

Data sheet

MR-F-GW

Modbus RTU / Modbus TCP Gateway

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P/N

1108300170

EAN 4251394654904

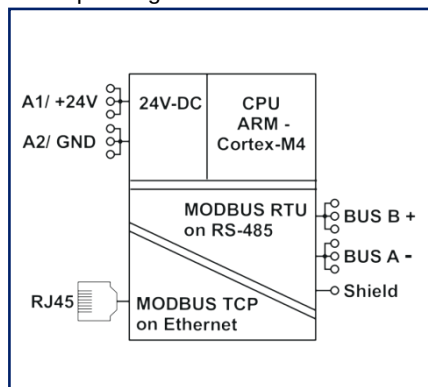
2023/06/23

Version: D

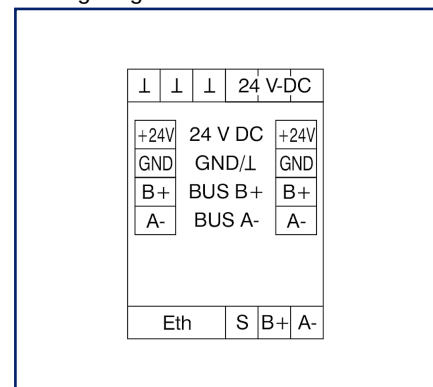
Illustrations



Principle diagram



Wiring diagram



See enlarged drawings at the end of document

Product specification

MR-(F)-GW is a compact Modbus RTU / Modbus TCP Gateway. The MR-Gateway enables bidirectional data exchange between Modbus RTU fieldbus devices and a Modbus TCP master (client). The MR-(F)-GW can be operated in two modes. Either as a transparent gateway in Modbus RTU over TCP mode or as a protocol converter (Modbus TCP mode). The MR-Gateway can be connected to METZ CONNECT Modbus RTU devices via two 4-pole terminals on the front of the device and a jumper plug. An integrated web server is used for parameter settings, management and monitoring of the two interfaces (Ethernet / RS485). The web interface is also used to update the firmware. The MR-Gateway is suitable for decentralised mounting in electrical sub-distribution boards or in control cabinets on TH35 mounting rails in accordance with IEC 60715.

- Simultaneous access from 32 Modbus TCP clients
- Bidirectional exchange of data between Modbus RTU Slave devices and a Modbus TCP Master (client)
- Protocol: Modbus RTU over TCP (Transparent gateway), Modbus TCP/IP v1.0b, HTTP 1.0
- Integrated web server
- Intuitive and software-independent TCP configuration via web interface
- Simple device search of METZ CONNECT Modbus RTU devices on the RS485 bus
- Fast connection of METZ CONNECT Modbus RTU devices via proven jumper plug technology
- Galvanic 3-way isolation (RS485- Ethernet-power supply)
- Status monitoring of TCP and RS485 communication
- Demo access to the web interface: metz-connect.com/mr-gateway

Technical Data

Approvals



Open Energy Management Equipment 34TZ

Ethernet interface

Network connection	1 x Ethernet port (RJ-45 IEC 60603-7-51 (2010))
Speed	10/100 Mbits with auto-negotiation
Protocol	HTTP 1.0, Modbus TCP/IP v1.0b, Modbus RTU over TCP (Transparent gateway)

RS485 interface

Protocol	Modbus RTU v1.1b3
Transmission parameters	
Transmission rate	min. 300 Bit/s (Bd) - max. 115200 Bit/s (Bd)
Transmission rate default setting	19200 Bit/s (Bd)
Parity	None, Even (default setting), Odd
Stopbits	1 (default setting), 2
Galvanic isolation	1.5 kV
Bus termination resistor	120 Ohm switchable
Number of bus participants	32; with 1 unit load per participant

Supply

Operating voltage	24 V DC +/- 10 % (SELV)
Power consumption (max.)	50 mA
Power loss (max.)	1.3 W

Housing

Dimensions	
Dimension (W x H x D)	35 mm x 69.3 mm x 60 mm
Dimension (W x H x D)	1.378 in. x 2.728 in. x 2.362 in.
Weight	64 g
Mounting style	Standard rail TH35
Mounting position	any
Apposition	without distance
Connection type	Spring clamp terminal blocks

