

Modbus TCP Gateway for UPC4

(with Anybus® Modbus TCP/RTU Gateway
from the manufacturer HMS)

User Manual



Modbus TCP Gateway for UPC4 User Manual

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Revision history

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1 Technical description

The UPC4 provides MODBUS **RTU** functionality as standard but simply has to be enabled to this protocol type by configuration using the configuration software MMT (Multi Management Tool), see section 6 “[Preparative configuration at UPC4](#)”.

To convert Modbus RTU signals to Modbus **TCP** signals a separate gateway (ANYBUS signal converter) is required.

Connect the Gateway according to section 3 „[Electrical connections](#)” to the UPC4.

Operating voltage of the gateway is 24 VDC (admissible voltage range 9 V to 32 V; AC or DC). Thus, it can be supplied combined with the UPC4 by the external power supply of the UPC4 (see figure 2 - “Electrical connections”).

The enquiries from Modbus TCP are directly converted to Modbus serial by gateway and the answers reconverted to TCP as well.

Modbus RTU >>

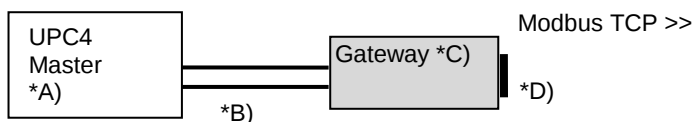


Figure 1) – UPC4 system

*A) UPC4 Master, providing Modbus RTU

*B) Connecting cable A/B, see section 3 „Connections“

*C) HMS ANYBUS signal converter

*D) Ethernet connector (female)

2 Required documentation/software

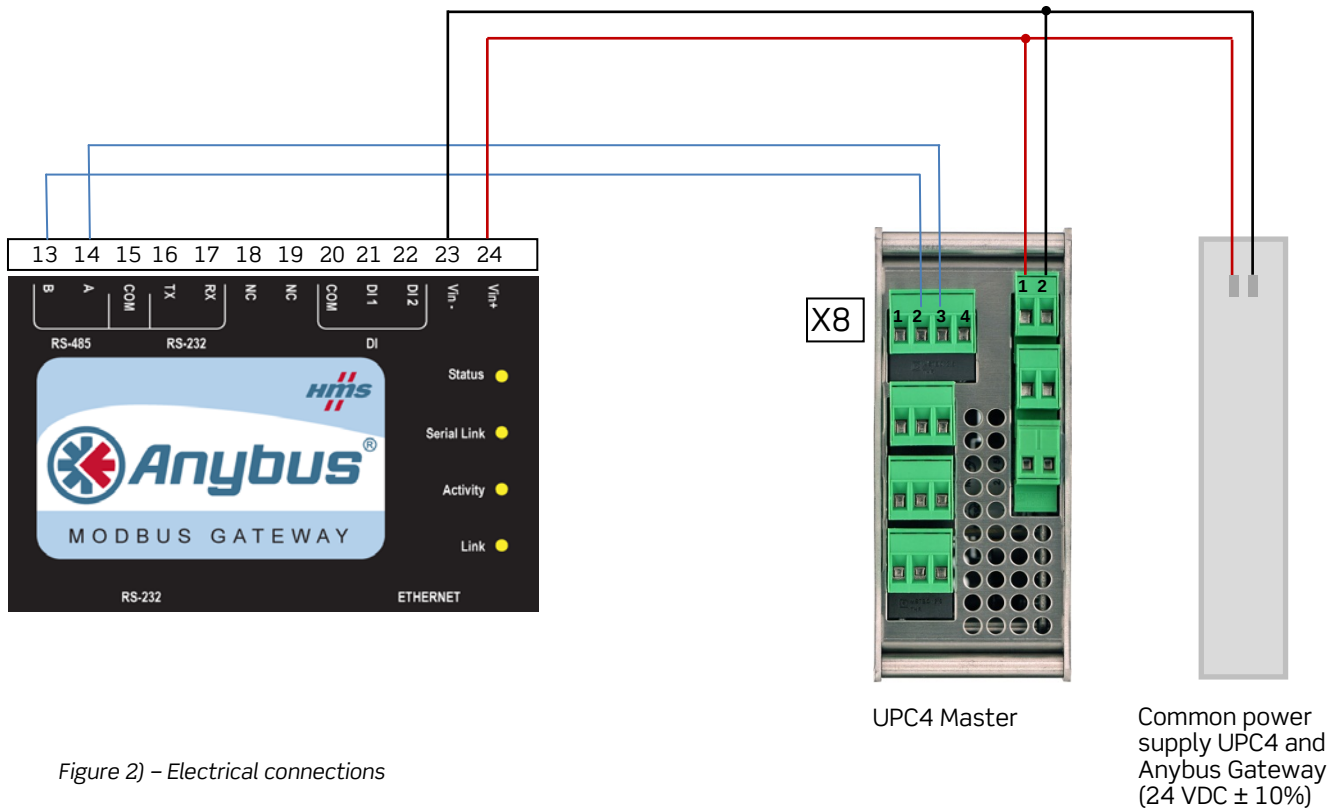
General:

