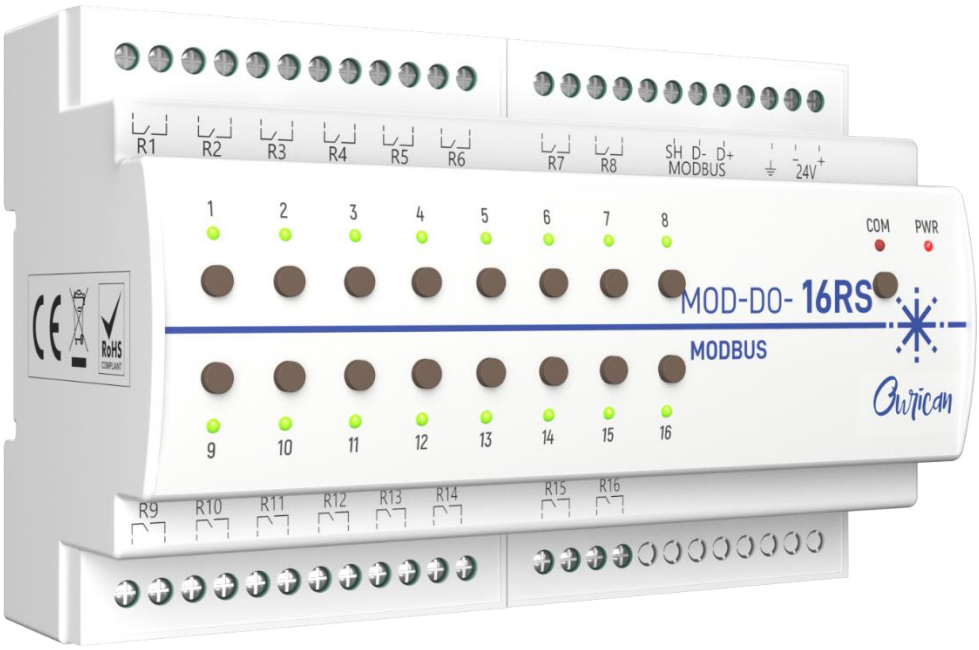
MOD-DO-16RS



Features:

- 16 Channel Relay Output
- Manual operation with push button and LED status indicator
- LED indication for communication and power status
- DIP switch for Modbus Configuration
- Din rail mount assembly
- No need of any Software
- High Speed Modbus RTU (Slave) Communication
- CE Marking*

General Product Specifications		
Device Type	Electric Operation control device	
Main Supply	Voltage (typical)	24VDC, 30mA
	Voltage Range	18-30 VDC
	Connection type	Terminal Connector
Communication Interface & Protocol	RS485 & MODBUS RTU	
Output Type	Relay output Latching type	
No. of output	16	
Control for each channel	ON/OFF	
Output Rating	277VAC/16A	
Module Protection	Power supply polarity inversion protection, protection against surge voltages	
Operating Temperature	0 to 70°C	
Storage Temperature	-25°C to 75°C	
Humidity	75%	
Mounting	DIN rail mounting	

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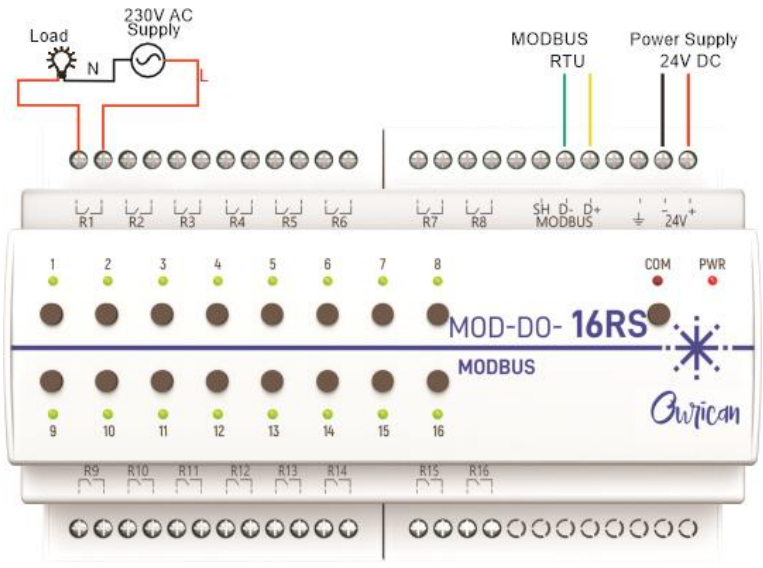
Module Dimension (L x W x H)	142.3 x 90.5 x 62
Indication	Red LED - Power Supply Yellow LED - Communication Green LED -per Output channel
COM port setting	DIP Switch
Certification	CE*
Usage	Indoor, to be mounted inside distribution boxes or electrical panels with DIN rail
Power failure Response	Data Saving
Response when starting	Data recovery and other setting

