GOSSEN METRAWATT

SMART**CONTROL** | ECS

3-349-778-03

Energy Management-System

2/5.19

SMARTCONTROL M-BUS Module PW80

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M-BUS Level Converter Module PW80
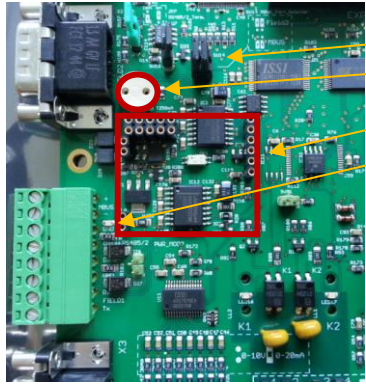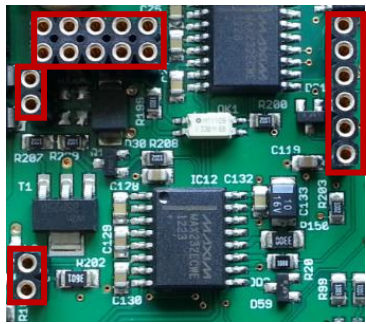# Up to 80 Standard Loads (article no. Z301Y)

The module is an add-on for the GOSSEN METRAWATT **SMARTCONTROL, rev.3**. The slot provided for this module is at the middle on the left-hand side of the SMARTCONTROL PCB (see figure 1). The module is shipped together with a plug-in T250 mA fuse.

The level converter is capable of supplying up to 80 standard M-BUS loads. The actual number depends on the size of the M-BUS network. No additional power supply is required.

It must be assured that the SMARTCONTROL is supplied with 24 V DC; this voltage determines the M-BUS signal's low level.

Installation

1. Switch the SMARTCONTROL off.

2. Open the SMARTCONTROL (IP 65 variant: open the door / IP 20 variant: open the lid).

3. Insert the fuse and the module.

Figure 1	M-BUS port selector Slot for fuse Slot for M-BUS module Green power LED for M-BUS module First insert the fuse, and then the module.
Figure 2	It must be assured that all of the module's pins are inserted into their corresponding sockets.

|	
Figure 3	View of the inserted fuse and M-BUS module
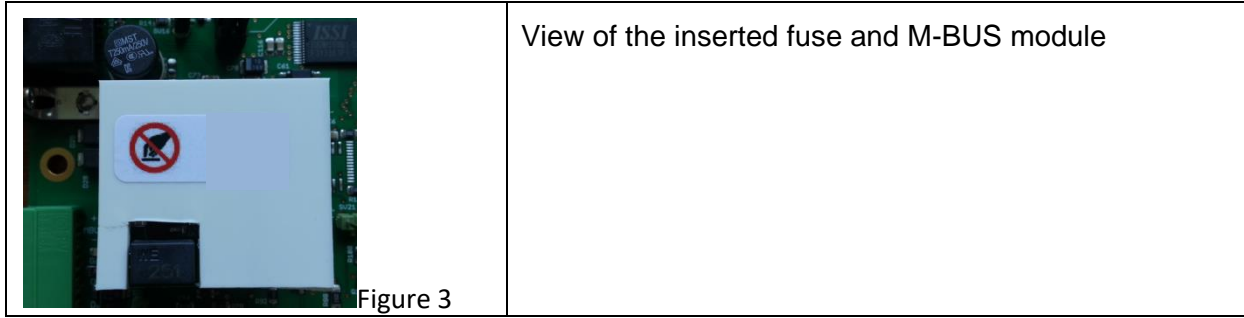
Initial Start-Up and Testing

In order to test the M-BUS level converter for correct functioning, the port via which it will communicate must first be selected. This selection is made with jumper SV14 for the M-BUS Port Selector.

Either M-BUS (default) or Field2 can be selected.

M-BUS Port Selector, SV14

 SV14, selection of **M-BUS** interface   SV14, selection of **Field2** interface
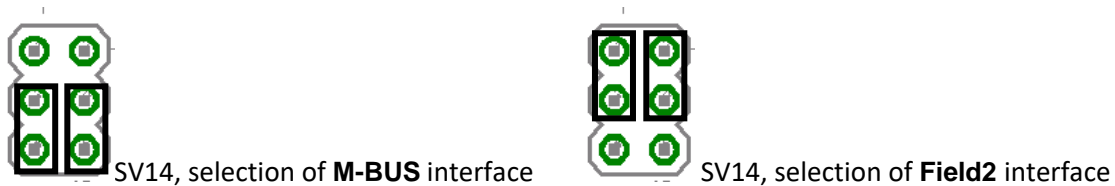
After making this selection, the SMARTCONTROL can be switched on.

> **!!! Important !!!**
> **Do not touch the M-BUS module during operation. Under certain circumstances, this may result in destruction of the module.**

The green LED to the left of the M-BUS module should now be lit up.