- User Manual „Gateway manual“, see article number AB7702-B on the web site of the manufacturer http://www.anybus.com/support/support_home.asp
- Software „Netbiter Config “ (The “[Gateway manual](#)” describes the “Anybus IP Config” software instead of „Anybus IP Config“. But they are nearly equal).

UPC4:

- Operating instructions “Eltek_MODBUS_Implementation_UPC4”

3 Electrical connections



Anybus Gateway	UPC4, field bus connector X8
Terminal 13 (RS485 -, Line B)	X8.3 (RS485 -)
Terminal 14 (RS485 +, Line A)	X8.2 (RS485 +)

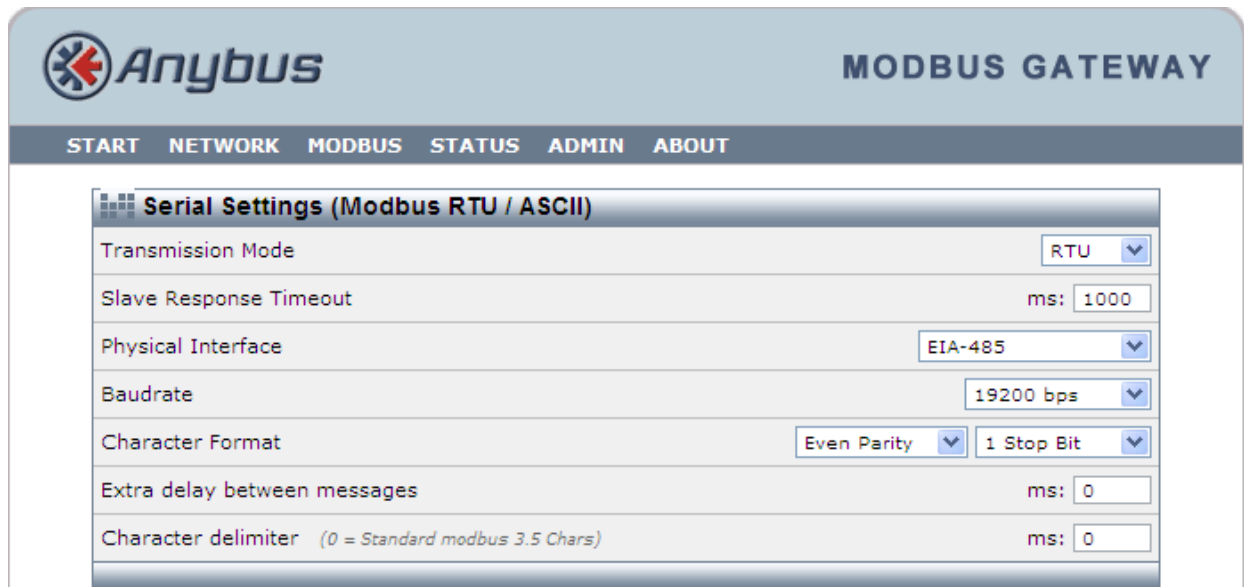
Please consider a 120- Ω -termination resistor at the end of the serial Modbus. If only one UPC4 is connected, the termination resistor must generally be enabled.
Details see user manual „[Gateway manual](#)“.

4 IP configuration Modbus gateway

See „[Gateway manual](#)“

5 RTU configuration

The RTU adjustments must match the Modbus adjustments of the UPC4 (see 7 “[Baud rate & parity](#)”)



The screenshot displays the 'Anybus MODBUS GATEWAY' web interface. The top navigation bar includes links for START, NETWORK, MODBUS, STATUS, ADMIN, and ABOUT. The 'MODBUS' section is active, showing the 'Serial Settings (Modbus RTU / ASCII)' configuration page. The settings are as follows:

Parameter	Value
Transmission Mode	RTU
Slave Response Timeout	ms: 1000
Physical Interface	EIA-485
Baudrate	19200 bps
Character Format	Even Parity, 1 Stop Bit
Extra delay between messages	ms: 0
Character delimiter (0 = Standard modbus 3.5 Chars)	ms: 0

Figure 3) – Configuration of the gateway

6 Preparative configuration at UPC4

Initially, **Modbus** function has to be enabled at the UPC4. Connect the UPC4 using a Null Modem Cable (RS232) or a network cable (Ethernet; standard IP=192.168.0.123) to a PC or Laptop. Start the configuration software „MMT“ (Multi Management Tool). Choose menu item „Service/Enable“ (1). Scroll to item „Fieldbus“ (2). Set „1“ (3) to enable Modbus functionality.

