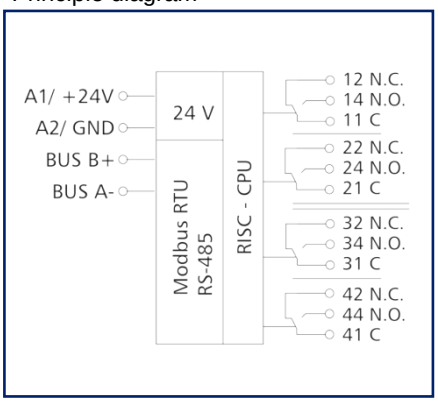
Data sheet
MR-F-DOA4 Modbus RTU

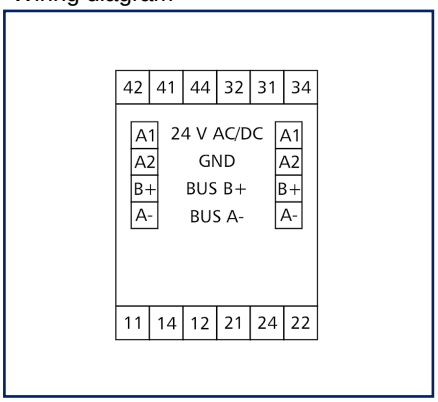
P/N 11083613210170
EAN 4251394620763
2025/08/19
Version: M

Illustrations

Principle diagram



Wiring diagram



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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

Approvals	
	Open Energy Management Equipment 34TZ
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	Odd Even (default setting) None
Stopbits	1 (default setting) 2
Supply	
Operating voltage	24 V AC/DC +/- 10 % (SELV)
Power consumption	
Power consumption AC (max.)	80 mA
Power consumption DC (max.)	40 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

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Isolation	
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 | 4 kV
Type of insulation	basic insulation | reinforced insulation
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	without distance 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.
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 mm² / max. 16 AWG
Stranded wire (AWG)	max. 1 mm² / max. 18 AWG
Wire diameter	min. 0.3 mm max. 1.4 mm
Module connection	
Wire cross section solid	0.2 mm² - 2.5 mm² / AWG 24-14
Wire cross section multi	0.25 mm² - 2.5 mm² / AWG 24-12
Wire cross section with wire ferrule	0.25 mm² - 1.5 mm² / 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	
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
Climatic Data	
Operating	
Temperature - Operating °C	-5 °C - 55 °C
Temperature - Operating °F	23 °F - 131 °F
Relative humidity	max. 85 % non-condensing
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
ETIM 10.0	EC001097
Software and additional documents	
Software and documentation	Further documentation is available for free download at www.metz-connect.com

Application note

This product is a standard product of METZ CONNECT. METZ CONNECT is not aware of the specific intended use of the goods by the Customer or any customers of the Customer. The Customer guarantees that it has fully and sufficiently tested the use of the goods and any product modifications, product changes or product enhancements with regard to the specific intended use in accordance with the state of the art or in any other way. At METZ CONNECT's request, the Customer shall submit and make available meaningful evidence (e.g. test and laboratory protocols, certifications, etc.).

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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

