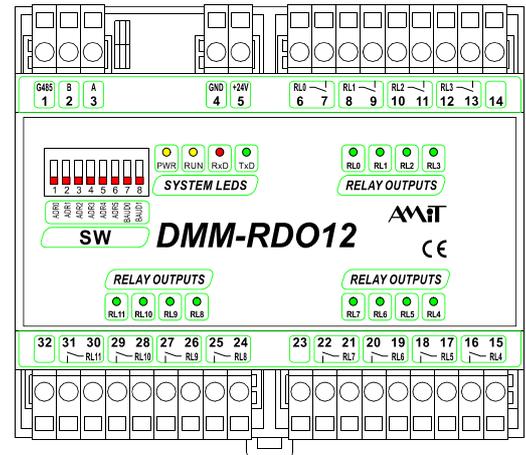


DMM-RDO12

Relay Outputs Module with MODBUS Protocol

- 12 relay outputs module
- Control over RS485 line, MODBUS RTU protocol



TECHNICAL DATA

Number of outputs	12
Output type	Normally opened relay
Devices protection class ¹⁾	II
Cover protection rate (LV) in mounted state ¹⁾	IP20
Max. operation voltage of galvanic separation	300 V AC/DC
Max. switched output voltage	250 V AC/DC
Nominal voltage current (resistive load)	230 V AC / 24 V DC 4 A
Switched power (resistive load)	1000 VA AC / 100 W DC
Switch on time	5 ms
off time	1 ms
Contact lifetime without load / nominal load	30x10 ⁶ / 4x10 ⁵ cycles
Max. switch on frequency without load / nominal load	72000 / 360 hour ⁻¹
Serial interface	RS485
Galvanic separation of RS485	Yes *)
Serial interface overvoltage protection	Transil 600 W
Communication rates	9600 to 57600 Bd
Max. number of modules on RS485 line	63
Max. number of modules on RS485 segment	31
Power supply	24 V DC ±20 %
Power consumption	Max. 160 mA at 24 V DC
Signal connection	WAGO 231 cage clamp connectors
Operating temperature	0 to 50 °C
Max. ambient humidity	< 95 % non-condensing
Weight	250 g
Dimensions (w x h x d)	105 x 90 x 74 mm

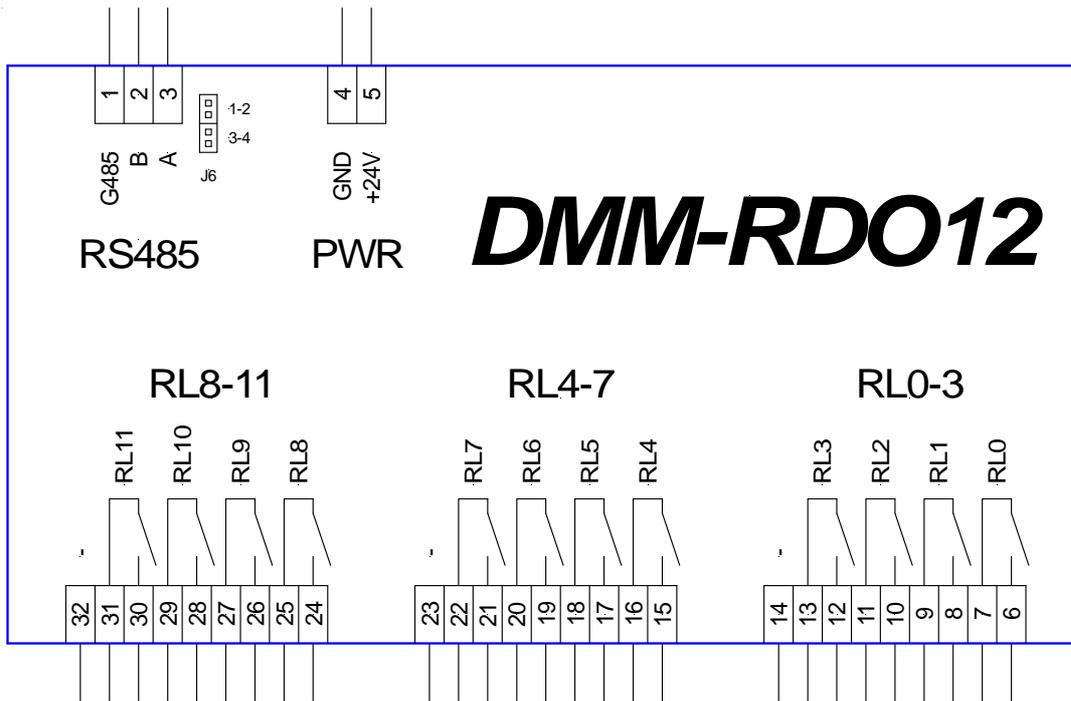
1) „Mounting instruction“ has to be kept, see below.