Technical Data

Indicator	
Operation "RDY"	green LED
LAN connection "LINK 10/100"	green LED (100 Mbit), yellow LED (10 Mbit)
RS485 bus "TX" / "RX"	green LED
Terminal blocks	
Supply and bus	
Terminal block	4-pole, pluggable, on front of housing
Solid wire (AWG)	max. 1.5 mm ² / max. 16 AWG
Stranded wire (AWG)	max. 1 mm ² / max. 18 AWG
Wire diameter	max. 1.4 mm - min. 0.3 mm
Module connection	
Wire cross section solid	0.2 mm ² - 2.5 mm ² / AWG 24-14
Wire cross section multi	0.25 mm ² - 2.5 mm ² / AWG 24-12
Wire cross section with wire ferrule	0.25 mm ² - 1.5 mm ² / AWG 24-16
Stripping length (min.)	8 mm
Ethernet connection	RJ45-jack
Material	
Material - Housing	Polyamid 6.6 V0
Color	gray
Material - Terminal block	Polyamid 6.6 V0
Material - Covers	Polycarbonat
Protection category according to IEC 60529	
Protection category - housing (acc. to IEC 60529)	IP40
Protection category - terminal blocks (acc. to IEC 60529)	IP20
Temperature range (min. - max.)	
Operating	
Temperature - Operating °C	-5 °C - 55 °C
Temperature - Operating °F	23 °F - 131 °F
Storage	
Temperature - Storage °C	-20 °C - 70 °C
Temperature - Storage °F	-4 °F - 158 °F

Technical Data

Classifications

ETIM 7.0	EC001099
ETIM 8.0	EC001099
ETIM 9.0	EC001099

Software and additional documents

Software	MC Search Tool: Windows-based and free tool to configure and search the MR-(F)-GW in a TCP/IP network (free download at www.metz-connect.com)
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Accessories

P/N	Designation
110369	Terminal block Type 259
110561	Power supply NG4 24 V DC
11056170	Power supply NG4-F 24 V DC
11083013	MR-TO4 Modbus RTU
1108301370	MR-F-TO4 Modbus RTU
1108311319	MR-DI10 Modbus RTU
110831131970	MR-F-DI10 Modbus RTU
11083213	MR-AI8 Modbus RTU
1108321370	MR-F-AI8 Modbus RTU
1108331326	MR-DIO4/2 Modbus RTU
110833132601	MR-DIO4/2S Modbus RTU
11083313260170	MR-F-DIO4/2S Modbus RTU
110833132670	MR-F-DIO4/2 Modbus RTU
1108341319	MR-DI4 Modbus RTU
110834131970	MR-F-DI4 Modbus RTU
1108351302	MR-AO4 Modbus RTU
110835130270	MR-F-AO4 Modbus RTU
1108361321	MR-DO4 Modbus RTU
110836132101	MR-DOA4 Modbus RTU
11083613210170	MR-F-DOA4 Modbus RTU
110836132170	MR-F-DO4 Modbus RTU
1108371302	MR-AOP4 Modbus RTU
110837130270	MR-F-AOP4 Modbus RTU
11083813	MR-TP Modbus RTU
1108381370	MR-F-TP Modbus RTU
11083913	MR-SI4 Modbus RTU
1108391370	MR-F-SI4 Modbus RTU
1108401332	MR-CI4 Modbus RTU
110840133270	MR-F-CI4 Modbus RTU
11084113	MR-SM3 Modbus RTU
1108411370	MR-F-SM3 Modbus RTU
11084313	MR-Multi I/O Modbus RTU
11084413	MR-LD6 Modbus RTU

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Modbus RTU / Modbus TCP Gateway

