

M-Bus to Modbus (RS485/RS232)

Converter / Gateway

Quick User Manual



DESCRIPTION

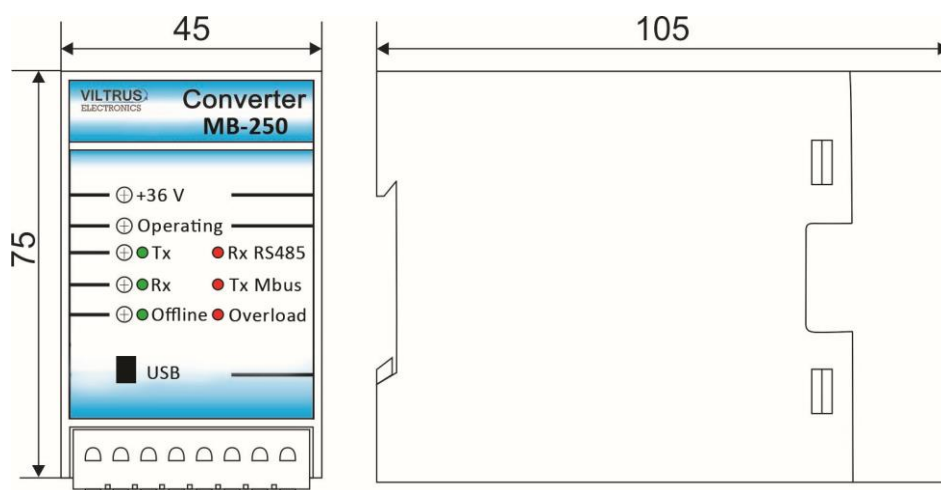
M-Bus to Modbus RTU (RS485/RS232) Converter is dedicated to convert M-Bus signal to Modbus (RS485/RS232) and to allow M-Bus devices to communicate on a Modbus network.

M-Bus to Modbus RTU (RS485/RS232) Converter is can be used with Viltrus data loggers / gateways / controllers or with any third party data loggers / gateways / controllers.

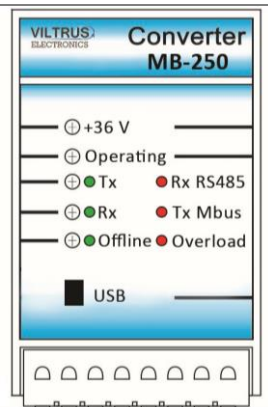
M-Bus to Modbus RTU (RS485/RS232) Converter versions:

- Converter dedicated to support up to 10 units of M-Bus meters
- Converter dedicated to support up to 50 units of M-Bus meters
- Converter dedicated to support up to 100 units of M-Bus meters
- Converter dedicated to support up to 250 units of M-Bus meters

DIMENSIONS



LED INDICATIONS



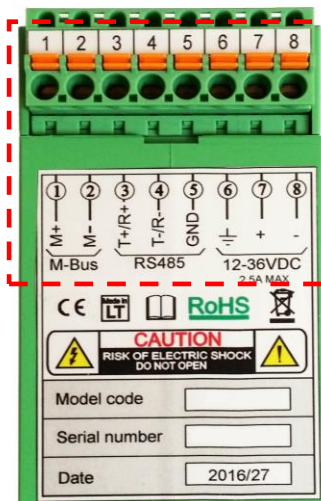
LED

DESCRIPTION

+36V	Power indicating LED
Operating	Power (ON/OFF)
Tx	Data Transfer indicating LED
Rx	Data Receive indicating LED
Offline	M-Bus not loaded (ON)
Overload	M-Bus Overload or short connection

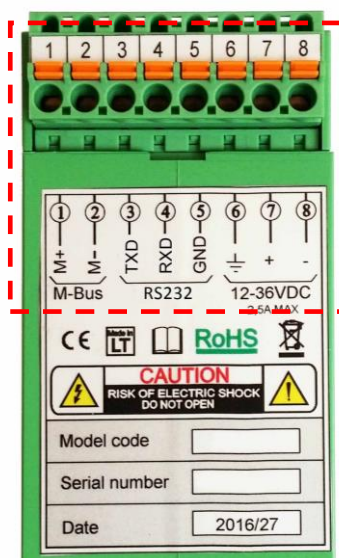
PIN NAMES OF CONNECTORS

Connector of M-Bus to Modbus (RS485)



