



The digital output module romod 8 DO is a Local Override/Indication Device (LO/ID) which is used to control eight 1-stage motors, or other digital actuators. By means of the integrated switches, it provides the ability of manual override of the DOs which are usually controlled via Modbus commands.

The digital MOSFET outputs are provided by the module via terminals. They are ground referenced, +24VDC. The source voltage for the DOs is also connected via terminals and must be +24 volts (DC). The two supply terminals are connected with each other internally, but not with the 24V power supply, i.e. there must be applied a source voltage for the outputs in any case.

For each DO there is a LED present which signalsizes the status of the digital outputs. Using the settings in the relevant Modbus register, for each of this LEDs the colour can be defined to either red, green or orange. Furthermore, the LEDs can be controlled via Modbus commands, provided that this option previously has been defined in a configuration register. This setting can be made individually for each LED.

The current positions of the switches can be read out using two registers. Doing so, one register shows the switch position "Manually ON" and the other one the switch position "Automatic". There is a register that displays whether and which switch has been operated since the last time this register has been read. When reading this register, all bits are set to zero. If the position of a switch has been altered several times, e.g. from AUTO to OFF and back to AUTO, a change will be displayed, anyway.

All digital outputs can be configured so that they will assume a defined state ('safe state') if the module has not received valid bus telegrams via the Modbus for a certain time.  
**Note:** The time for triggering the 'safe state' should not be too short in order to avoid malfunctions as they can occur, e.g., when another device which is connected to the bus fails and will so cause time-outs.

romod 8 DO		Ausgangsspannung an den DO potentialbehaftet +24VDC!										
		GND	24V AC/DC	+24VDC für DOs								
DO Nr. 1-8					1	2	3	4	5	6	7	8
Klemme:					11	12	13	14	15	16	17	18
+24VDC für DOs												
Klemme:					10	19						
Spannungsversorgung												
Klemme:		1	2									

Die beiden Einspeiseklemmen (10 + 19) der DOs sind intern gebrückt!

Modbus-Anschluss	Klemme		
I-GND	3		
A (+)		4	
B (-)			5

Power supply: 24 V AC/DC, connection via terminals

Current consumption:  
typically 21 mA (DC), 60 mA (AC), with all relays activated

Power dissipation  
max. 2.1 W (DC), 3.1 W (AC), with all relays activated

Specifications DO's:  
MOSFET, ground referenced (source operation mode +24 VDC)  
Output current 5 ... 500 mA (leakage current max. 0.1 mA)  
The load resistance shall not be less than 48 Ohms.  
Voltage drop max. 0.4 V at 0.5 A  
Inductive loads should be avoided as far as possible, or be suppressed at the source, respectively.

Bus interface RS485

Supported baud rates  
Autobauding, 9,600 Baud, 19,200 Baud, 38,400 Baud, 57,600 Baud

Bus cycle time individually depending on the baud rate and the number of data points that will be addressed

Configuration settings are stored in the internal EEPROM, max. number of write cycles up to 100,000 times (Memory uPC internally)

Protocol Modbus rtu (RS485), Serial Port Parameter Setting 8-N-1

Environmental conditions  
Operating temperature 0...50°C  
Transport and storage temperature 0...70°C  
Relative humidity 10...90%, non-condensing

Protection class IP 20