Modbus Gateway – Network connection of Modbus RTU fieldbus components
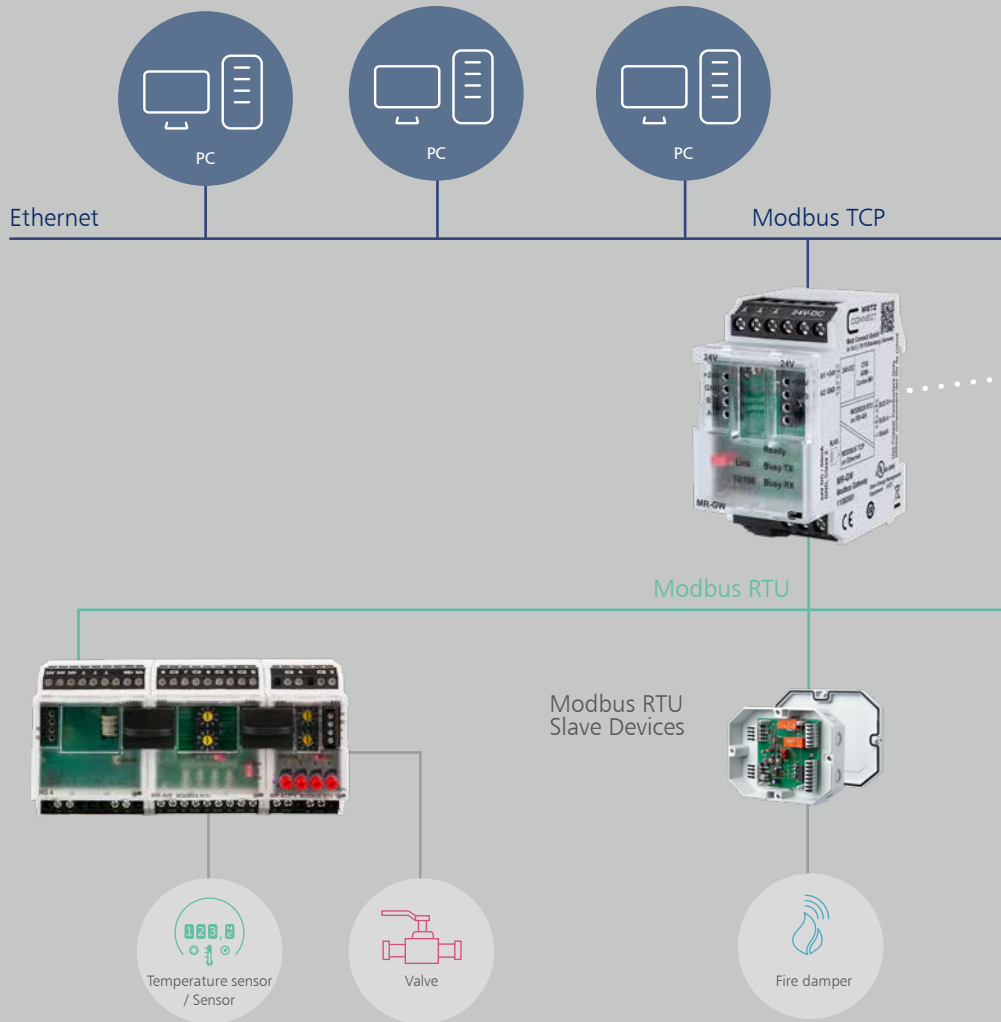
Modbus Gateway