NOTE: Ignore function „2=Profibus n.a.“ because it is not available.

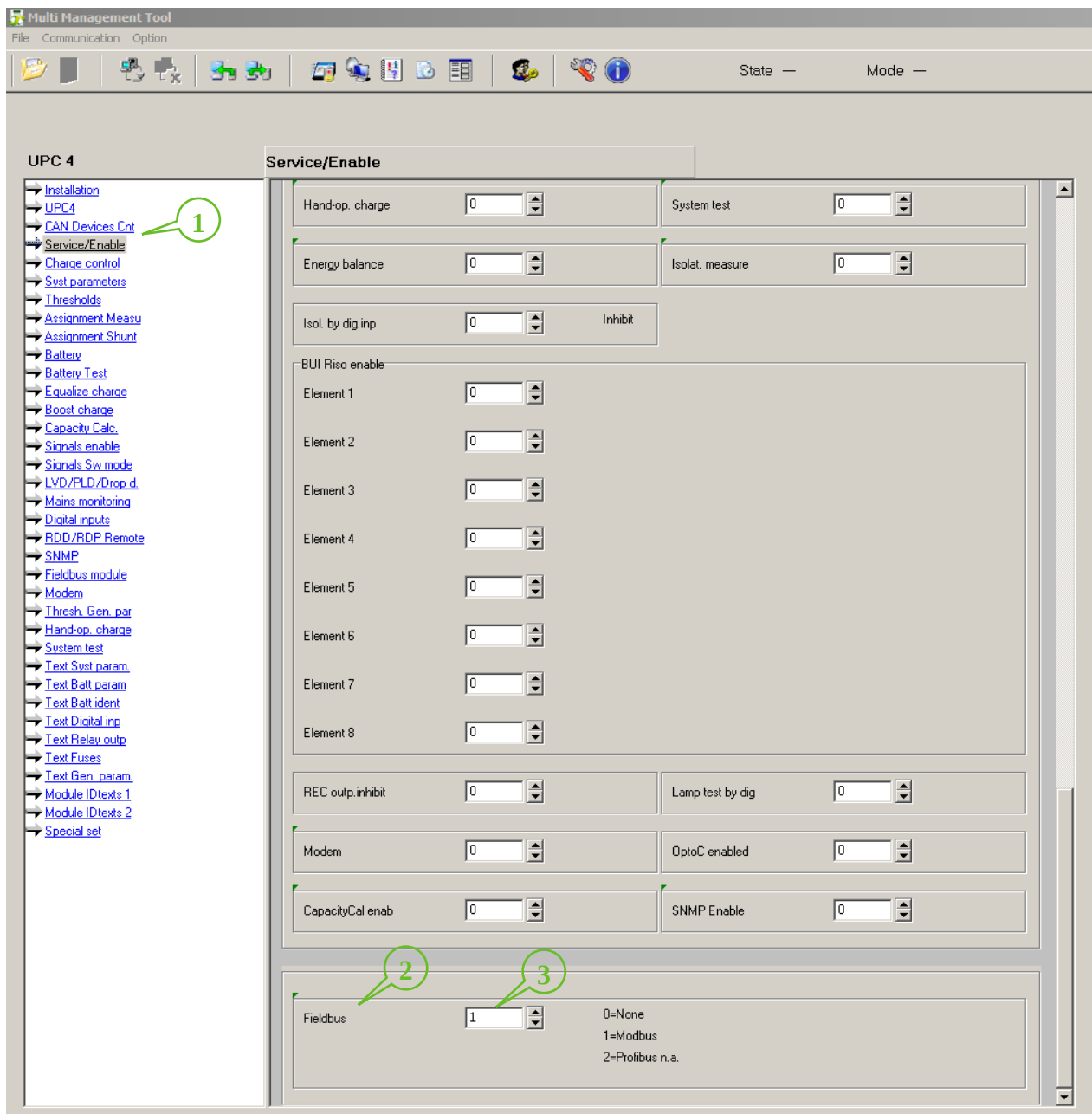


Figure 4) – Screenshot MMT “UPC4 Service/Enable”

7 Baud rate and parity (Modbus)

Next choose „Fieldbus module“ (1).

