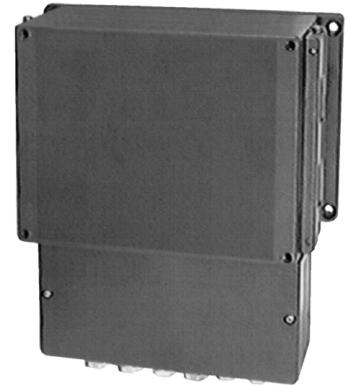


M-Bus Repeater

e.g. for plants using the OZW10 as an M-bus central unit

WZC-R250



Repeater for use in M-bus plants where long bus distances need to be covered.

Use

The M-bus repeater is a component of the M-bus system. It is designed for use in plants where extensive bus lines are required, or where large numbers of meters need to be connected, for example in district heat networks that supply heat to entire sections of towns.

For the field of use of the M-bus system, please refer to data sheet 5361.

Functions

- The M-bus repeater operates as a signal amplifier
 - With the help of the M-bus repeater, the plant can be subdivided into several segments
-

Ordering

When ordering, please give type reference **WZC-R250**.

The delivery is comprised of:

- M-bus repeater
 - Power pack DC 42 V
-

Equipment combinations

The M-bus plant is controlled by the M-bus central unit via an M-bus signal converter. By using M-bus repeaters (connected in series or parallel), the plant can be subdivided into M-bus segments. A maximum of 250 M-bus devices can be connected to one M-bus segment.

Technical design

The M-bus repeater separates two M-bus segments. The M-bus segment at the input is controlled by the M-bus signal converter or some other M-bus repeater. At the output, there is a new M-bus segment available (bus section with M-bus devices).

If the maximum permissible length of the M-bus or the maximum permissible number of M-bus devices is exceeded, an M-bus repeater is required. It must be installed where appropriate. The output of the M-bus repeater then delivers the maximum bus voltage (typically DC 40 V). A maximum of 250 M-bus devices can be connected to it.

On the M-bus repeater, the direction and type of the current data flow are indicated by LEDs:

<i>LED</i>	<i>Designation</i>	<i>Status</i>	<i>Data flow</i>
LED 1 (green)	«ON»	On	Bus voltage present, master in idle state
		Flashing	Bus voltage present, master sending
LED 2 (yellow)	«SLAVE»	On	Slave sending
		aus	Slave in idle state
LED 3 (yellow)	«MAX»	On	Normal bus current exceeded
LED 4 (red)	«SHORT»	On	SDA bus Sync ($U_{\text{Bus}} = 0 \text{ V}$ at input TSS)
		Flashing at 2 Hz	Overcurrent

According to standards, the maximum current drawn by an M-bus user is 1.5 mA, representing one "M-bus load".

The M-bus output is protected against short-circuits.

Power is delivered by a power pack (DC 42 V).

Mechanical design

The M-bus repeater consists of casing and detachable mounting base. The casing is designed for wall mounting.

When closed, no indication or setting elements are visible. When opening the bottom section of the casing, the connection terminals and LEDs can be accessed.

The terminal blocks carry two rows of contacts. The top row is used for the positive potentials while the bottom row is used for the negative potentials.

Engineering notes

The local regulations on electrical installations must be complied with.

For the design of M-bus systems, please refer to the Planning Handbook, J5361.

Fitting notes

Connect the DC 42 V power pack to the terminals 42 V + and - and to the earth terminal E.

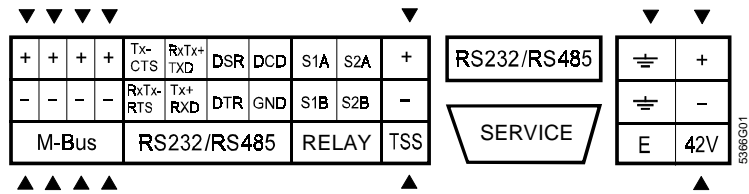
It must be made absolutely certain that the polarity of the power pack will be correct!

Before making the connections, it is recommended to check the polarity with a multimeter.

Technical data

CE conformance to	
EMC directive	89/336/EEC
Low voltage directive	73/23/EEC
Operating voltage	
(safety extra low voltage to EN 60730)	DC 42 V
Power consumption	25 VA
Degree of protection (when cover is closed)	IP40 to EN 60529
Safety class	I to EN 60730
Perm. ambient temperatures	
Transport and storage	- 25...+ 65 °C
Operation	0...55 °C
Weight	1.1 kg

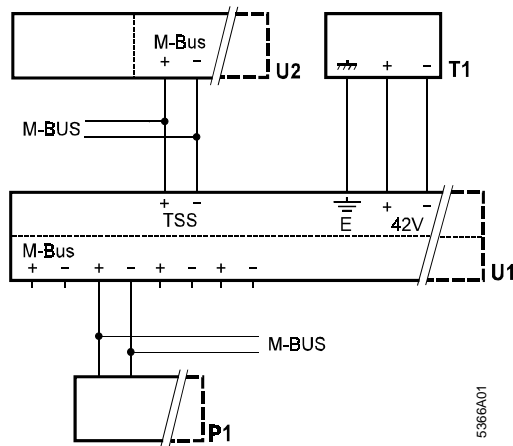
Connection terminals



Following connection terminals are used:

Section, block	Terminal	Device, signal, function	
M-bus	+	M-bus connection to the M-bus terminal devices	
	-		
TSS	+	M-bus connection toward the M-bus central unit (via the signal converter)	
	-		
Mains connection	Earthing	Connection of power pack DC 42 V	
	42 V		+
			-

Connection diagram



- P1 M-bus terminal device (WSD... heat meter)
- U1 M-bus repeater WZC-R250
- U2 M-bus signal converter WZC-P250 or M-bus repeater WZC-R250
- T1 Power pack DC 42 V

Dimensions