PIN No.		DESCRIPTION
1	M+	contact for M-Bus positive wire
2	M-	contact for M-Bus negative wire
3	T+/R+	contact for positive wire of RS485 socket
4	T-/R-	contact for negative wire of RS485 socket
5	GND	contact for Ground wire of RS485 or RS232 socket
6		Ground wire
7	+	Power supply 12-36VDC (Positive wire)
8	-	Power supply 12-36VDC (Negative wire)

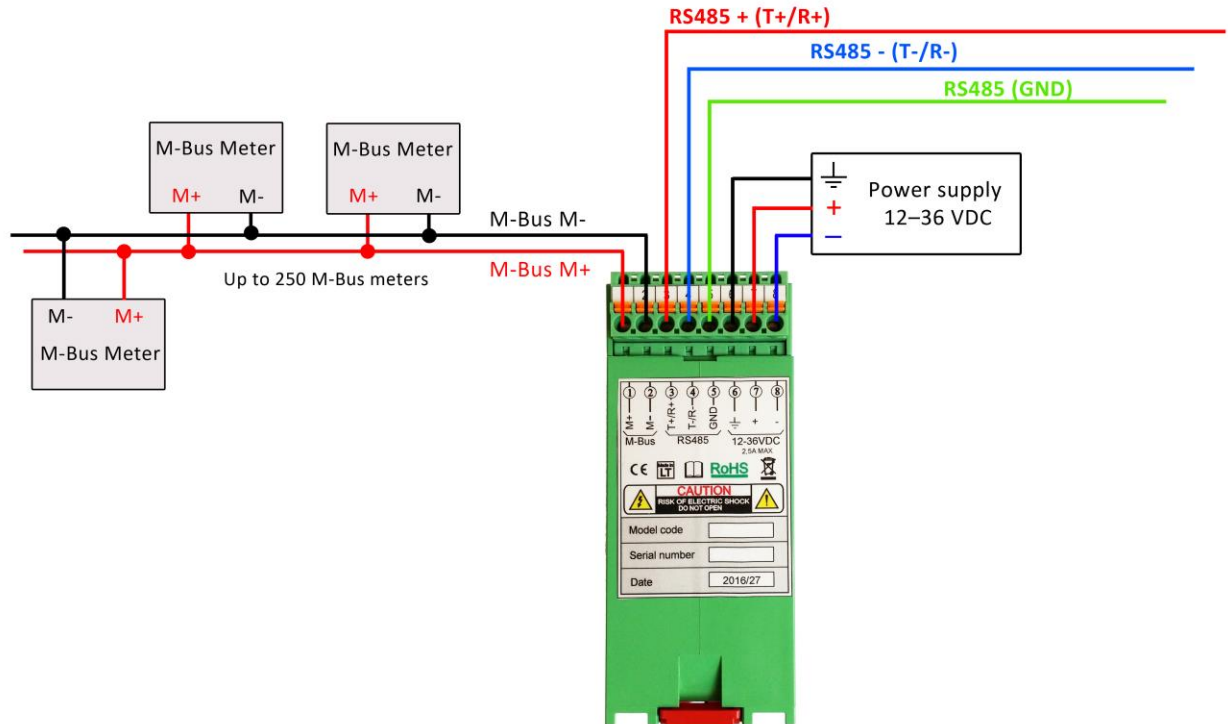
Connector of M-Bus to Modbus (RS232)