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P/N

1108300170

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Version: D

Accessories

1108441370

MR-F-LD6 Modbus RTU

31135104

Typ 135 RIACON 135_3.5

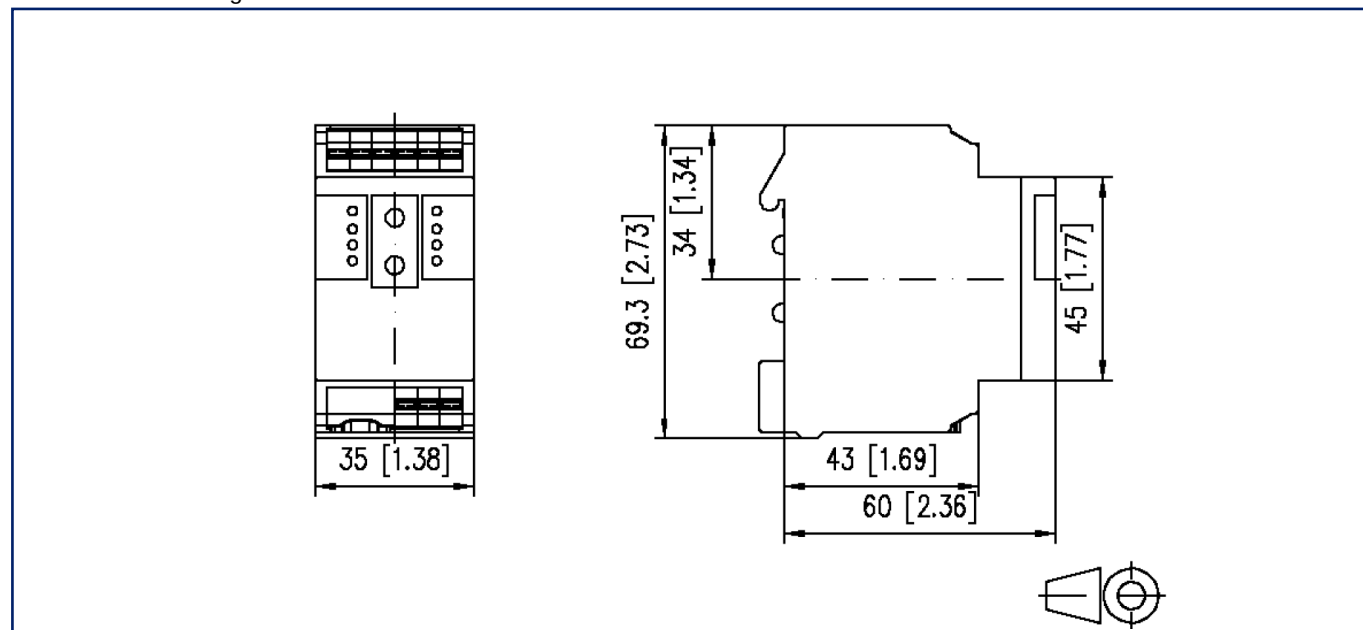


Accessories from

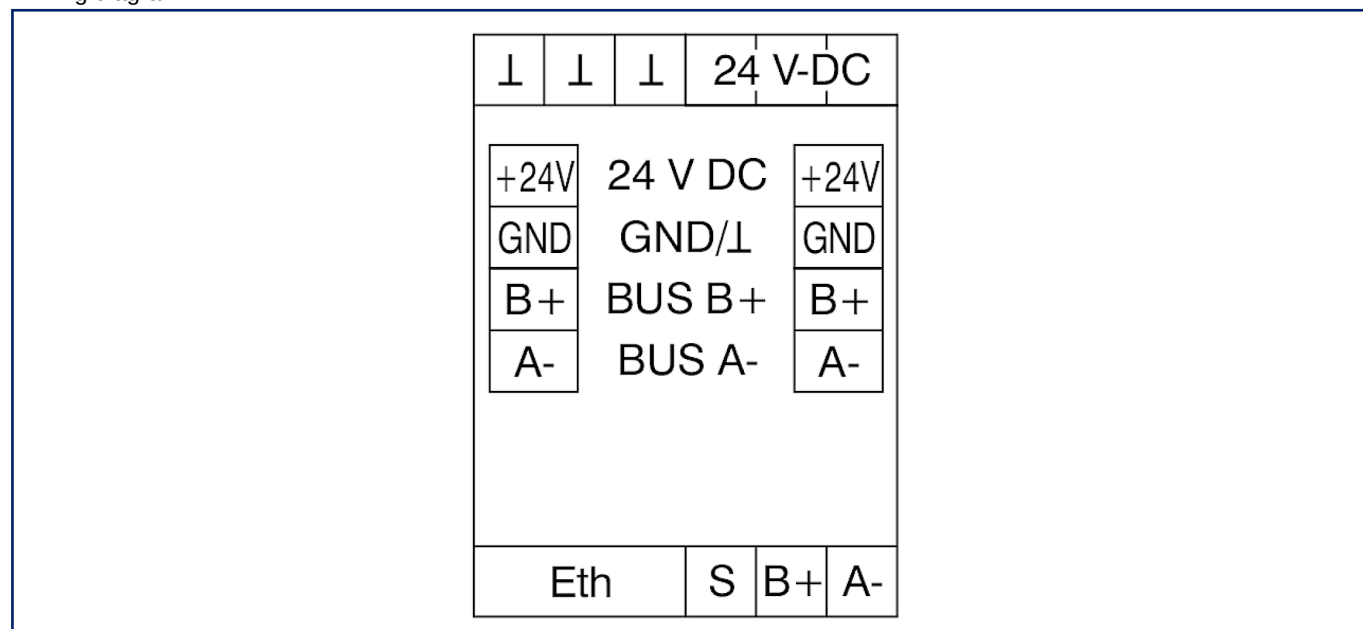
P/N	Designation
1108110526IP	MB-DIO2/1-IP Modbus/BACnet 230 V
1108111326IP	MB-DIO2/1-IP Modbus/BACnet 24V AC/DC
1108120526IP	MB-DIO4/2-IP Modbus/BACnet 230 V
1108121326IP	MB-DIO4/2-IP Modbus/BACnet 24V AC/DC

Illustrations

Dimensional drawing



Wiring diagram



Illustrations

Principle diagram

