

## Converter M-Bus

The M-Bus converter is an MP client and converts the information of the MP-Bus of the thermal energy meters 22PE.. and the Belimo Energy Valve™ EV..R2+.. / EV..R3+.. to M-Bus. As an intelligent connection box, it supplies the connected devices with voltage and integrates them on M-Bus.



## Type Overview

Type	Output signal
G-22PEM-A01	M-Bus

## Technical data

<b>Electrical data</b>	Nominal voltage	AC/DC 24 V
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption AC	0.9 VA
	Power consumption DC	0.75 W
	Electrical connection	Pluggable spring loaded terminal block max. 2.5 mm <sup>2</sup>
	Cable entry	1x cable gland with strain relief ø6...8 mm, 1x cable gland with strain relief 2x ø6 mm, 1x cable gland with strain relief 4x ø6 mm
<b>Materials</b>	Cable gland	PA6, black
	Housing	Cover: PC, orange Bottom: PC, orange Seal: NBR70, black UV resistant
<b>Safety data</b>	Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)
	Degree of protection IEC/EN	IP65
	EU Conformity	CE Marking
	Certification IEC/EN	IEC/EN 60730-1
	Quality Standard	ISO 9001
	Pollution degree	2
	Ambient humidity	Max. 95% RH, non-condensing
Ambient temperature	-30...50°C [-22...122°F]	

## Safety notes



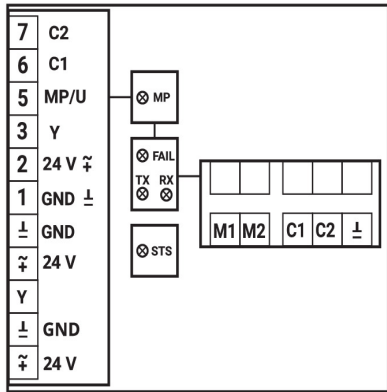
This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application. Unauthorised modifications are prohibited. The product must not be used in relation with any equipment that in case of a failure may threaten humans, animals or assets.

Ensure all power is disconnected before installing. Do not connect to live/operating equipment.

Only authorised specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.

The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Indicators and Operation



**MP (green)**

ON: Data are transmitted or received from the MP-Bus

**FAIL (red)**

ON: M-Bus connection is not present

**TX (green)**

ON: Data are transmitted to M-Bus network

**RX (green)**

ON: Data are received from M-Bus network

**STS (green), Indicates the current status of the unit**

- ON: Ok
- OFF: No power supply
- Blinking: MP-Bus device not responding

Installation notes



Procedure for replacing the M-Bus converter G-22PEM-A01

1. Before replacing the unit, all data must be read out from device, as otherwise they will be lost.
2. Replace the existing M-Bus converter with a new one of the same type.
3. The replaced M-Bus converter retains the secondary address, derived from the connected thermal energy meter.
4. Primary address is set to zero (0) by default and must be set again.

Procedure for replacing the thermal energy meter 22PE...

1. Read out the data from the M-Bus converter, as otherwise data will be lost.
2. Replace the existing thermal energy meter with a new one of the same type.
3. Secondary address of the M-Bus converter changes derived from the connected thermal energy meter.
4. Primary address of the M-Bus converter is set to zero (0) as soon as a new thermal energy meter is detected and must be set again.

Parts included

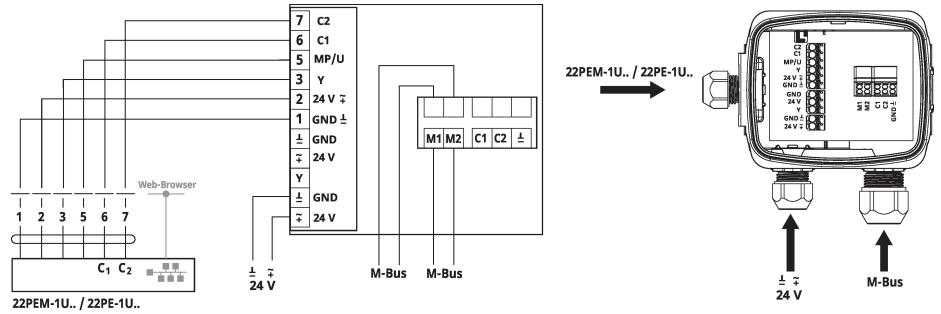
Parts included	Description	Type
	Mounting plate L housing	A-22D-A10
	5 pcs. sealing plugs for cable glands	
	Screws	
	Dowels	

