

Data sheet

MR-F-DOA4 Modbus RTU

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P/N

11083613210170

EAN 4251394620763

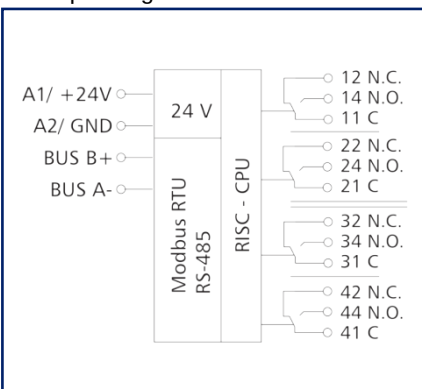
2023/06/23

Version: E

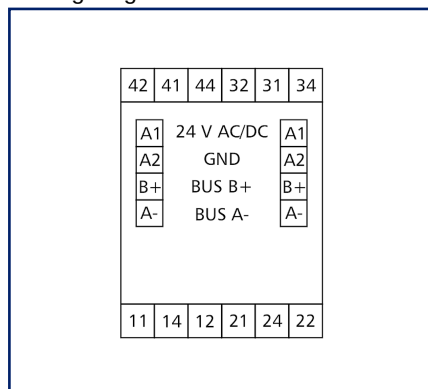
Illustrations



Principle diagram



Wiring diagram



See enlarged drawings at the end of document

Product specification

The Modbus module with 4 digital outputs was developed for decentralized switching tasks. It is suitable for switching electrical components, such as motors, contactors, lamps, louvers, etc. In this case it is necessary to protect the relay contacts by appropriate load-dependent measures. The outputs can be switched by means of standard registers via a Modbus master. Module address, bit rate and parity are set with 2 rotary switches on the front or by software. Suitable for decentralized mounting on DIN TH35 rail according to IEC 60715 in electrical distribution cabinets.

- Connection with spring clamp terminal blocks (push-in)

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Technical Data

RS485 interface	
Protocol	Modbus RTU
Address range	00 - 99
Bus interface	RS485 two wire bus with potential equalization in bus or line topology, terminate with 120 Ohm
Transmission parameters	
Transmission rate	min. 1200 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
Supply	
Operating voltage	24 V AC/DC +/- 10 % (SELV)
Power consumption	
Power consumption AC (max.)	200 mA
Power consumption DC (max.)	70 mA
Duty cycle relative	100 %
Outputs	
Digital outputs	4
Relay output	4 changeover contacts
Switching voltage relay output (max.)	250 V AC
Continuous current relay output	5 A / relay
Total current across all outputs	12 A
Switching frequency	360 switching cycles/h
Mechanical life	15x10 ⁶ switching cycles
Electrical life	1x10 ⁵ switching cycles
Insulation coil - contact set	
Nominal voltage of the power supply system	230 / 400 V AC
Overvoltage category	III II
Degree of pollution	2 2
Rated test voltage	4 kV 2.5 kV
Type of insulation	basic insulation reinforced insulation

Technical Data

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	95 g
Mounting style	Standard rail TH35
Mounting position	any
Apposition	The maximum quantity of Modbus modules connected side-by-side is limited to 15 or to a maximum power consumption of 2 Amps (AC or DC) per connection to the power supply. For any similar block of additional modules a separate connection to the power supply is necessary., without distance
Connection type	Spring clamp terminal blocks
Indicator	green, red and yellow LED

Terminal blocks

Supply and bus

Terminal block	4-pole
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

Protection circuit	Polarity reversal protection for DC operating voltage, Protection against interchanging power supply and bus
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Material

Material - Housing	Polyamid 6.6 V0
Color	gray
Material - Terminal block	Polyamid 6.6 V0
Material - Covers	Polycarbonat



Technical Data

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

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

Classifications

ETIM 7.0 EC001097

ETIM 8.0 EC001097

ETIM 9.0 EC001097

Software and additional documents

Software and documentation Further documentation is available for free download at www.metz-connect.com



Accessories

P/N	Designation
110369	Terminal block Type 259
11056170	Power supply NG4-F 24 V DC
11080101	USB/RS485 Converter
31135104	Typ 135 RIACON 135_3.5



