

- > Connection of up to three 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-3SL 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 3 SLAVE devices, idle current max. 4.5mA
Baud rate	300-9600 bps
Protection	- overvoltage protection TVS 400W - 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

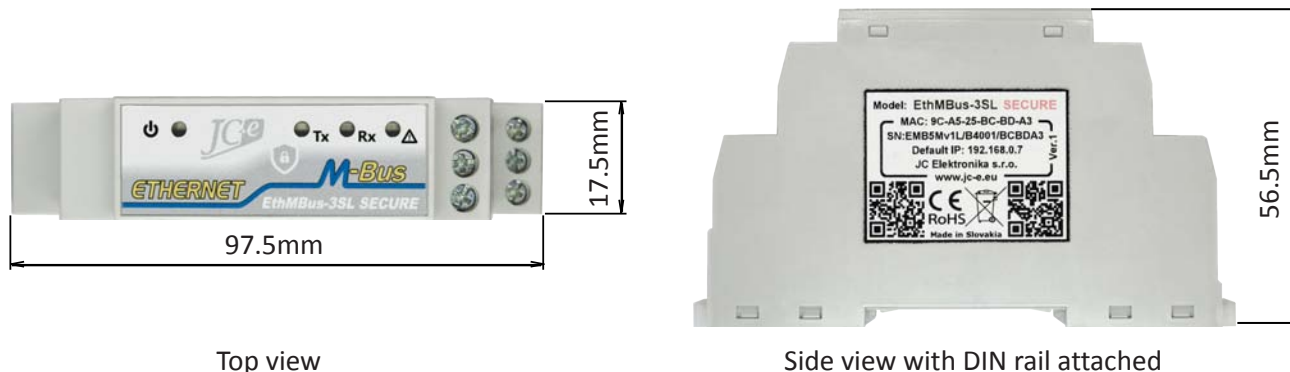
DC power	8.5V to 36V
AC power	8V to 26V
Protection	overvoltage protection TVS 400W
Power consumption	1.5W to 2.3W depends on M-Bus line load and communication. Max. consumption during M-Bus line short 2.9W.

### 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 with DIN rail attached

## 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.*	± 1kV / ± 0,5kV
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 with the use of shield cable.

## Manufacturer:

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