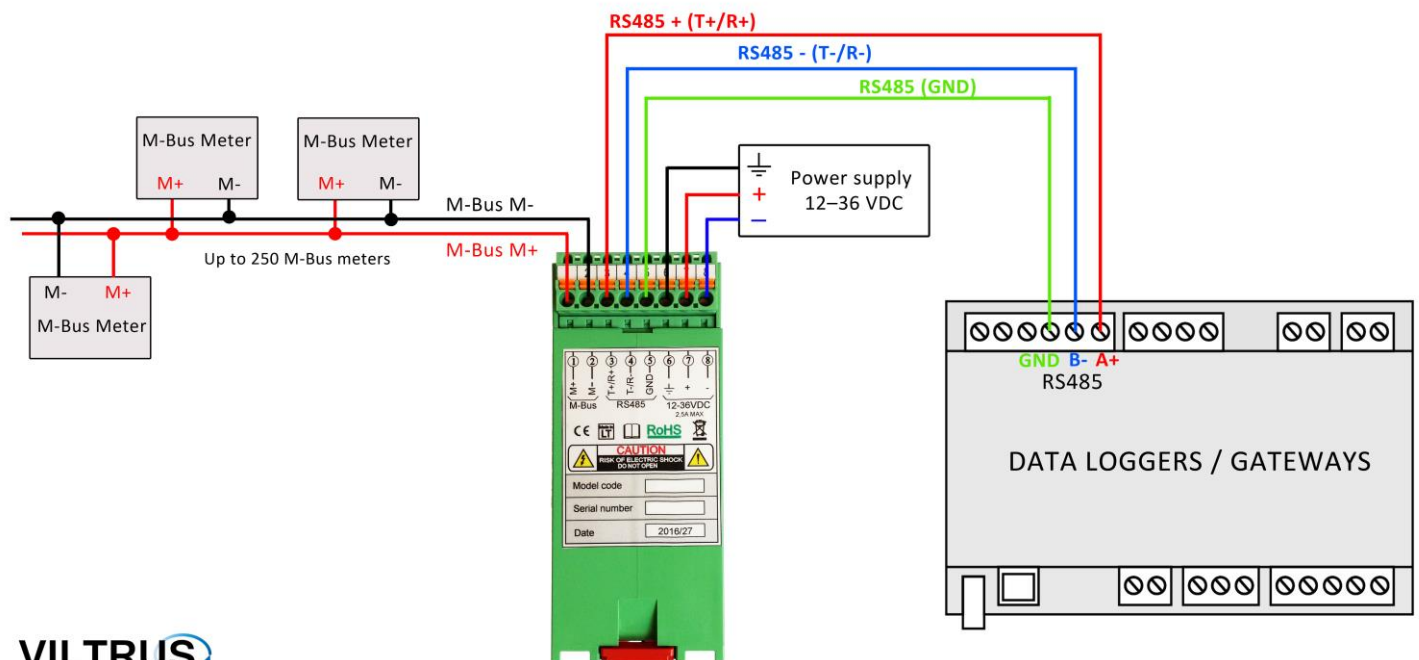
PIN No.		DESCRIPTION
1	M+	contact for M-Bus positive wire
2	M-	contact for M-Bus negative wire
3	TXD	contact for transfer data wire of RS232 socket
4	RXD	contact for read data wire of RS232 socket
5	GND	contact for Ground wire of RS485 or RS232 socket
6		Ground wire
7	+	Power supply 12-36VDC (Positive wire)
8	-	Power supply 12-36VDC (Negative wire)

Socket – is an endpoint of a bidirectional inter-process communication flow across an Internet Protocol-based computer network, such as the Internet

M-BUS TO MODBUS CONVERTER WIRING SCHEMATICS



M-Bus to Modbus (RS485) Converter



M-Bus to Modbus (RS485) Converter

CONFIGURATION

Connect the converter to the any computer via USB and open converter configuration software. If needed, install the USB driver.

MB-250 configurator

Communication Mbus devices Start

Interface	Bode	Parity	Data bits	Stop bits
RS232/RS485	☐ 300 ☐ 600 ☐ 1200 ☐ 2400 ☐ 4800 ☐ 9600 ☒ 19200 ☐ 38400	☒ Even ☐ Odd ☐ Mark ☐ Space ☐ None	☐ 5 ☐ 6 ☐ 7 ☒ 8	☒ 1 ☐ 2
Mbus	☐ 300 ☐ 600 ☐ 1200 ☒ 2400 ☐ 4800 ☐ 9600 ☐ 19200 ☐ 38400	☒ Even ☐ Odd ☐ Mark ☐ Space ☐ None	☒ 8	☒ 1

You have to fill the field.

Modbus address 25 You have to know it for what it is.

Timeout (msec.) 2000 Recommended

Number of repeats 2 Recommended

Set Get

After each change needs to click the "SET"

Req: 378 Answ: 378 TOut: 0 Except: 0

Set the bode rate, parity, data bits and enter Modbus address. The timeout and number of repeats are set default, but you can change it.

MB-250 configurator

Communication MBus devices Start

Configuration Current values

You have to fill the fields, how many meters is connect.

Amount of meters **1 step** 4

Read period **1**

Period dimension ☐ sec. ☒ min. ☐ h

Set **Get**

2 step

In succession

Pos No	Type	Address	Data position	Device number	Manufacturer	Medium
1	ZRIHotWater	02024662496A8806	1	02024662	ZRI	Hot Water
2	ZRIOther	03024662496A8800	2	03024662	ZRI	Other 4 step
3	ZRIHeat	43024662496A8804	3	43024662	ZRI	Heat
4	Unknown	01024662496A8807	4	01024662	ZRI	Water

5 step

After searching you should see all the counters found like here.

