EthMBus-5M SMART

M-Bus to Ethernet communication interface converter

- > **Connection of up to five M-Bus slave devices**
- > **10/100 Mbps Ethernet interface**
- > **TCP or UDP datagram message transmission**
- > **Supported connection modes: client or server**
- > **Simple web interface for configuration**
- > **Wide operating ranges of DC and AC power**
- > **Safeguards and filters insuring high durability of the entire device against surges and failures**

Overview

EthMBus-5M SMART is a communication converter for remote communication with M-Bus meters over the Ethernet network for building or home automation and other similar applications.

In the *Smart M-Bus* mode the converter works as a server. It communicates with the meters by itself, processes their data and stores it in its internal memory.

The meter data is simultaneously available as:
- table on a webpage
- xml, xml(REST) and csv export
- M-Bus protocol communication
- e-mail with attached xml, csv exports
- exports uploaded to an FTP server

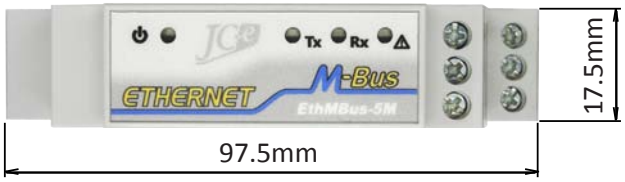
In the basic mode the converter works as a transparent gateway for the transfer of M-Bus messages using the Ethernet protocols TCP or UDP in a client or server arrangement.

Technical parameters

Ethernet communication interface	
Communications interface	10BASE-T or 100BASE-TX (auto-sensing)
Communication protocols	ARP, UDP, TCP, ICMP, Telnet, TFTP, SNMP, HTTP, DHCP, AutoIP
Connector	RJ45
Compatibility	Ethernet: Version 2.0/IEEE 802.3
M-Bus Master communication interface	
Number of devices that can be connected	1 to 5 SLAVE devices, idle current max. 7.5mA
Baud rate	300-9600 bps
Protection	- overvoltage protection TVS 600W - electronic protection against overloads and short circuit on the communication line note: converter can withstand a sustained short circuit on the line
Galvanic separation	1kV from power supply, >1kV from Ethernet
Power Supply	
Recommended range of power supply voltages	
DC power	8.5V to 40V
AC power	8.5V to 28V
Protection	overvoltage protection TVS 1500W
Power consumption	1.5W to 2.6W depends on M-Bus line load and communication. Max. consumption during M-Bus line short 2.8W.
Temperature	
Operating range	0°C to 45°C

Mechanické parametre prevodníka

The converter is built in a standard plastic box designed for mounting on a 35 mm DIN rail. The converter has a very small width of just 17.5mm. Weight of the converter is 52g.



Top view

Side view

EMC compatibility

EMC compatibility of the M-Bus converter has been tested according to the following standards in an accredited laboratory.

EMC emission tests

Standard	Test	Level
EN 55022	Power line - CONDUCTED EMISSIONS 10/150 kHz - 30 MHz	Class B
EN 55022	RADIATED EMISSIONS (Electric Field) 30 MHz - 1000 MHz	Class B

EMC immunity tests

Standard	Test	Level
EN 61000-4-2	ELECTROSTATIC DISCHARGE (ESD) - Contact discharge	± 4kV
EN 61000-4-2	ELECTROSTATIC DISCHARGE (ESD) - Air discharge	± 8kV
EN 61000-4-4	ELECTRICAL FAST TRANSIENT/BURST - Power line	± 4 kV
EN 61000-4-4	ELECTRICAL FAST TRANSIENT/BURST - M-Bus line	± 4 kV
EN 61000-4-5	SURGE IMMUNITY - Power line. Common/differential mode.	± 1kV / ± 0,5kV
EN 61000-4-5	SURGE IMMUNITY - M-Bus line. Cable shielding.	± 4 kV
EN 61000-4-5	SURGE IMMUNITY - M-Bus line. Common/differential mode.*	± 2kV / ± 1kV
EN 61000-4-6	CONDUCTED DISTURBANCES, INDUCED BY RADIO-FREQUENCY FIELDS 0,15MHz - 80 MHZ. Power line and M-Bus line.	3 V

* Test carried out at the request of the manufacturer. The M-Bus port of the converter achieves the highest level of overvoltage protection according to the EN 61000-4-5 standard. Carrying out this type of test is not required when a shielded cable is used.

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