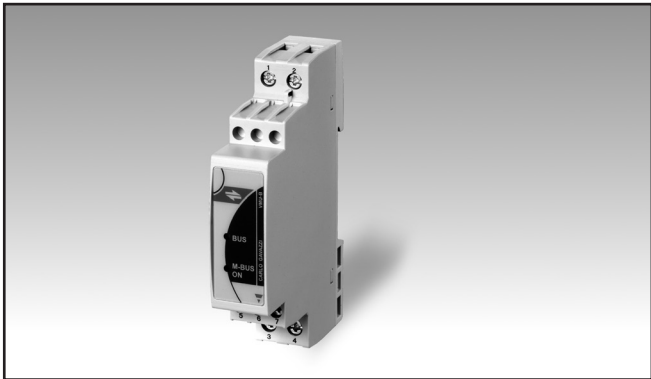


Energy Management BUS Adapter Type VMU-B M2

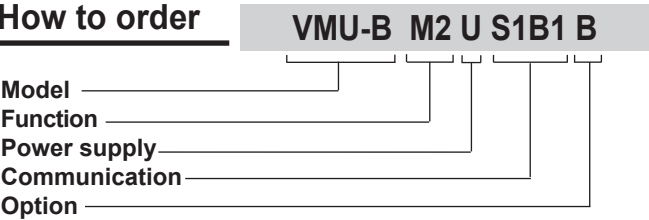


- RS485 Modbus to M-Bus communication adapter
- EM210, EM26 self recognition (option A)
- EM270, EM271 and EM280 self recognition (option B)
- WM15 self recognition (option C)
- Front diagnostic LED's
- Universal 18 to 260 VAC/DC power supply
- Dimensions: 1-DIN module
- Protection degree (front): IP40

Product Description

RS485 Modbus to M-Bus compact adapter. The module is provided with universal power supply and is able to recognize and auto-set the variable format and mapping according to the connected Carlo Gavazzi instrument. Housing for DIN-rail mounting, IP40 (front) protection degree.

How to order



Type Selection

| Function | Power supply | Communication | Option |
|--|--------------------------------|------------------------------------|---|
| M2: M-Bus port according EN13757-3:2013 | U: From 18 to 260VAC/DC | S1B1: RS485 Modbus to M-Bus | A: EM210, EM26 compatible B: EM270, EM271, EM280 compatible C: WM15 compatible |

Communication

| | | | |
|-------|---|---|---|
| LED 1 | Amber. ON steady light: working communication on RS485 bus; Blinking light: not working communication on RS485 bus. | | light: M-bus communication with the unit. Both AMBER and GREEN LED OFF light: the module is not power supplied. |
| LED 2 | Green. When M-Bus communication is not available (during the instrument starting) the LED blinks according to the set baudrate: 300 bps: blinking, pause; 2400 bps: blinking, blinking, pause; 9600 bps: blinking, blinking, blinking, pause. ON steady light: NO M-bus communication with the VMU-B unit. ON blinking | RS485 Function Type Connections Addresses Protocol Boud-rate Data format | Master function One-drop, bidirectional 3-wire The wires are already screwed on the three screw terminals (wire length: 10 cm). Max. distance 1000 m 247, set automatically by the connected instrument downstream the bus. MODBUS/JBUS (RTU) According to the communication speed set in the connected meter. According to the connected instrument. |

Communication (cont.)

| | | | |
|-------------------|--|-------------------|--|
| Frame format | According to the connected instrument, see table "Converted variables" | Baud-rate | 300 to 9600 bits/s (set automatically by the M-Bus master) |
| Special functions | None | Data format | According to the connected instrument. |
| Insulation | By means of optocouplers, 4000 VRMS between communication port to power supply input. No insulation between RS485 port and M-Bus communication port. | Frame format | According to the connected instrument, see relevant protocol |
| M-Bus | | Special functions | None |
| Function | Slave function | Insulation | By means of optocouplers, 4000 VRMS between communication port to power supply input. No insulation between RS485 port and M-Bus communication port. |
| Type | One-drop, bidirectional | | |
| Connections | 2-wire. | | |
| Addresses | 247, set automatically by the connected instrument downstream the bus. | | |
| Protocol | M-Bus according to EN13757:2013 | | |