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Accessories from

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

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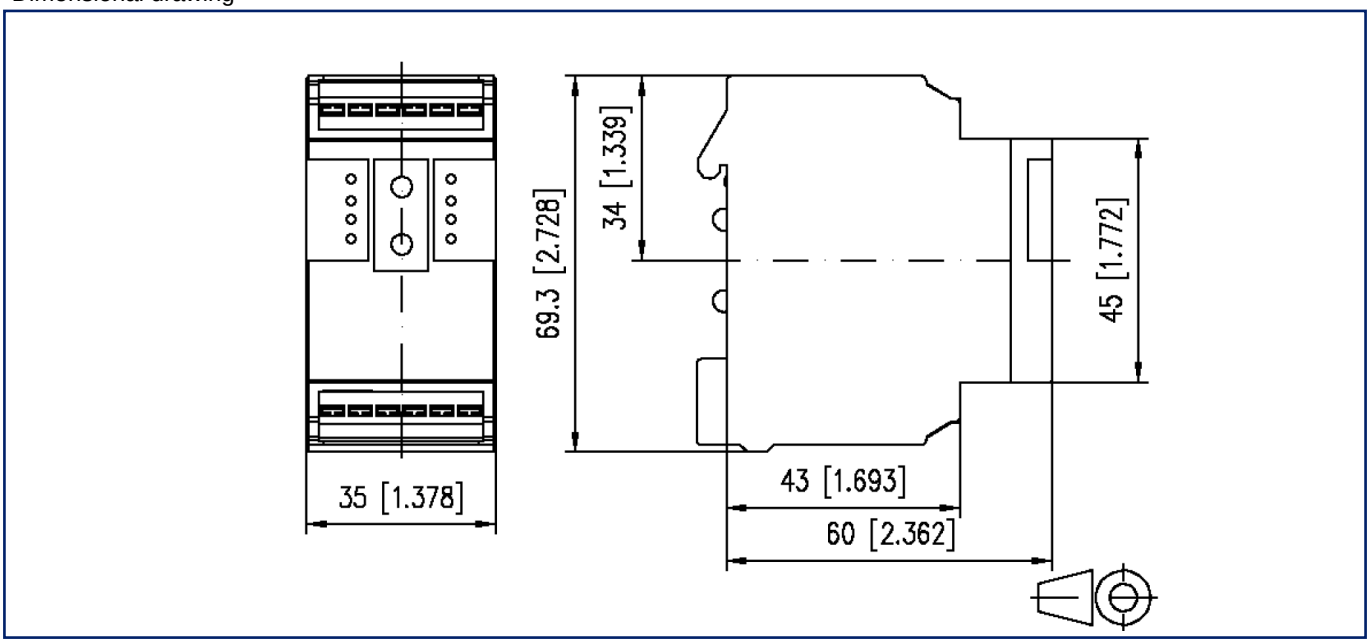
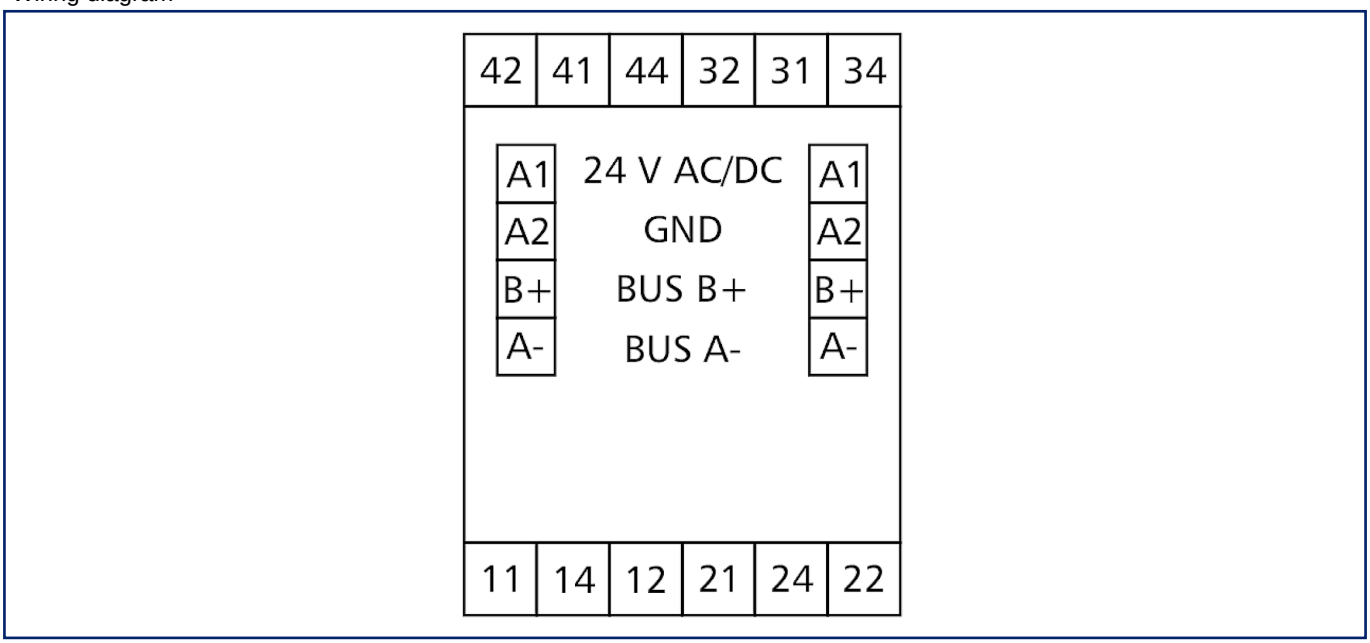
Dimensional drawing



Wiring diagram



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