



## M-Bus repeater and level converter

The 1.ETRSEQ.003 M-Bus level converter allows interfacing to a network of devices compliant with the M-Bus standard (EN 13757-2 Physical Layer) up to a maximum of 60 slaves.

It is designed to be used in conjunction with 1.ETRSEQ.0011 to extend the MBUS network and connect additional devices, or as a traditional M-Bus repeater.

Additionally it can be used together with a specific PC software for reading data on site.

### FLEXIBLE AND COMPLETE

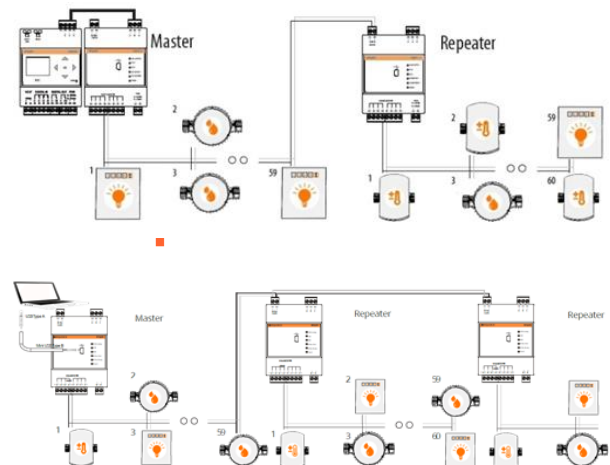
It can be used as a master in an M-Bus network connected through the dedicated port to the data logger, or as a repeater in order to extend an existing M-Bus network with up to 60 additional devices.

Its modularity allows the optimization of the reading system cost.

In "MASTER" mode, the device allows data loggers (for example 1.ETRSEQ.002) to communicate with M-Bus devices connected to the M-Bus Master port. The data logger must be connected to the level converter via the dedicated bus.

In "REPEATER/SLAVE" mode, the device works as a signal amplifier/regenerator, thus allowing for the extension of an existing M-Bus network in terms of distance and total devices connected.

### CONNECTION EXAMPLES



**ELECTRICAL CHARACTERISTICS**

<b>Rated voltage</b>	24 Vdc +/-10% (rev. HW 1.0 or if not specified) 24 Vdc +/-10%, 24 Vac (min. 20 Vac, max. 40 Vac) for HW 2.0 versions
<b>Installation category</b>	Class III
<b>Rated consumption</b>	3 W + (0.07* number of M-Bus slave)
<b>Maximum consumption</b>	12 W

**MECHANICAL CHARACTERISTICS**

<b>Operating temperature range</b>	-10 °C to +55 °C
<b>Storage temperature range</b>	-25 °C to +65 °C
<b>Dimensions</b>	90 x 71 x 62 mm (H x L x D) – DIN
<b>Installation type</b>	35 mm DIN bar (EN 60715)
<b>Protection rating</b>	IP20 (EN 60529)
<b>Connections</b>	M-Bus slave: for connection as a repeater / extender M-Bus master: for the connection to the M-Bus meters Mini-USB Type B: for connection to PC software

**M-BUS SECTION**

<b>Reference standard</b>	EN 13757-2 (Physical Layer)
<b>Baud rate</b>	Min. 300 bps – Max. 9600 bps
<b>M-Bus-RS232 isolation</b>	1 KV AC
<b>M-Bus-USB isolation</b>	1 KV AC
<b>Max. number of M-Bus devices</b>	60
<b>Max. number of repeaters</b>	Unlimited in stand-alone mode for reading current data via an RS232 or USB connection Four (4) as a slave of data logger (1.ETRSEQ.0002)
<b>Transmission speed</b>	Minimum: 300 bps Typical: 2400 bps Maximum: 9600 bps
<b>Bus voltage</b>	Min. 21 V Max. 42 V
<b>Short circuit protection</b>	Yes

**SIGNALING LEDs**

<b>USB Activity (orange LED)</b>	Connection status with PC software
<b>TXD (green LED)</b>	Transmission status on the M-Bus master
<b>RXD (green LED)</b>	Reception status from the M-Bus master
<b>M-Bus ERROR (red led)</b>	Indicates a short circuit or the overloading of the M-Bus
<b>M-Bus Ready (green led)</b>	Indicates the correct polarization of the M-Bus
<b>POWER (red led)</b>	Indicates the correct power supply of the device