General specifications

| | | | |
|---|---|------------------------------------|---|
| Operating temperature | -25°C to +55°C (-13°F to 131°F) (R.H. from 0 to 90% non-condensing @ 40°C) | Immunity to conducted disturbances | 10V/m from 150KHz to 80MHz |
| Storage temperature | -30°C to +70°C (-22°F to 158°F) (R.H. < 90% non-condensing @ 40°C) | Surge | 2kV on power supply; |
| Installation category | Cat. III (IEC60664, EN60664) | Radio frequency suppression | According to CISPR 22 |
| Insulation (for 1 minute) | 4000 VRMS between communication BUS and power supply | Standard compliance | |
| Dielectric strength | 4000 VRMS for 1 minute | Safety | IEC60664, IEC61010-1 EN60664, EN61010-1 |
| Noise rejection | | Approvals | CE |
| CMRR | 100 dB, 48 to 62 Hz | Connections | |
| EMC | According to: EN61000-6-2 (industrial immunity) and EN61000-6-3 (light industry emission). | Cable cross-section area | Screw-type Min. 2.5 mm ² , Max. 6 mm ² Min./Max. screws tightening torque: 0.5 Nm / 1.1 Nm Other terminals: 1.5 mm ² ; Min./Max. screws tightening torque: 0.4 Nm / 0.8 Nm |
| Electrostatic discharges | 8kV air discharge; | DIN Housing | |
| Immunity to irradiated electromagnetic fields | Test with applied current: 10V/m from 80 to 2000MHz; Test without any applied current: 30V/m from 80 to 2000MHz; | Dimensions (WxHxD) | 17.5 x 90 x 67.5 mm |
| | On current and voltage measuring input circuits: 4kV | Material | Nylon PA66, self-extinguishing: UL 94 V-0 |
| Burst | | Mounting | DIN-rail |
| | | Protection degree | |
| | | Front | IP40 |
| | | Screw terminals | IP20 |
| | | Weight | Approx. 100 g (packing included) |



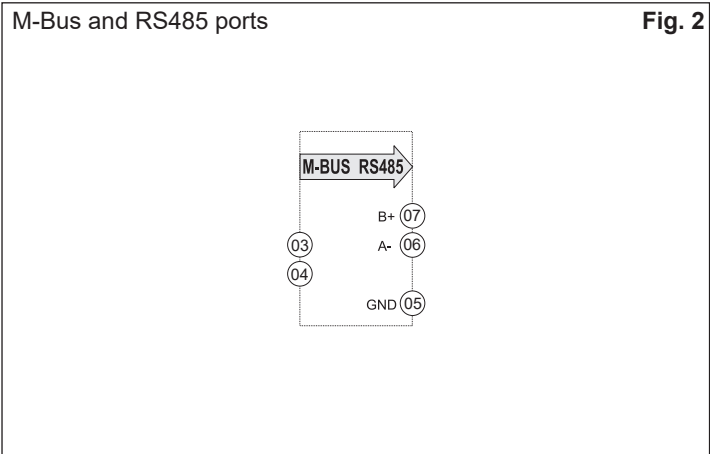
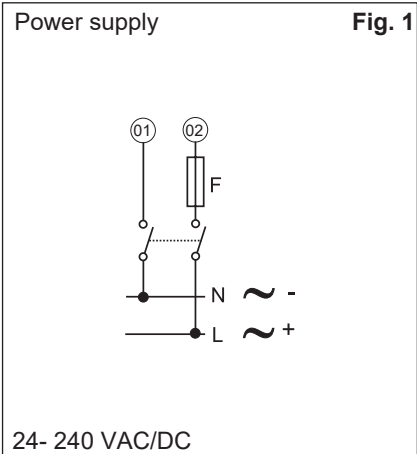
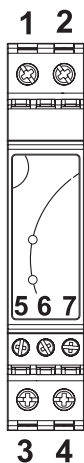
Power supply specifications

| | | | |
|--------------|------------------|-------------------|-------|
| Power supply | 18 to 260 VAC/DC | Power consumption | ≤ 3VA |
|--------------|------------------|-------------------|-------|

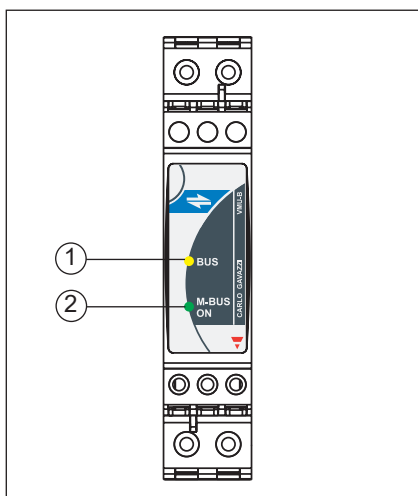
Insulation between inputs and outputs

| | RS485 port | M-Bus port | Power supply |
|--------------|------------|------------|--------------|
| RS485 port | - | 0kV | 4kV |
| M-Bus port | 0kV | - | 4kV |
| Power supply | 4kV | 4kV | - |

Wiring diagrams



Frontal panel description



- 1. Amber LED.** ON steady light: working communication on RS485 bus;
Blinking light: not working communication on RS485 bus.
- 2. Green LED.** When M-Bus communication is not available (during the instrument starting) the LED blinks according to the set baudrate:
300 bps: blinking, pause;
2400 bps: blinking, blinking, pause;
9600 bps: blinking, blinking, blinking, pause.
ON steady light: NO M-bus communication with the VMU-B unit.
ON blinking light: M-bus communication with the unit.
Both AMBER and GREEN LED OFF light: the module is not power supplied.

Dimensions and panel cut-out