With the METZ CONNECT Modbus Gateway MR-GW, Modbus RTU devices are connected to a Modbus TCP network. Up to 32 Modbus RTU Slaves can be connected to the gateway so that Modbus TCP clients can communicate with one or more Modbus RTU Slaves via this gateway.
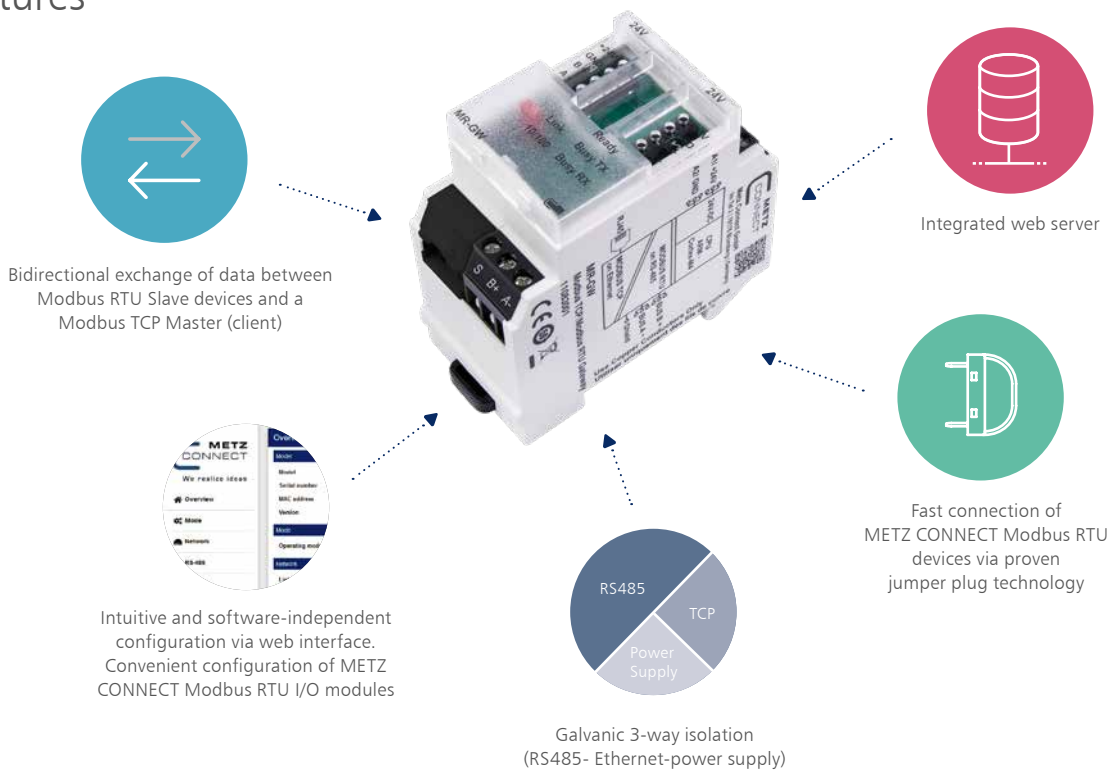
The gateway enables a bidirectional exchange of data between Modbus RTU fieldbus devices and a Modbus TCP master (client). The MR-GW can be operated in two modes. Either as a transparent gateway in Modbus RTU over TCP operating mode or as a protocol converter (Modbus TCP operating mode).

The Modbus Gateway is accessible via the integrated web server in an IP network. The configuration of the device and the parameter setting of the two interfaces (Ethernet / RS485) is done via the user-friendly web interface. In addition, the gateway for all METZ CONNECT Modbus RTU I/O devices of the MR series has templates for convenient configuration and operation of the modules.
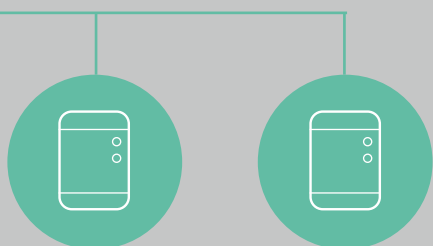
System overview

PC

PC

PC

Ethernet

Modbus TCP

Modbus RTU

Modbus RTU Slave Devices

Temperature sensor / Sensor

Valve

Fire damper

Features

Bidirectional exchange of data between Modbus RTU Slave devices and a Modbus TCP Master (client)

Integrated web server

Fast connection of METZ CONNECT Modbus RTU devices via proven jumper plug technology

Intuitive and software-independent configuration via web interface. Convenient configuration of METZ CONNECT Modbus RTU I/O modules

RS485

TCP

Power Supply

Galvanic 3-way isolation (RS485- Ethernet-power supply)

Modbus TCP Master Devices

PLC

PLC
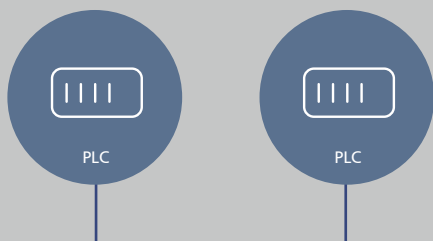
Modbus RTU Slave Devices

METZ CONNECT
We realize ideas

- 🏠 Overview
- ⚙️ Mode
- 🏛 Network
- 🔀 RS-485
- 🛡 Security
- 📅 Monitoring
- 🔍 Discovery
- 🔧 Service
- ➡ Logout