Wiring diagram

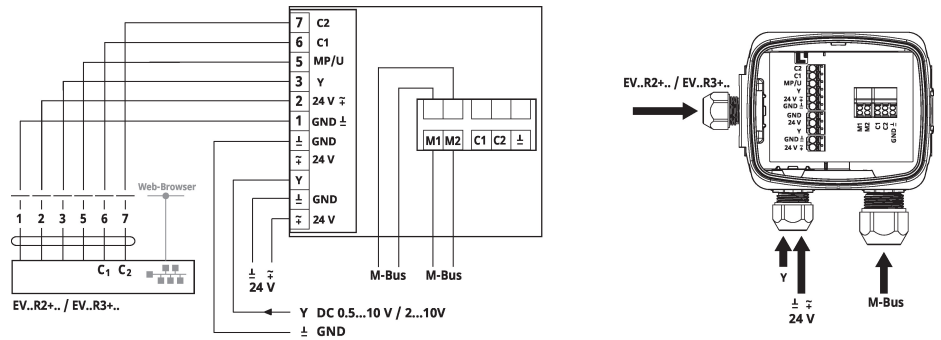
**Notes** Supply from isolating transformer.



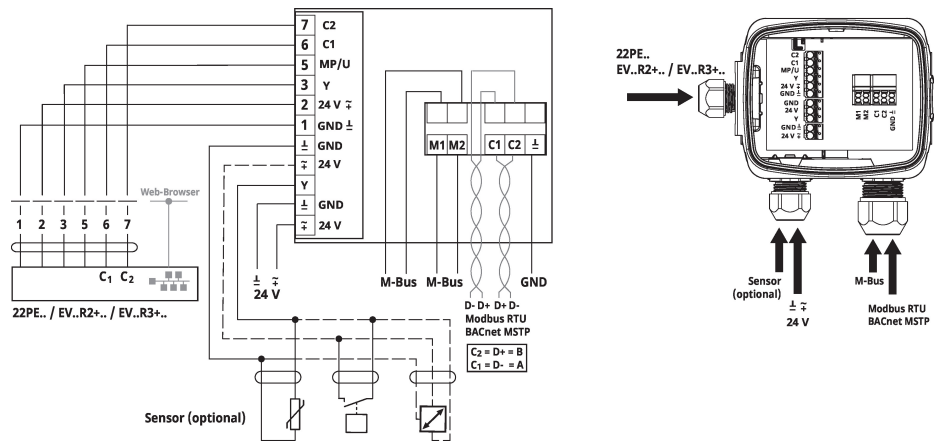
Wiring of thermal energy meter 22PE.. with M-Bus converter



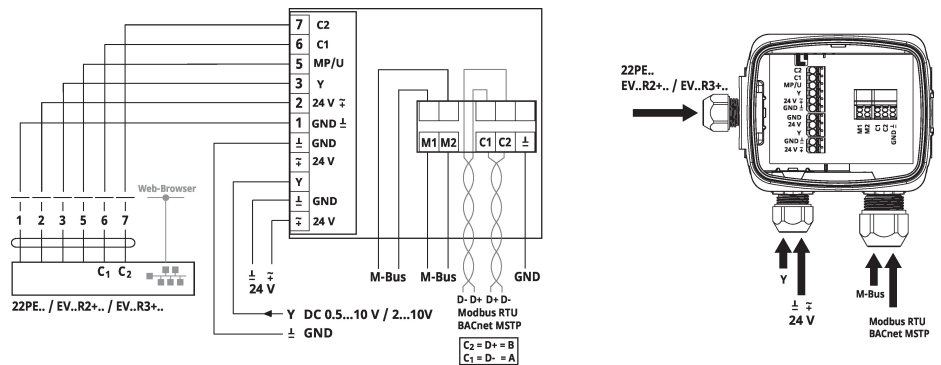
Wiring of Belimo Energy Valve™ EV..R2+.. / EV..R3+.. with M-Bus converter



