

- > Connection of up to five M-Bus slave devices
- > 10/100 Mbps Ethernet interface
- > TCP or UDP datagram message transmission with options for encryption and authentication
- > Supported connection modes: client or server
- > Simple web interface for configuration, including the option of using secure HTTPS protocol
- > 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 SECURE is a communication converter designed for secure remote communication with M-Bus meters via an Ethernet network in building, home automation and other similar applications.

The converter uses encryption and authentication to provide secure data transmission from M-Bus meters and also offers secure configuration via a web interface. The converter works as a transparent gateway for transmitting M-Bus messages using the Ethernet TCP or UDP protocols in server or client mode with the option of encryption.

Technical parameters

Ethernet communication interface

Communications interface	10BASE-T or 100BASE-TX (auto-sensing)
Communication protocols	ARP, UDP, TCP, ICMP, AutoIP, DHCP, HTTP, HTTPS, BOOTP, SMTP, SSHv2, SSLv3, TLS1.0-1.2
Connector	RJ45
Compatibility	Ethernet: Version 2.0/IEEE 802.3

M-Bus Master communication interface

Number of connectable devices	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 M-Bus line note: converter can withstand a sustained short circuit on the M-Bus 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	1.6W to 2.5W depends on M-Bus line load and communication. Max. consumption during M-Bus line short 2.7W.

Temperature

Operating range	0°C to 45°C
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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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