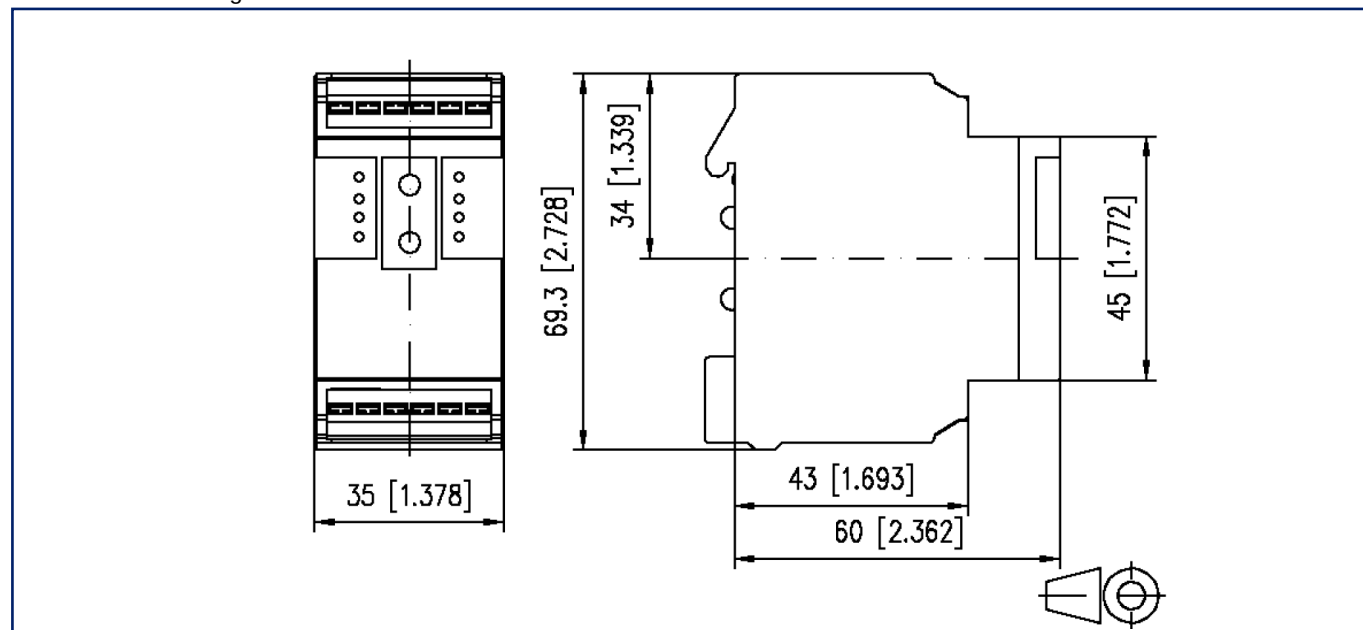
Accessories from

P/N	Designation
11083001	MR-GW Modbus RTU / Modbus TCP Gateway
1108300170	MR-F-GW Modbus RTU / Modbus TCP Gateway

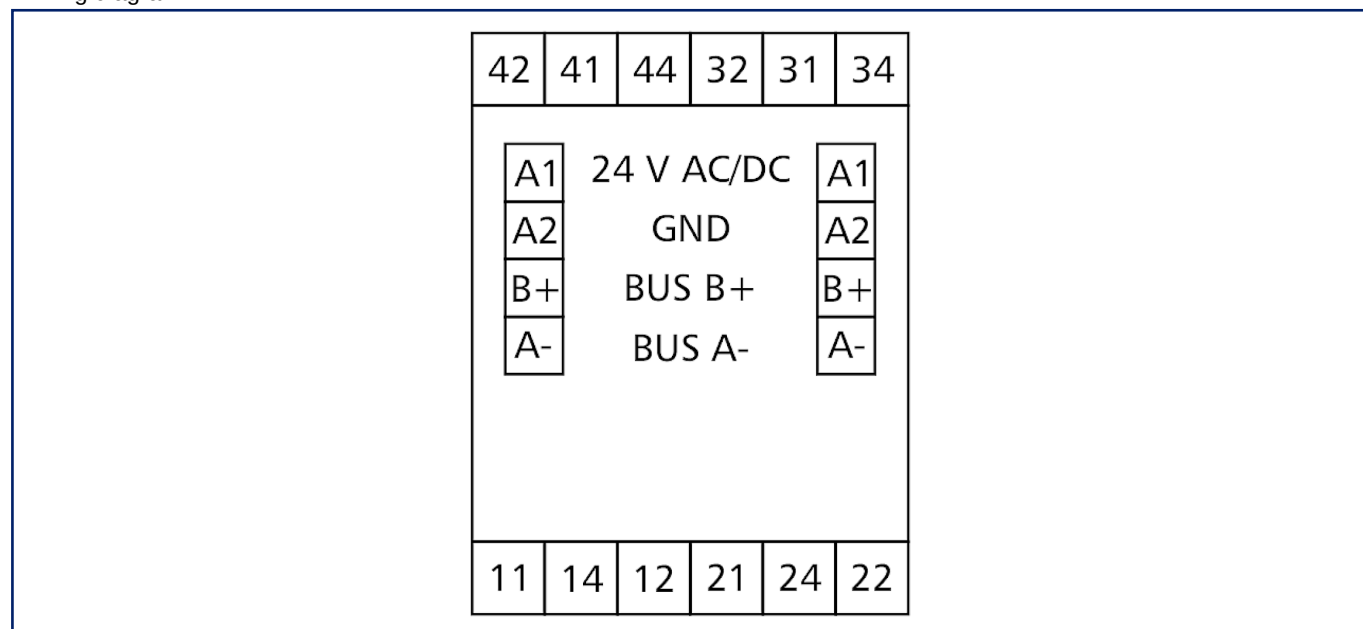


Illustrations

Dimensional drawing



Wiring diagram



Illustrations

Principle diagram

