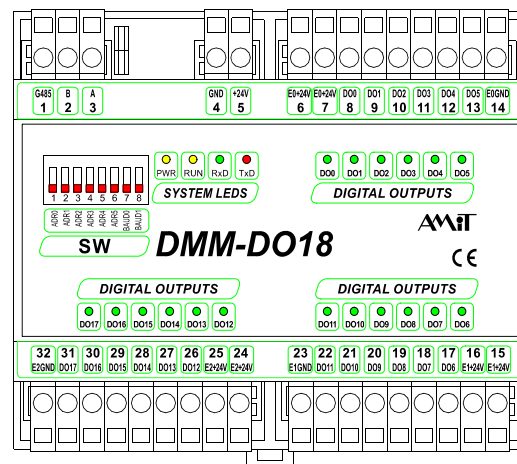


# DMM-DO18

Digital Outputs Module with MODBUS Protocol

- 18 digital outputs 24 V DC module
- Common galvanic separation (3 groups per 6 outputs)
- Control over RS485 line, MODBUS RTU protocol



## TECHNICAL DATA

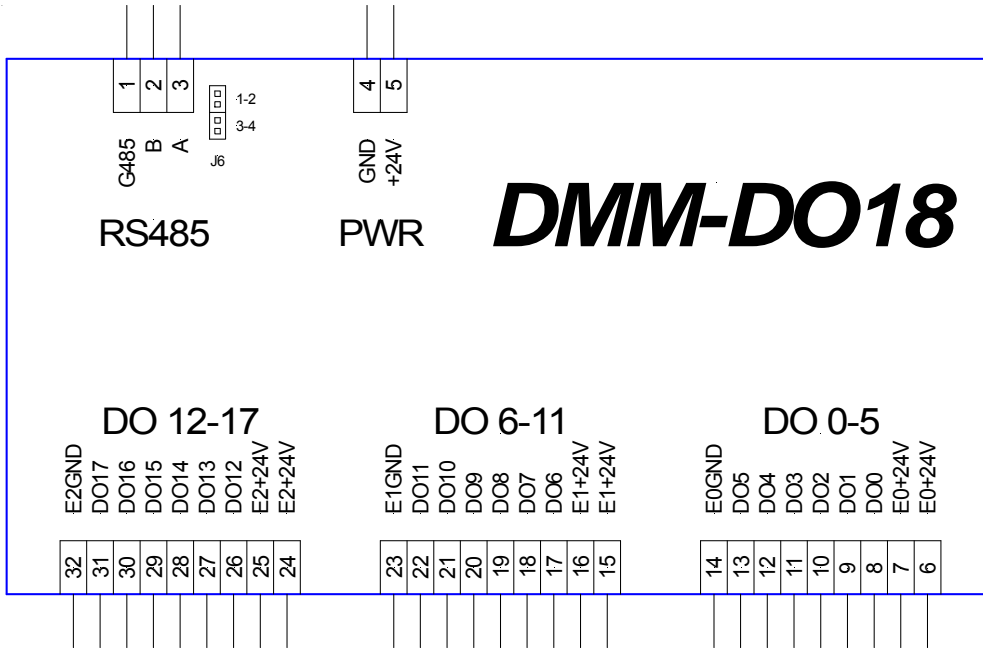
Outputs	3 × 6
Switch type	Switch Ex+24V
Switching element	MOS
Save state at connection drop out	0 V DC
User's defined save state	Not supported
Galvanic separation of outputs	Yes *)
Switched voltage Ex+24V	24 V DC ±20 %
Output voltage	(Ex+24V) – 1 V DC
Switched current (permanently)	300 mA DC
Max. current of current protection circuit	0.7 to 2.5 A DC
Max. current via common terminal	1 A DC
Switch on time	40 µs
Switch off time	100 µs
Short circuit protection	Electronic
Inductive load protection	Transil 600 W
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 (without outputs)	Max. 100 mA at 24 V DC
Signal connection	WAGO 231 cage clamp connectors
Cover protection rate	IP20
Operating temperature	0 to 50 °C
Max. ambient humidity	< 95 % non-condensing
Weight	250 g
Dimensions (w × h × d)	105 × 90 × 74 mm

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

## ORDERING INFORMATION

<b>DMM-DO18</b>	Module of 18 digital 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 = 39, switches 1, 2, 3 and 6 are ON (1 + 2 + 4 + 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	E0+24V	Switched voltage DO0-5
7	E0+24V	Switched voltage DO0-5
8	DO0	Output 0
9	DO1	Output 1
10	DO2	Output 2
11	DO3	Output 3
12	DO4	Output 4
13	DO5	Output 5
14	E0GND	External GND
15	E1+24V	Switched voltage DO6-11
16	E1+24V	Switched voltage DO6-11

Terminal	Label	Assignment
17	DO6	Output 6
18	DO7	Output 7
19	DO8	Output 8
20	DO9	Output 9
21	DO10	Output 10
22	DO11	Output 11
23	E1GND	External GND
24	E2+24V	Switched voltage DO12-17
25	E2+24V	Switched voltage DO12-17
26	DO12	Output 12
27	DO13	Output 13
28	DO14	Output 14
29	DO15	Output 15
30	DO16	Output 16
31	DO17	Output 17
32	E2GND	External GND