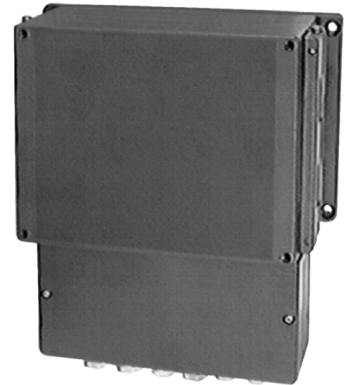


M-Bus Signal Converter

for plants using a PC as an M-bus central unit

WZC-S250



Signal converter designed for the conversion of RS-232 signals to M-bus signals.

Use

The M-bus signal converter is a component of the M-bus system. It serves for the connection of a PC-M-bus central unit with an RS-232 port to the M-bus. For the field of use of the M-bus system, please refer to the Basic Documentation P2900.

Functions

- The M-bus signal converter converts the RS-232 signals to M-bus signals
- The M-bus signal converter operates as a bus driver

Ordering

When ordering, please give type reference **WZC-S250**.
The delivery is comprised of:

- M-bus signal converter
- Power pack DC 42 V

Equipment combinations

The M-bus signal converter is for connection to the RS-232 port of a PC. A maximum of 250 M-bus devices can be connected to the converter.

Technical design

The M-bus signal converter is for connection between the PC (M-bus central unit) and an M-bus segment (bus section with M-bus devices).

As a **signal converter**, the WZC-S250 converts the RS-232 signals to M-bus signals. For this purpose, the converter is equipped with an RS-232 interface card.

As a **bus driver**, the WZC-S250 delivers the quiescent current to the connected M-bus devices. 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 (typically DC 40 V) is protected against short-circuits.

The interface between the M-bus central unit and the M-bus signal converter is galvanically separated by an optocoupler.

Power to the M-bus and the RS-232 interface card is delivered by a power pack (DC 42 V).

On the M-bus signal converter, 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
		Off	Slave in idle state
LED 3 (yellow)	"MAX"	On	Normal bus current exceeded
LED 4 (red)	"SHORT"	Flashing at 2 Hz	Overcurrent

Mechanical design

The M-bus signal converter 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.

The RS-232 interface card is an extra plug-in card. The card and its LEDs can be accessed after removing the unit cover.

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

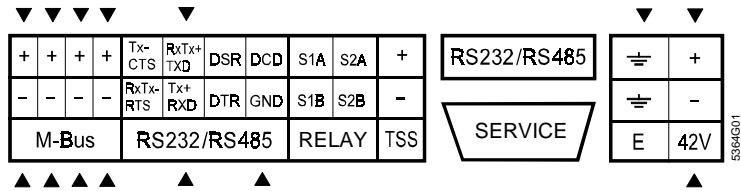
Connect the DC 42 V power pack to the terminals 42 V + and - and to the earth terminal E. **It must be made absolutely certain that the polarity of the power pack will be correct!**

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 60 529
Safety class	I to EN 60 730
Perm. ambient temperatures	
Transport and storage	- 25...+ 65 °C
Operation	0...55 °C
Weight	1.1 kg

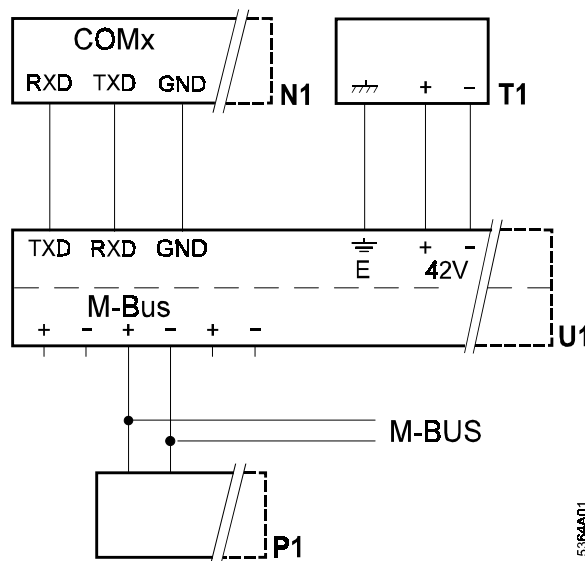
Connection terminals



Following connection terminals are used:

Section, block	Terminal	Device, signal, function	
M-bus	+	M-bus connection to the M-bus terminal devices	
	-		
RS-232/RS-485	Tx+ RXD	RS-232 port for the connection to the serial PC COM _x -port	
	RxTx+ TXD		
	GND		
Mains connection	Earthing	Connection of power pack DC 42 V	
	42 V		+
			-

Connection diagram



- N1 PC (COMx-port)
- U1 M-bus signal converter WZC-S250
- P1 M-bus terminal devices or M-bus repeater WZC-R250
- T1 Power pack DC 42 V

Use of pins on COMx (PC):

	9 pins	25 pins
RXD	2	3
TXD	3	2
GND	5	7

Dimensions