 Figure 4
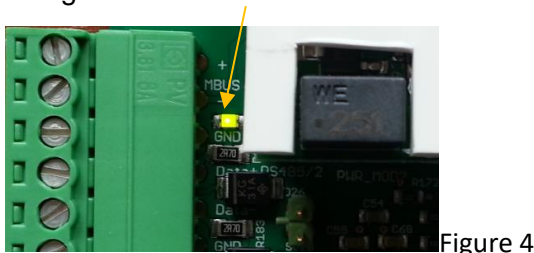
A multimeter connected to terminals M+ and M- at the 8-pole screw terminal should result in a reading of approximately 36 µV DC.

Communication can only be tested in combination with an M-Bus slave. The slave is connected to terminals M+ and M-. Polarity is irrelevant.
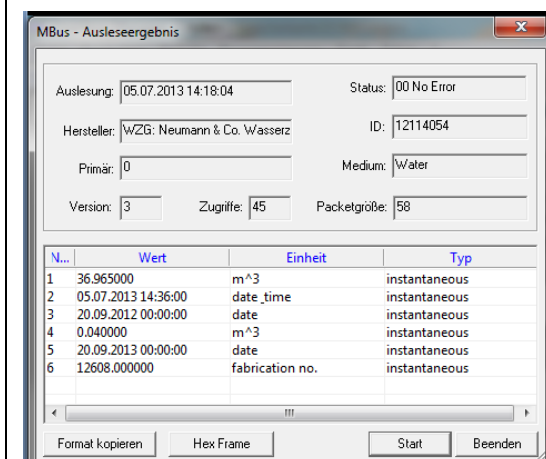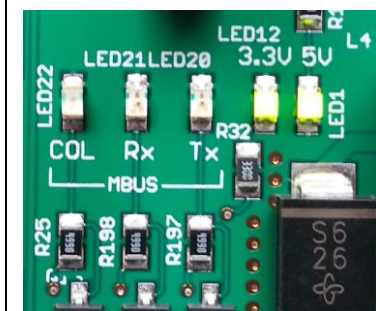
Creating an M-Bus Command with the SMARTCONTROL Manager
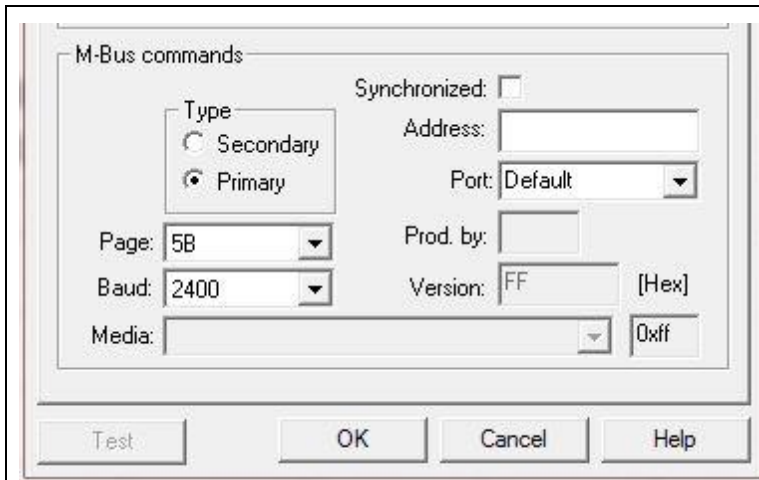
	Select the "Primary" or "Secondary" addressing type and enter the address of the connected M-Bus device to the "Address" field. Next to "Port", select either "Default" or "Field2" depending on the M-BUS Port Selector setting, and select the corresponding baud rate as well. After clicking the "Test" button, the data window for the M-BUS command appears.
	Read-out of the M-BUS device is begun by clicking the "Start" button. If everything functions correctly, the display shown to the left appears with the corresponding entries for the connected device.
	The COL LED indicates overloading or data collision within the M-BUS network. The Rx and Tx LEDs indicate data communication of the M-BUS module via the M-BUS network.

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Technical Data

Parameter	Value
Supply voltage	24 V DC
Current consumption in the idle state (without bus load)	Approx. 27 mA
Power consumption in the idle state (without bus load)	< 0.5 W
Additional power consumption for 24 V DC power supply at max. M-BUS load	~ 5 W
M-BUS voltages	24 V (low) and 36 V (high) **Low level is the same as supply voltage**
M-BUS current-carrying capacity	150 mA (roughly 80 standard loads)
M-BUS short-circuit strength	PTC fuse at MB+
Baud rate	300, 2400 or 9600 bits per second
Dimensions	30 x 33 x 15 mm

Possible Errors

If the M-BUS voltage LED does not light up, check the following:

- Fuse
- Correctly installed firmware (especially for board type S3)
- Possible short-circuits in the M-BUS cable and/or excessive bus load (more than 80 devices)

When overloading occurs, the module is switched off by the main processor for several seconds in order to allow the resettable fuse to cool down. It's thus advisable to wait a few minutes before searching for other sources of error.

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