English ▼

Overview

Model

Model	MR-TCP_Gateway
Serial number	123456
MAC address	01:02:03:04:05:06
Version	1.1

Mode

Operating mode	Modbus TCP

Network

Link	100MBit Full Duplex
DHCP	On
Host Name	MR123
IP Address	192.168.1.254
IP Mask	255.255.255.0
Gateway IP	192.168.1.1

RS-485

Baud Rate	19200
Parity Bit	Even
Stop bits	1
Terminator	Connected
Modbus Timeout	10 ms

Security

Password	Set
Allowed Subnet IP	0.0.0.0

Ordering information

ACCESSORIES NETWORK COMPONENTS

P/N	11083001	1108300170	110561	11056170	110195	1308450577-E	130B117003-E	130E405032-E
Type	MR-GW	MR-F-GW	NG-4	NG4-F	EDS-205	RJ45 patch cord	REGplus IP20 C6$_A$modul 180°M	C6$_A$ RJ45 field plug pro
Description	Modbus RTU / Modbus TCP Gateway	Modbus RTU / Modbus TCP Gateway	Power supply 24 V DC	Power supply 24 V DC	5-port switch with 10/100 BaseT(X) RJ45	Patch cords Cat.6$_A$ AWG 26 0.5 m yellow	RJ45 connection unit for mounting on support rail	RJ45 plug for field assembly

Further network components can be found on our website **www.metz-connect.com** or in our product overview "connection technology for devices, electric cabinets and systems".

Simple configuration

Intuitive menu navigation and operation via smartphone, tablet or notebook by responsive design
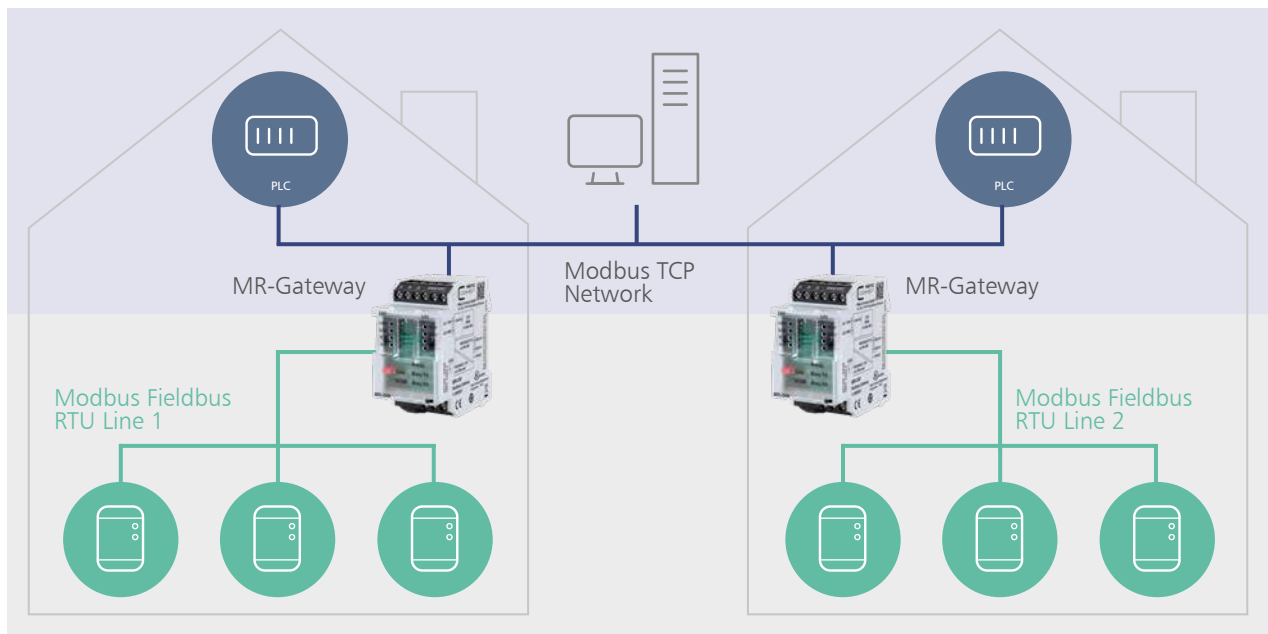
Status monitoring of TCP and RS485 communication

