Industrial
Control Systems

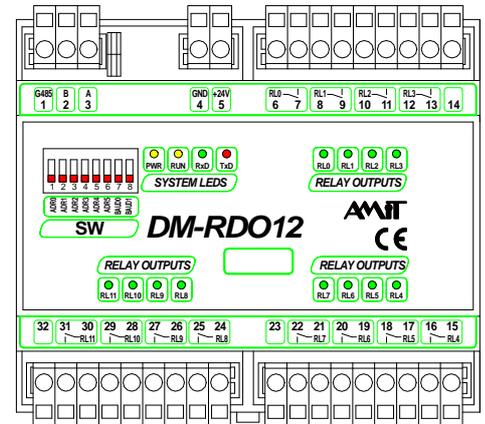# DM-RDO12

Relay Outputs Module with ARION Protocol

- **12 relay outputs module**

- **Control over RS485 line (ARION protocol)**

TECHNICAL DATA

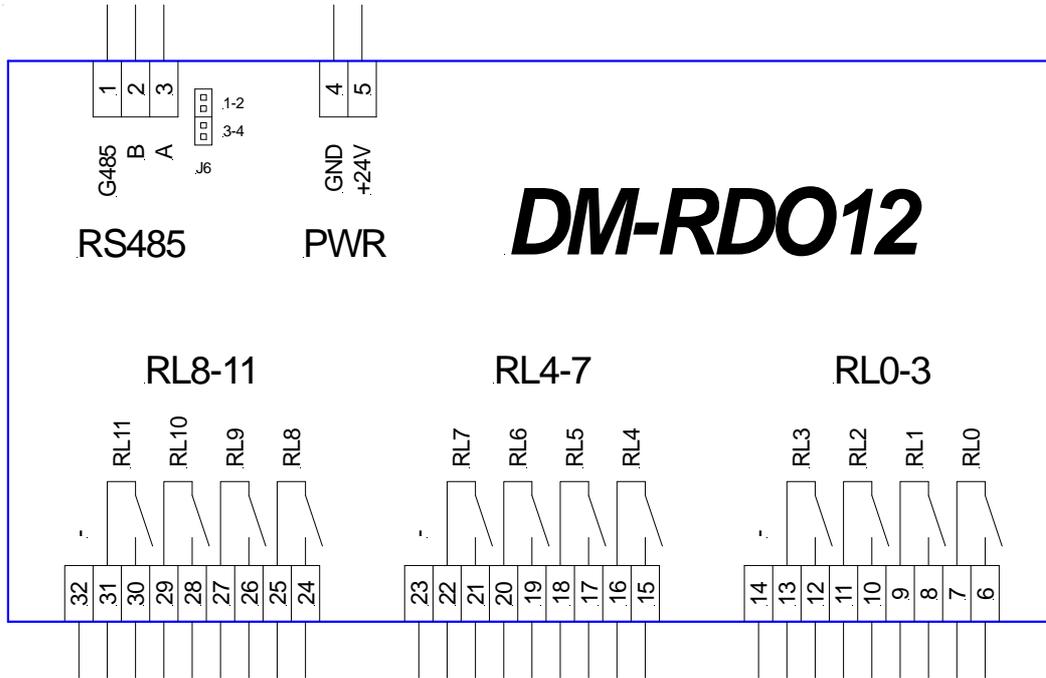|	
Outputs	12
Output type	Normally opened relay
Devices protection class [1]	II
Cover protection rate (LV) in mounted state [1]	IP20
Max. operation voltage of galvanic separation	300 V AC/DC
Max. switched output voltage	250 V AC/DC
Nominal voltage	230 V AC / 24 V DC
current (resistive load)	6 A
Switched power (resistive load)	1200 VA AC / 70 W DC
Switch on time	5 ms
off time	1 ms
Contact lifetime	
without load / nominal load	$30{\times}10^6$ / $4{\times}10^5$ cycles
Max. switch on frequency	
without load / nominal load	72000 / 360 hour^{-1}
Communication	
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
Others	
Signal connection	WAGO 231 cage clamp connectors
Operating temperature	0 to 50 °C
Max. ambient humidity	< 95 % non-condensing
Weight	250 g
Dimensions (w × h × d)	105 × 90 × 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

DM-RDO12	Module of 12 relay outputs controlled over RS485 line, data sheet, warranty card

ISO 9001   **www.amit.cz**

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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

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

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

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

TERMINALS ASSIGNMENT

Terminal	Label	Assignment	Terminal	Label	Assignment
1	G485	RS485, shielding	17	RL5	Relay RL5
2	B	RS485, B line	18	RL5	Relay RL5
3	A	RS485, A line	19	RL6	Relay RL6
4	GND	Power supply, ground	20	RL6	Relay RL6
5	+24V	Power supply 24 V DC	21	RL7	Relay RL7
6	RL0	Relay RL0	22	RL7	Relay RL7
7	RL0	Relay RL0	23	-	
8	RL1	Relay RL1	24	RL8	Relay RL8
9	RL1	Relay RL1	25	RL8	Relay RL8
10	RL2	Relay RL2	26	RL9	Relay RL9
11	RL2	Relay RL2	27	RL9	Relay RL9
12	RL3	Relay RL3	28	RL10	Relay RL10
13	RL3	Relay RL3	29	RL10	Relay RL10
14	-		30	RL11	Relay RL11
15	RL4	Relay RL4	31	RL11	Relay RL11
16	RL4	Relay RL4	32	-	

DM-RDO12

Relay Outputs Module with ARION 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 performed 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.**

Secure part   Unsecure part

Separation desk