

TRB143 M-Bus

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The information in this page is updated in accordance with firmware version [TRB1_R_00.07.08.1](#).

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Summary

The **M-Bus (Meter Bus)** is a cost-effective fieldbus communication protocol for transmitting energy consumption data. A central client - in this case TRB143 - communicates via a two-wire bus (up to max. 250 servers per segment) with bus devices (e.g., heat meter, water meter, electric meter, gas meter).

This manual page provides an overview of the M-Bus functionality in TRB143 devices.

Client

General settings

The M-Bus device configuration section is used to configure the general service functionality. The figure below is an example of the M-Bus Settings and the table below provides information on the fields contained in that section:



Field	Value	Description
Status	Inactive Active	Status of service, whether it is currently running. If it is active, it will also show how long it has been running.
Baud rate	300 600 1200 2400 4800 9600 ; default: 2400	Specifies the M-Bus server network baud rate.

Devices

To add new device to configuration press **Add** button which is shown below.



The Devices section is used to configure the general device instance. The figure below is an example of the M-Bus device and the table below provides information on the fields contained in that section:



Field	Value	Description
Name	String; default: Device 1	Display name of device configuration.
Address type	Primary Secondary ; default: Primary	Primary address which will be used when sending requests.
Primary address	integer [0..250]; default: empty	Primary address which will be used when sending requests.
Secondary address	string of 16 symbols; default: empty	A unique device identifier which commonly includes the serial number.

Data collecting groups

To reach data collecting groups configuration press **Edit** button as shown below.



Before saving, you can check if your configuration works accordingly by pressing the Test Configuration button. You should see the data in a pop-up field.



Field	Value	Description
Enabled	on off; default: off	Button to enable/disable data collecting group.
Period	integer [0..86400]; default: 60	Time duration between data retrievals (in seconds).
Data type	JSON XML ASCII Hexadecimal Binary; default: JSON	Data type to process the received data.
Test	Interactive button	A unique device identifier which commonly includes the serial number.

To reach group values configuration press **Edit** button as shown below.





Field	Value	Description
Enabled	on off; default: off	Button to enable/disable data group value.
FCB toggle	on off; default: off	FCB (Frame Count-Bit): One-bit counter for reliable server-client communication. Some devices may have different uses for it.
Manufacturer information	on off; default: off	Should manufacturer information be included in the payload.
Selected parameters	All Custom; default: All	Should all parameters be saved from device, or a custom subset of them.
Frame number	integer [0..15]; default: 60	Frame number.
Record number	integer [0..63]; default: 60	Record number.
Parameter	id frame Function StorageNumber Tariff Device Unit Value Timestamp; default: id	Parameter.

Gateway

M-Bus device configuration

The M-Bus device configuration section is used to configure the general service functionality. The figure below is an example of the M-Bus Settings and the table below provides information on the fields contained in that section:



Field	Value	Description
Enabled	on off; default: off	Button to enable/disable service.
Baud rate	300 600 1200 2400 4800 9600 ; default: 2400	Specifies the M-Bus server network baud rate.

Configuration settings

This is just a simplified way of configuring Over IP settings and the table below provides information on the fields contained in that section:



Field	Value	Description
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Mode	Server Client Client+server Bidirect(legacy mode, not recommended); default: Server	<ul style="list-style-type: none"> • Server - launches service in server mode and listens on the selected port. • Client - launches service in client mode, which connects to one or several servers with the selected addresses and ports. • Client + server - launches service in server and client(s) mode simultaneously. • Bidirect(legacy) - launches service in bidirect mode, which means that the service keeps changing between server and client modes. If server mode fails it switches to client mode and vice versa.
Protocol	TCP UDP; default: TCP	Select which protocol to use for data transmission.
Listening port	integer [1..65535]; default: empty	Specify port number for server to listen.



Field	Value	Description
Use TLS/SSL	on off; default: off	Button to use TLS/SSL for connection.
TLS version	tlsv1.0 tlsv1.1 tlsv1.2 tlsv1.3 Support all ; default: Support all	Minimum TLS version allowed to be used.
TLS type	Certificate based Pre-Shared-Key based ; default: Certificate based	Select the type of TLS encryption.
Pre-Shared-Key	hexadecimal string of symbols; default: empty	The pre-shared-key in hex format with no leading "0x".
Identity	string of symbols; default: empty	Specify the identity.
Require certificate	on off; default: on	Demand certificate and key from peer and verify them against certificate authority.
Certificate files from device	on off; default: off	Choose this option if you want to select certificate files from device.



Field	Value	Description
Raw mode	on off; default: on	Enable to transmit all data transparently.
Remove all zeros	on off; default: off	Remove all zero bytes from received data.
Inactivity timeout	integer [0..36000] ; default: 300	Specifies period of time in seconds, where server connection must be inactive, to disconnect client. To disable timeout input 0.
Serial timeout	integer [0..1000] ; default: empty	Specifies the maximum milliseconds to wait for serial data.
Max clients	integer [1..32] ; default: 4	Specify (1-32) how many clients are allowed to connect simultaneously.
TCP echo	on off; default: off	Software TCP echo.
Close connections	on off; default: off	Close TCP connections everytime data is sent or received (might result in serial data loss).
Keep alive	on off; default: off	Enable keep alive.

IP filter

The IP Filter section is used for configuring which network is allowed to communicate with the device. You may add a new instance by selecting the Interface and pressing Add.



Field	Value	Description
Allow IP	IPv4 and IPv6 addresses with or without mask prefix are accepted. E.g 192.168.1.0/24.	Allow IP connecting to server, write 0.0.0.0/0 for allowing all