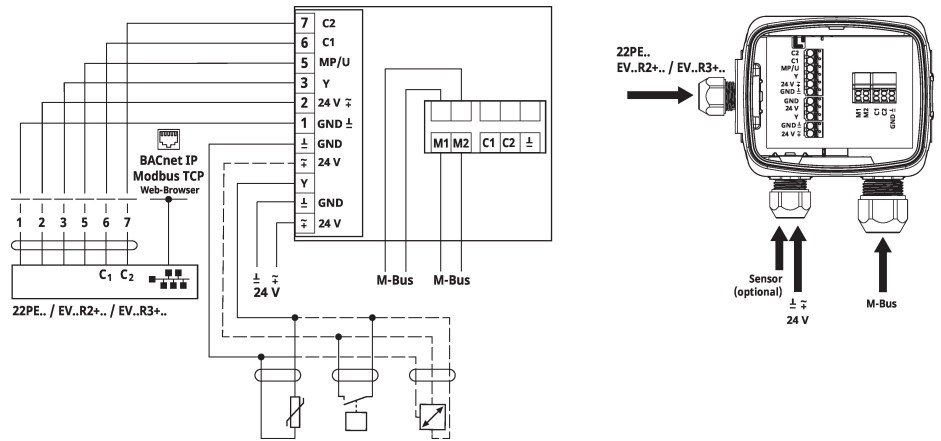
Wiring of thermal energy meter 22PE.. or Belimo Energy Valve™ EV..R2+.. / EV..R3+.. for M-Bus parallel Modbus RTU or BACnet MS/TP



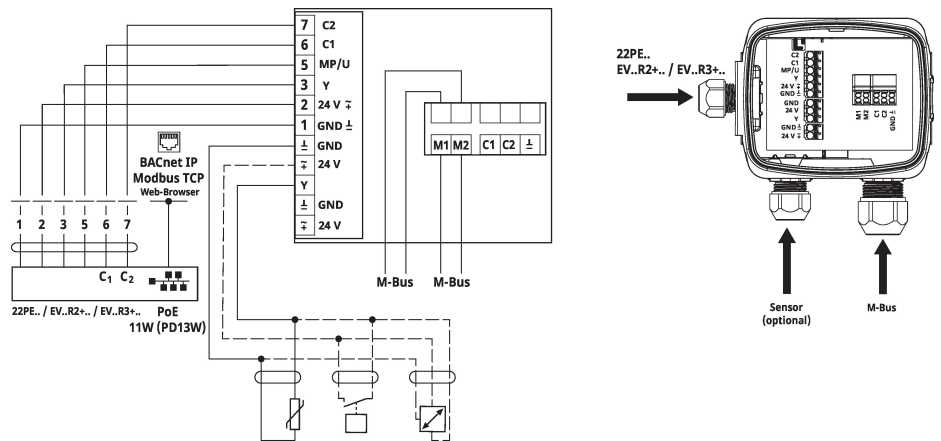
Wiring of thermal energy meter 22PE.. or Belimo Energy Valve™ EV..R2+.. / EV..R3+.. for M-Bus parallel Modbus RTU or BACnet MS/TP (Hybrid)



Wiring of thermal energy meter 22PE.. or Belimo Energy Valve™ EV..R2+.. / EV..R3+.. for M-Bus parallel Modbus TCP or BACnet IP



Wiring of thermal energy meter 22PE.. or Belimo Energy Valve™ EV..R2+.. / EV..R3+.. for M-Bus parallel Modbus TCP or BACnet IP with PoE



**Detailed documentation**

The thermal energy meters 22PEM-1U.... / 22PE-1U.. or the Belimo Energy Valve™ EV..R2+MID / EV..R2+BAC must be set to MP server by means of the Belimo Assistant App or the web server. The corresponding MP address is PP.

The system integration of the M-Bus converter on M-Bus and the assignment of the M-Bus address is done by means of a commercially available M-Bus tool. Since the M-Bus converter is an MP client, it does not need to be assigned an MP-Bus address.