Simple device search of METZ CONNECT Modbus RTU devices on the RS485 bus

Example of use

Interconnection of 2 Modbus RTU lines in an IP network

PLC

PLC

MR-Gateway

Modbus TCP Network

MR-Gateway

Modbus Fieldbus RTU Line 1

Modbus Fieldbus RTU Line 2

Your benefits

> connection of max. 32 Modbus RTU Slaves per line
> simple integration of Modbus RTU Slaves into a Modbus TCP Network
> Ethernet available throughout the building
> no limitation to cable lengths
> reliable and fast communication between automation and field devices
> independent of technology and manufacturer

Modbus RTU I/O Fieldbus module

MR-DI4 **MR-F-DI4** ▯ 1108341319 ▭ 110834131970 4 digital inputs	**MR-DI10** **MR-F-DI10** ▯ 1108311319 ▭ 110831131970 10 digital inputs	**MR-SI4** **MR-F-SI4** ▯ 11083913 ▭ 1108391370 4 S0 inputs	**MR-AI8** **MR-F-AI8** ▯ 11083213 ▭ 1108321370 8 configurable temperature or voltage inputs	**MR-CI4** **MR-F-CI4** ▯ 1108401332 ▭ 110840133270 4 current inputs 0-20 mA, 4 voltage inputs 0-10 V
MR-DO4 **MR-F-DO4** ▯ 1108361321 ▭ 110836132170 4 relay outputs, manual control level	**MR-DOA4** **MR-F-DOA4** ▯ 110836132101 ▭ 11083613210170 4 relay outputs	**MR-TO4** **MR-F-TO4** ▯ 11083013 ▭ 1108301370 4 triac outputs, manual control level	**MR-AOP4** **MR-F-AOP4** ▯ 1108371302 ▭ 110837130270 4 voltage outputs 0-10 V, manual control level	**MR-AO4** **MR-F-AO4** ▯ 1108351302 ▭ 110835130270 4 voltage outputs 0-10 V DC
MR-DIO4/2 **MR-F-DIO4/2** ▯ 1108331326 ▭ 110833132670 4 digital inputs, 2 relay outputs, changeover contact, manual control level	**MR-DIO4/2S** **MR-F-DIO4/2S** ▯ 110833132601 ▭ 11083313260170 4 digital inputs, 2 relay outputs, NO contact, manual control level	**MR-TP** **MR-F-TP** ▯ 11083813 ▭ 1108381370 6 digital inputs, 2 two-stage relay outputs, manual control level	**MR-SM3** **MR-F-SM3** ▯ 11084113 ▭ 1108411370 3 analog inputs (230 V) To capture three 230 Volt current circuits. Current, voltage and power can be measured and determined	**MR-LD6** **MR-F-LD6** ▯ 11084413 ▭ 1108441370 6 analog inputs, 2 relay outputs For monitoring filling levels and leakages, as well as switching magnetic valves

MR-Multi I/O P/N 11084313 > 4 digital outputs (Photo MOS) > 4 digital outputs (relays) > 11 digital inputs > 6 universal inputs (temperature/voltage > 1 analog input (current) > 2 analog outputs (voltage) > 1 S0 input	**MB-DIO 2/1-IP65 | 24 V** P/N 1108111326IP 2 digital inputs, 1 relay outputs, changeover contact, manual operation level	**MB-DIO 4/2-IP65 | 24 V** P/N 1108121326IP 4 digital inputs, 2 relay outputs, changeover contact, manual operation level	**MB-DIO 2/1-IP65 | 230 V** P/N 1108110526IP 2 digital inputs, 1 relay outputs, changeover contact, manual operation level	**MB-DIO 4/2-IP65 | 230 V** P/N 1108120526IP 4 digital inputs, 2 relay outputs, changeover contact, manual operation level

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QUALITÄTSMANAGEMENTSYSTEM

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