Output Specifications		
Output Type		Relay based control device
Output Relay Rating		16A/250VAC
Rated current by Output		16A*277VAC (4,432 VA))
Maximum Inrush Current		100 A (Resistive Load)
		200A/1.25ms (Ballast Load)
Outputs per Common		1 Output
Different Phases Connection		Possibility to connect different phases in adjoining outputs.
Connection Type		Screw Terminal Block
Recommended Cable Selection		$0.5mm^2$ to $4mm^2$ (26-10AWG)
Cable Type		Stranded or Solid wire
Expected Life	Mechanical	10^6 operations
	Electrical	2 X 10^4 cycles

Modbus Communication Specifications:	
Protocol	Slave Modbus RTU
Baud Rate	9600,19200,38400,115200
Slave Address	1-15
Data bit	8
Stop bit	1
Parity	None
Response time	<100ms
Termination Resistance	120 ohms (Switchable)
Control registers	Holding Register 0, Holding Register3 –18, Holding Register38 (for output & parameter setting)
Distance	Up to 1200m

WIRING DIAGRAM



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Modbus Configuration DIP Switch Access:

Steps:

1. Open the Upper facia plate of the module
2. DIP Switch SW1 for address, Baud Rate, Parity, and termination resistance.
3. Adjust the DIP switch according to requirements using the below table.

DIP Switch 1				
Slave ID Configuration				
Slave ID	Pin 1	Pin 2	Pin 3	Pin 4
1	ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON
Baud Rate Configuration				
Baud Rate	Pin 5		Pin 6	
9600	OFF		OFF	
19200	ON		OFF	
38400	OFF		ON	
115200	ON		ON	
Termination Resistor Configuration (120 Ω)				
Termination	Pin 7			
ON	ON			
OFF	OFF			

Modbus Address Mapping:

Mode register	Mode
40038	0
Modbus Register	Digital Output
O/P 1 - DO_0	40001_0 (Bit 0)
O/P 2 - DO_1	40001_1 (Bit 1)
O/P 3 - DO_2	40001_2 (Bit 2)
O/P 4 - DO_3	40001_3 (Bit 3)
O/P 5 - DO_4	40001_4 (Bit 4)
O/P 6 - DO_5	40001_5 (Bit 5)
O/P 7 - DO_6	40001_6 (Bit 6)

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O/P 8 - DO_7	40001_7 (Bit 7)
O/P 9 - DO_8	40001_8 (Bit 8)
O/P 10 - DO_9	40001_9 (Bit 9)
O/P 11 - DO_10	40001_10 (Bit 10)
O/P 12 - DO_11	40001_11 (Bit 11)
O/P 13 - DO_12	40001_12 (Bit 12)
O/P 14 - DO_13	40001_13 (Bit 13)
O/P 15 - DO_14	40001_14 (Bit 14)
O/P 16 - DO_15	40001_15 (Bit 15)

Mode register	Mode
40038	1
Modbus Register	Digital Output
O/P 1 - DO_0	40003 (Bit 0)
O/P 2 - DO_1	40004 (Bit 0)
O/P 3 - DO_2	40005 (Bit 0)
O/P 4 - DO_3	40006 (Bit 0)
O/P 5 - DO_4	40007 (Bit 0)
O/P 6 - DO_5	40008 (Bit 0)
O/P 7 - DO_6	40009 (Bit 0)
O/P 8 - DO_7	40010 (Bit 0)
O/P 9 - DO_8	40011 (Bit 0)
O/P 10 - DO_9	40012 (Bit 0)
O/P 11 - DO_10	40013 (Bit 0)
O/P 12 - DO_11	40014 (Bit 0)
O/P 13 - DO_12	40015 (Bit 0)
O/P 14 - DO_13	40016 (Bit 0)
O/P 15 - DO_14	40017 (Bit 0)
O/P 16 - DO_15	40018 (Bit 0)

**Note:1. After changing the mode of the module, power reset should be done.

2. If the module is operated in manual mode while MODBUS communication is on, then MODBUS communication will stop for 10 seconds and the data sent by MODBUS will overwrite the data sent by key.

3. The module can be operated in manual mode while MODBUS communication is off.

⚠ SAFETY INSTRUCTIONS

- Installation should only be performed by qualified professionals according to the laws and regulations.
- Do not connect the mains voltage nor any other external voltage to any point of the MODBUS connector; it would represent a risk for the entire system. The facility must have enough insulation between the mains (or auxiliary) voltage and the MODBUS or the wires of other accessories, in case of being installed.
- Once the device is installed (in the panel or box), it must not be accessible from outside.
- Keep the device away from water and do not cover it with clothes, paper or any other material while in use.

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