Meters search

Search begins:

☐ From the least significant digit in the address

☒ From the most significant digit in the address

Search devices

3 step

Status Completed

Stroke devices 4

Load from CSV **Save to CSV**

Req: 410 Answ: 410 TOut: 0 Except: 0

View/Edit list of parameters

Read available parameters

Read current data

Set the amount of meters that are connected and read period. Then search for devices. After the search you will see all the meters. Read available parameters of the meters.

Type ZRIHeat 43024662

Here are the parameters which give the meter.

You need to select your required parameters and fill the fields of "index".

Parameters in device

Pos No		Storage number	Tariff	SubUnit	Type of parameter
1	Identification Nr.	1	1	1	Instantaneous
2	Manufacturer, Medium,	1	1	1	Instantaneous
3	Fabrication No	1	1	1	Instantaneous
4	Energy(Wh)	1	1	1	Instantaneous
5	Time Point(date)	9	1	1	Instantaneous
6	Time Point(date)	10	1	1	Instantaneous
7	Energy(Wh)	9	1	1	Instantaneous
8	Energy(Wh)	10	1	1	Instantaneous
9	Time Point(date)	21	1	1	Instantaneous
10	Energy(Wh)	21	1	1	Instantaneous
11	Volume(m3)	1	1	1	Instantaneous
12	Flow Temperature(C)	1	1	1	Instantaneous
13	Return Temperature(C)	1	1	1	Instantaneous
14	Temperature Difference(K)	1	1	1	Instantaneous
15	Power(W)	1	1	1	Instantaneous
16	Volume Flow(m3/h)	1	1	1	Instantaneous
17	Time Point(time & date)	1	1	1	Instantaneous

Selected parameters

Pos No		Storage number	Tariff	SubUnit	Type of parameter	Double float index	Double long index	Float index	Long index
1	Identification Nr.	1	1	1	Instantaneous				1
2	Fabrication No	1	1	1	Instantaneous				2
3	Energy(Wh)	1	1	1	Instantaneous			1	
4	Volume(m3)	1	1	1	Instantaneous			2	
5	Flow Temperature(C)	1	1	1	Instantaneous			3	
6	Return Temperature(C)	1	1	1	Instantaneous			4	
7	Temperature	1	1	1	Instantaneous			5	
8	Power(W)	1	1	1	Instantaneous			6	
9	Volume Flow(m3/h)	1	1	1	Instantaneous			7	
10	Identification Nr.	1	1	1	Instantaneous				3
11	Fabrication No	1	1	1	Instantaneous				4

"Index" fields must be numbered sequentially like here.

Select all **Save** **Save As** **Close**

On the left table there is indication of all available parameters from the meter. In the right table you must choose all needed parameters from the meter and set the index.

MB-250 configurator

Communication MBus devices: Start

Configuration Current values

This is the way it should show value after your configuration.

Device/Parameter	Storage number	Tariff	SubUnit	Type of parameter	Double float	Double long	Float	Long
1 - ZRIHotWater (02024662)								
Identification Nr.	1	1	1	Instantaneous value				2024662
Fabrication No	1	1	1	Instantaneous value				43024662
Volume(m3)	1	1	1	Instantaneous value			0.700	
Identification Nr.	1	1	1	Instantaneous value				2024662
Fabrication No	1	1	1	Instantaneous value				0
2 - ZRIOther (03024662)								
Identification Nr.	1	1	1	Instantaneous value				3024662
Fabrication No	1	1	1	Instantaneous value				43024662
Volume(m3)	1	1	1	Instantaneous value			0.600	
Identification Nr.	1	1	1	Instantaneous value				3024662
Fabrication No	1	1	1	Instantaneous value				0
3 - ZRIHeat (43024662)								
Identification Nr.	1	1	1	Instantaneous value				43024662
Fabrication No	1	1	1	Instantaneous value				43024662
Energy(Wh)	1	1	1	Instantaneous value			2000.000	
Volume(m3)	1	1	1	Instantaneous value			2.187	
Flow Temperature(C)	1	1	1	Instantaneous value			21.640	
Return Temperature(C)	1	1	1	Instantaneous value			21.730	
Temperature Difference(K)	1	1	1	Instantaneous value			0.000	
Power(W)	1	1	1	Instantaneous value			0.000	
Volume Flow(m3/h)	1	1	1	Instantaneous value			0.000	

Req: 335 Answ: 334 TOut: 0 Except: 0

After the configuration the values will be shown in this table.

If there will be any additional questions regarding the wiring, configuration or setting up the M-Bus to Modbus converter, contact us: sales@viltrus.com