Make the adjustments as stated in the following:

- o Set Slave address (2) to „1“.
- o Set „parity“ (3) to „2“ (2=Even).
- o Set „baudrate“ (4) to 19200.
- o Set „mode“ (5) to „0“ (0=RTU).

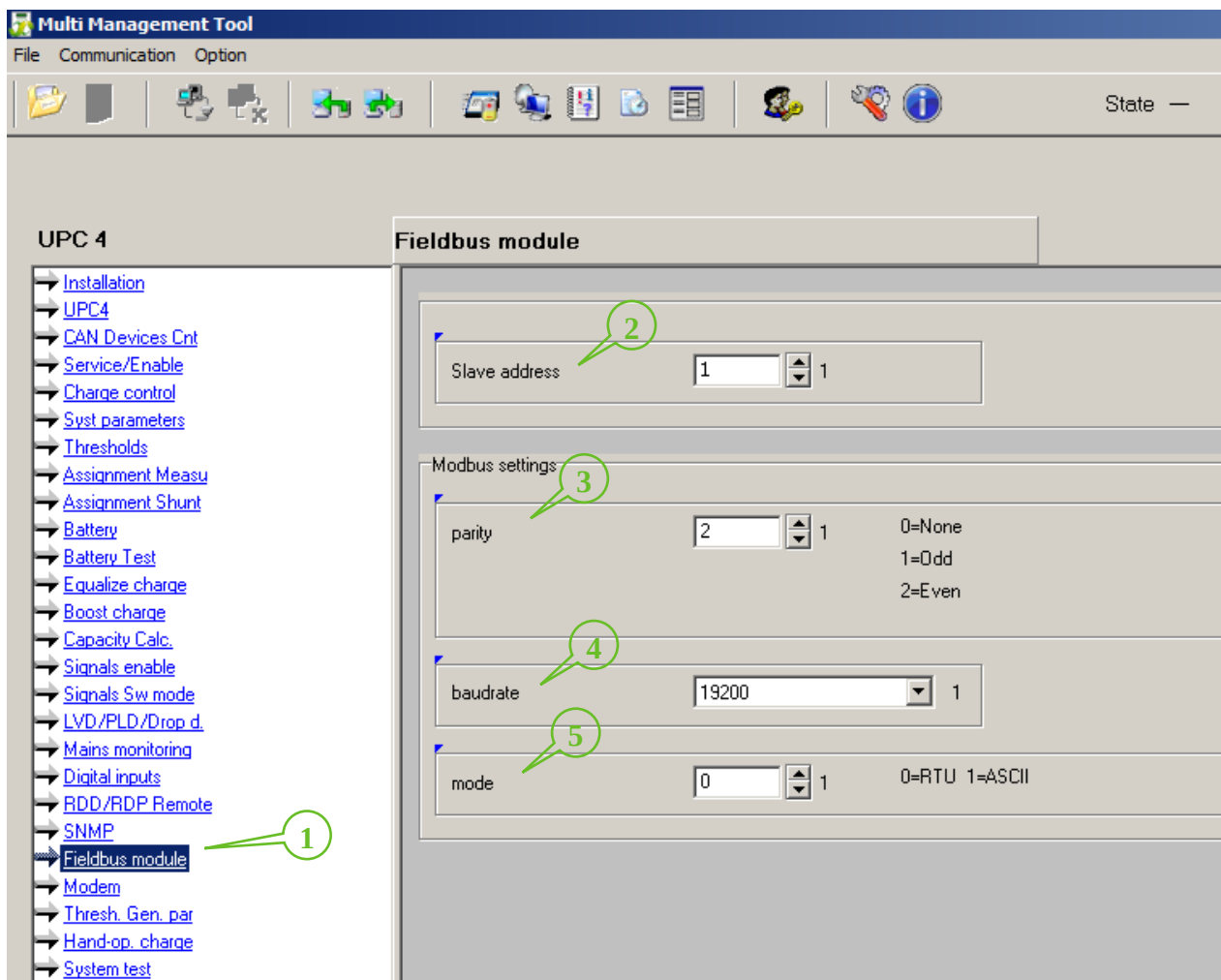


Figure 5) – Screenshot MMT “UPC4 Fieldbus module”

NOTE: For more information concerning the configuration software „MMT“ and DC controller „UPC4“ respectively please read the appropriate user manuals.

8 Register UPC4

For the register please see the operating instructions “Eltek_MODBUS_Implementation_UPC4”

9 Notes

[illegible]



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