**Protocol**

M-Bus: EN 13757-3:2018

MP-Bus A91613-100 Rev. 20 03.12.2019

**Baud rate**

M-Bus: 300, 600, 1200, 2400, 4800, 9600 Baud

MP-Bus: 1200 Baud

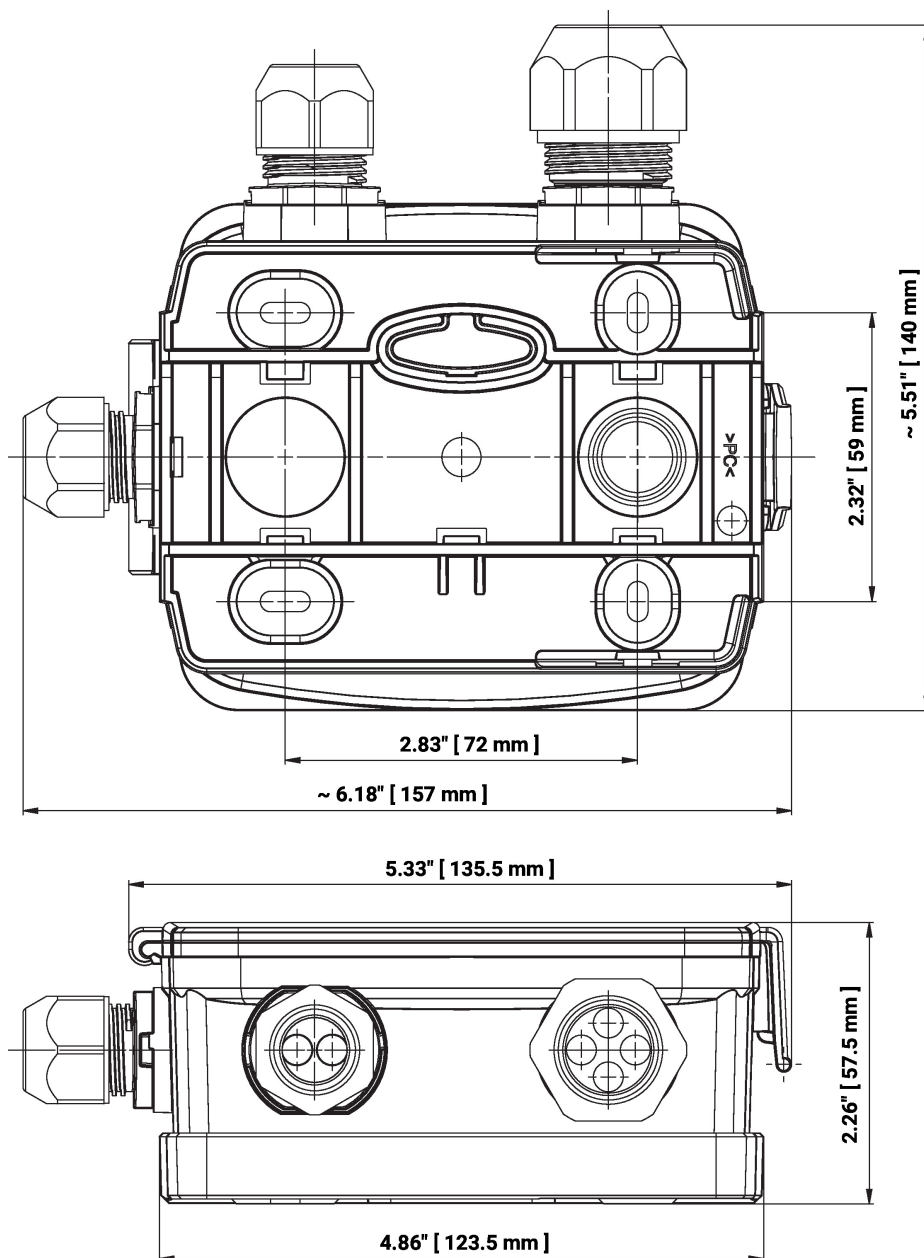
**Max. Load**

The devices connected to the M-Bus converter may have maximum current consumption of 2 ampere (2A resistive).

**M-Bus cable type**

H05VV-F2x1mm<sup>2</sup> or equivalent

Dimensions



Type	Weight
G-22PEM-A01	0.325 kg