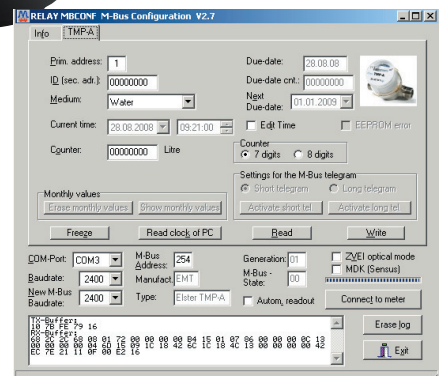


# TMP-A

## Modular M-Bus module for ELSTER water meters



- Re-fitting of meter models M140 and S100 without impairing the calibration validity period
- Simplified reading when changing tenants, due to 15 rolling monthly values
- Automatic recording of usage information at any time via the M-Bus
- No need to enter flats for mid-term or annual readings
- Usable over several calibration periods



TMP-A index card

## Sophisticated

- Connectable to all M-Bus capable readout units
- Initial meter reading adjustable
- Easy cabling
- Range of several kilometres
- Easy data processing on the computer
- M-BUS module operates on DIN EN 13757 basis
- Switch between short and long telegram

<b>TMP-A order number</b>	<b>0793337</b>
<b>Technical data</b>	
<b>Housing</b>	
Installation	onto water meters M140 MO-A M140 MOZ-A M140 EV-A
Colour	transparent
Protection class	IP54
<b>Ambient conditions</b>	
Operating temperature	0 to 55 °C
Storage temperature	-20 to 70 °C
Humidity (not condensing)	10% to 70%
<b>M-Bus cable</b>	
Cable type	LiYY 2 x 0,25 mm <sup>2</sup> with insulated wire end ferrules
Length	1 m
<b>Power consumption</b>	
Principle	Remote power supply of the M-Bus with automatic changeover to battery if the bus fails
Bus operation	max. 1.5 mA (1 standard load), no battery load
Battery	Lithium 3V, 1000mAh
Battery operation	approx. 4 µA at 25 °C, or 7 µA if the magnet stops under the reed switch
Batterie life in the case of battery operation only	typically 10 years at 25 °C
<b>Physical data</b>	
<b>M-Bus</b>	
M-Bus standby current	typically 1.4 mA, maximum 1.5 mA (1 standard load)
Space (0-Bit) current M-Bus interface	Standby current + typically 13 mA TI TSS721 with 2 x 2150hm Protective resistor

The configuration of the M-Bus module needs to be adapted to the relevant meter after installing. The software MBCONF, version 2.5 or higher, is used for this purpose.

The MBCONF software for adjusting parameters of the pulse adapter is a 32-bit application that can be executed on an IBM compatible PC using the operating systems Windows NT, 2000 or XP. The desktop PC or laptop used needs to provide a free serial RS232C or USB interface. An M-Bus level converter is connected to it. The TMP-A that is to be set up needs to be connected to the M-Bus output of the level converter in a 1:1 connection ( i.e. as the sole M-Bus device).

<b>M-Bus protocol</b>	
Relevant standard	EN13757
Transfer rate	300, 2400 and 9600 baud (programmable)
Addressing	Primary and secondary addressing with a Wildcard, per unit: 1 primary and 1 secondary address
Supported functions	SND_NKE, REQ_UD2, SND_UD, standard-conform ignoring of the FCB bit
<b>Short telegram data structure</b>	variable structure, low byte first (identifier 72h), length = 230 bytes 1. Data record: meter reading 2. Data record: date and time 3. Data record: last due date 4. Data record: last due date value 5. Data record: next due date 6. Data record: company-specific appendix
<b>Long telegram data structure</b>	variable structure, low byte first (identifier 72h), length = 50 bytes 1. Data record: meter reading 2. Data record: date and time 3. Data record: last due date 4. Data record: last due date value 5. Data record: next due date 6. Data record: most recent month's date (01/MM/YY) 7. Data record: most recent month's meter reading ..... 34. Data record: earliest month's date (01/MM/YY) 35. Data record: earliest month's meter reading 36. Data record: company-specific appendix
Parameter protocol	Identification number, medium, primary address, initial meter reading, date/time, next due date and the telegram type (short/long) are programmable per SND_UD via the M-Bus

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