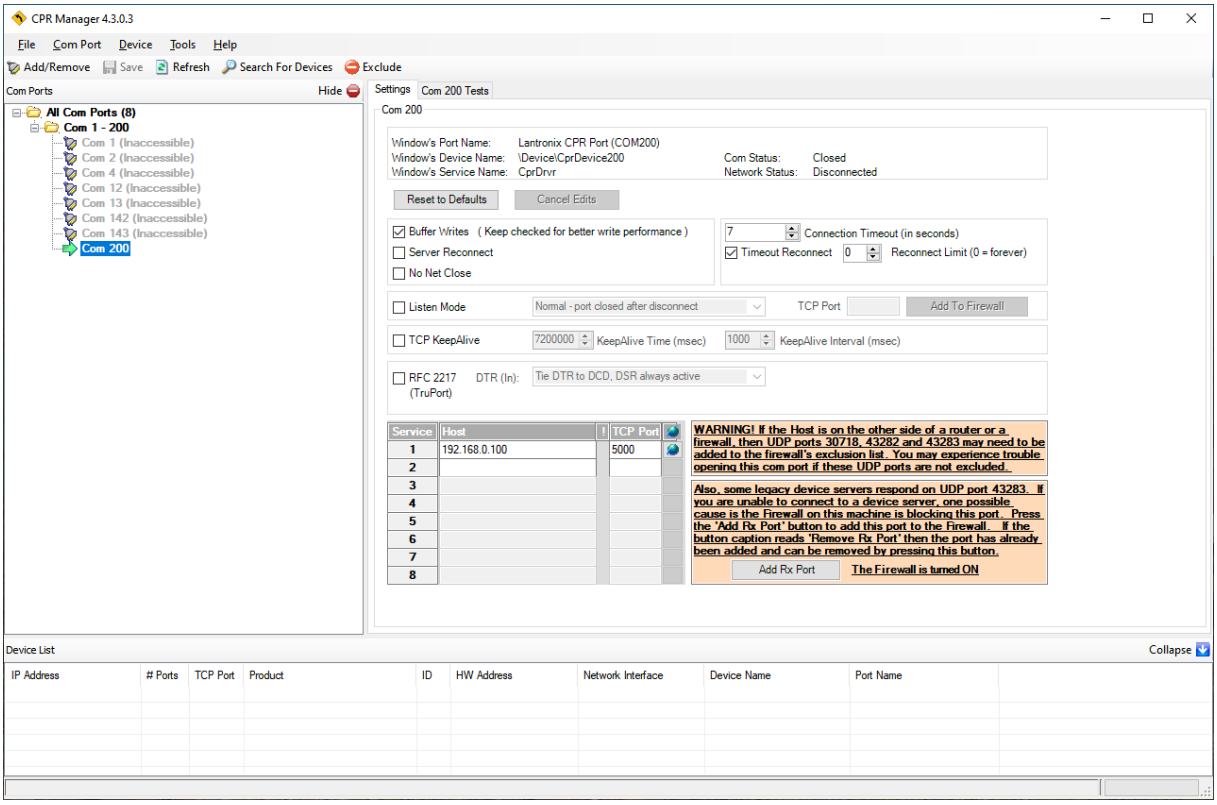
1. Power up the device (if not powered already) – **do not hold** the button during power-up
2. Push and hold the reset button
3. Wait until the LEDs will start blinking alternately
4. Release the reset button, device will reset itself and the process is done

8. COM Port Redirector

In a situation when establishing a TCP socket is not able or not preferred on the host side a COM Port Redirector utility can be used. The utility creates a virtual COM port and retransmits data from the selected TCP socket to the COM port and vice versa. The utility can be downloaded from the link. **Please note that the COM port redirector is third-party SW utility.**

https://www.lantronix.com/products/com-port-redirector/

A screenshot of the main window of the utility is shown in the picture below. The screenshot depicts a situation where COM 200 had been created and TCP port 5000 of the host “192.168.0.100” (which are the MBUS converter factory default settings) is assigned. Detailed information about the utility can be found on the website listed above.



Document updates

Date	Update
09. July 2025	Initial revision
29. July 2025	Added timeout setting

On behalf of
Embedded Electronics & Solutions, s.r.o.
we would like to thank you.

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