*) Insulation strength 500 V AC / 1 minute, galvanic separation may not be used for safe and unsafe parts separation.

ORDERING INFORMATION

DMM-RDO12	Module of 12 relay outputs controlled over RS485 line, data sheet, warranty card
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RECOMMENDED DIAGRAM SYMBOL



DIP SWITCH SETTING

Jumpers – RS485 line

J6, 1-2	Line state definition + A line termination
J6, 3-4	Line state definition + B line termination

Transmission rates

9600 Bd	BAUD0 = OFF, BAUD1 = OFF
19200 Bd	BAUD0 = ON, BAUD1 = OFF
38400 Bd	BAUD0 = OFF, BAUD1 = ON
57600 Bd	BAUD0 = ON, BAUD1 = ON

DIP SW8

SW8.1	Address, binary weight of 1
SW8.2	Address, binary weight of 2
SW8.3	Address, binary weight of 4
SW8.4	Address, binary weight of 8
SW8.5	Address, binary weight of 16
SW8.6	Address, binary weight of 32
SW8.7	BAUD0, transmission rate
SW8.8	BAUD1, transmission rate

An example of address construction: Addr = 41, switches 1, 4 and 6 are ON (1 + 8 + 32).

Implemented MODBUS protocol functions are described at application note AP0008 - Communication in MODBUS network.

Notice: Unit has implemented SW WATCHDOG. If unit do not receive any valid frame during 10 sec (even for other unit on the network), than all outputs will be set up to logical 0.

TERMINALS ASSIGNMENT

Terminal	Label	Assignment
1	G485	RS485, shielding
2	B	RS485, B line
3	A	RS485, A line
4	GND	Power supply, ground
5	+24V	Power supply 24 V DC
6	RL0	Relay RL0
7	RL0	Relay RL0
8	RL1	Relay RL1
9	RL1	Relay RL1
10	RL2	Relay RL2
11	RL2	Relay RL2
12	RL3	Relay RL3
13	RL3	Relay RL3
14	-	
15	RL4	Relay RL4
16	RL4	Relay RL4

Terminal	Label	Assignment
17	RL5	Relay RL5
18	RL5	Relay RL5
19	RL6	Relay RL6
20	RL6	Relay RL6
21	RL7	Relay RL7
22	RL7	Relay RL7
23	-	
24	RL8	Relay RL8
25	RL8	Relay RL8
26	RL9	Relay RL9
27	RL9	Relay RL9
28	RL10	Relay RL10
29	RL10	Relay RL10
30	RL11	Relay RL11
31	RL11	Relay RL11
32	-	

DMM-RDO12

Relay Outputs Module with MODBUS Protocol

MOUNTING INSTRUCTIONS



- Module is cooled by natural air circulation (up to max. operating temperature). Module has to be mounted on DIN rail at arbitrary orientation.
- Module is designed for use in normal environment (not in explosive environment etc.)
- Cabling must be done properly so that any randomly disconnected cable can not carry main voltage to the secure part and vice versa.
- If this module is not use properly (according to producer's instructions), the provided protection could be reduced.
- According to way of use there is a need to remove dust from time to time. It is recommended to use dry brush, soft wiper or vacuum cleaner for dust cleaning.
- Mains switching circuits have to be protected by separate 6 A circuit breaker placed in touch with module.
- Max. current through a bulb is greater then its nominal current. Not even short time value of switched current has to exceed its maximum allowed value.
- Designed only for single-phase 230 V AC systems.
- Module is designed for switchboard mounting.
- Module must be mounted in such a way that terminals and module bottom can not be accessible to operator – see the picture bellow. It is recommended to use house low-voltage switchboard.

