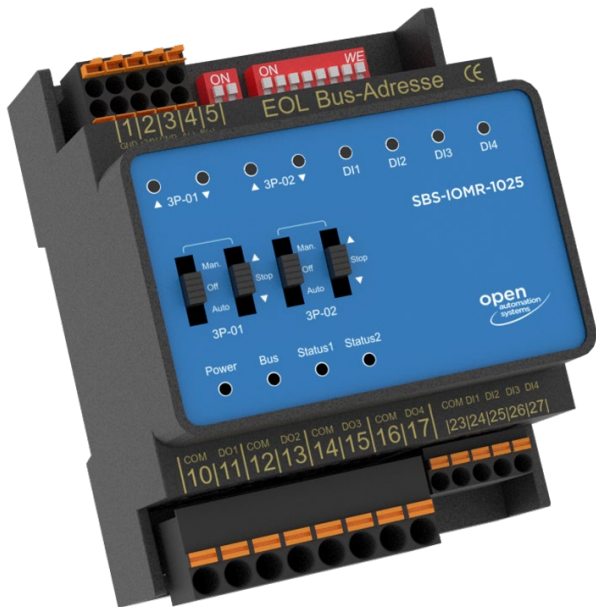


OAS-SBS-IOMR-1025

3- point relay outputs: 2x 3-point relay outputs: 2x 3-point DO-/ 4x DI module



3 Point relay output module **OAS-SBS-IOMR-1025** with 2 x 3-point relay outputs 230 V / 3 A in two groups, for controlling 2 OPEN - STOP - CLOSE actuators such as valves, flaps, shutters or similar. The four digital inputs can be used to connect and signal four messages, such as operating messages, fault messages or status messages.

The **OAS-SBS-IOMR-1025** offers the possibility to manually override the switching commands for the DOs received via the Modbus by means of the switches and thus to realize a so-called local priority operation

(LVB). Two switches belong to each of the two 3-point outputs for this purpose. One is used to select between automatic (activation of the DO via bus command), OFF and manual override ON. The position of the other switch (OPEN-STOP-CLOSE) only affects the outputs when the first switch is in the "Manual" position.

Two LEDs are assigned to each of the two drives to indicate the direction of travel and the current position of the blind. The meaning is shown in the following table:

LED ▲	LED ▼	Bedeutung
orange flashing		drives upwards
	orange flashing	drives downward
OFF	OFF	Position 0 ... ≤ 25%
OFF	green	Position 25 ... ≤ 50%
green	OFF	Position 50 ... ≤ 75%
green	green	Position 75 ... ≤ 100%

While the drive is moving, the green LEDs for the position display also flash.

Digital outputs:

The relay outputs, which can be tapped from the board via removable terminals, each provide the normally open contact of a relay.

Important: The signals to be switched must have the same phasing.

For each channel, run times for opening and closing the blinds can be parameterized, as well as times for over- and understeering (longer activation than is theoretically required for complete opening or closing of the blind). Delay times for switching on the drive again and for switching to the other direction can also be set. All values are saved in Modbus registers with zero voltage protection.

Please note: The configured switching delays and minimum on / off times will only work when the outputs are activated via bus commands. Whenever manual override is applied, the operator will be responsible for the adherence to these times.

The possibility of manually overriding the digital outputs by means of the switches can be disabled by using the settings in a register ('Setting the mask for manual override of the Dos'). This can be defined for each DO separately.

The current positions of the switches can be read out using two registers. Doing so, one register shows the switch position "Manually ON" or OPEN and the other one the switch position "Automatic" or CLOSE.

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 reset 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.

Digital inputs:

The control of the digital inputs will be done with 24 V switched by external dry contacts that are connected to the module via terminals.

The reference potential is defined via the COM terminals and can be both, 0 volts and 24 volts, i.e., that reference potential for the inputs has to be connected anyway. When using a reference potential of +24 volts, a control of the digital inputs with a minus control can be realized.

A configuration register can be used to define the four digital inputs for the use of end position switches. When an end position is reached, the drive then switches off. At the same time, the position of the blind constantly calculated in the module is corrected to 0% (Closed) or 100% (Open) depending on the end position. If no end position is reached in automatic mode within the configured running times (Open/Close running time plus time for override or underride), the drive still switches off for safety reasons, but not in manually overridden mode.

Furthermore, the digital inputs can also be configured for the control of the outputs by means of externally connectable switches. With these, the outputs can then be controlled in exactly the same way as with the switches located on the module. Any configured runtimes are not considered here - as is also the case in manually overridden operation.

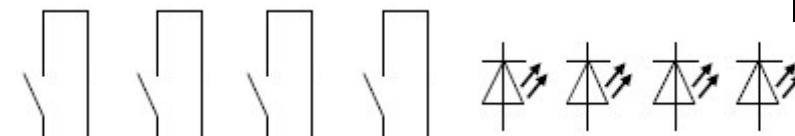
Via the settings in the Modbus registers, working or closed current principle can be selected for each individual input.

For AC control of the inputs, the edge detection has to be delayed via configuration registers (see registers R1101 and R1111). In case of 50 Hz, this value should be set to at least 40ms in order to avoid the counting of false detections.

There is a register that displays whether and which DI has changed since the last time this register has been read. When reading this register, all bits are reset to zero automatically. If a DI's status has altered several times, e.g., from 0 to 1 and back to 0, a change will be signalized, anyway.

Regarding the system configuration (addressing, maximum number of modules connected to a MODBus Master interface, installation, connection to the bus etc.), please follow the instructions in the chapter **Configuration**.

Overview terminal assignment:

OAS-SBS-IOMR-1025	GND		24V AC/DC		COM DO 1...4														
	DO No. 1-4				DO1		DO2		DO3		DO4		DI1		DI2		DI3		DI4
Terminal:				10		11		12		13		14		15		16		17	
DIs No. 1-4 & COM																			
Terminal:				23								24		25		26		27	
Power supply																			
Terminal:		1		2															

Important: The signals to be switched must have the same phasing.

Bus Connection	Terminal No			
I-GND	3			
Net A (-) aka /D		4		
Net B (+) aka D			5	

Important technical data:

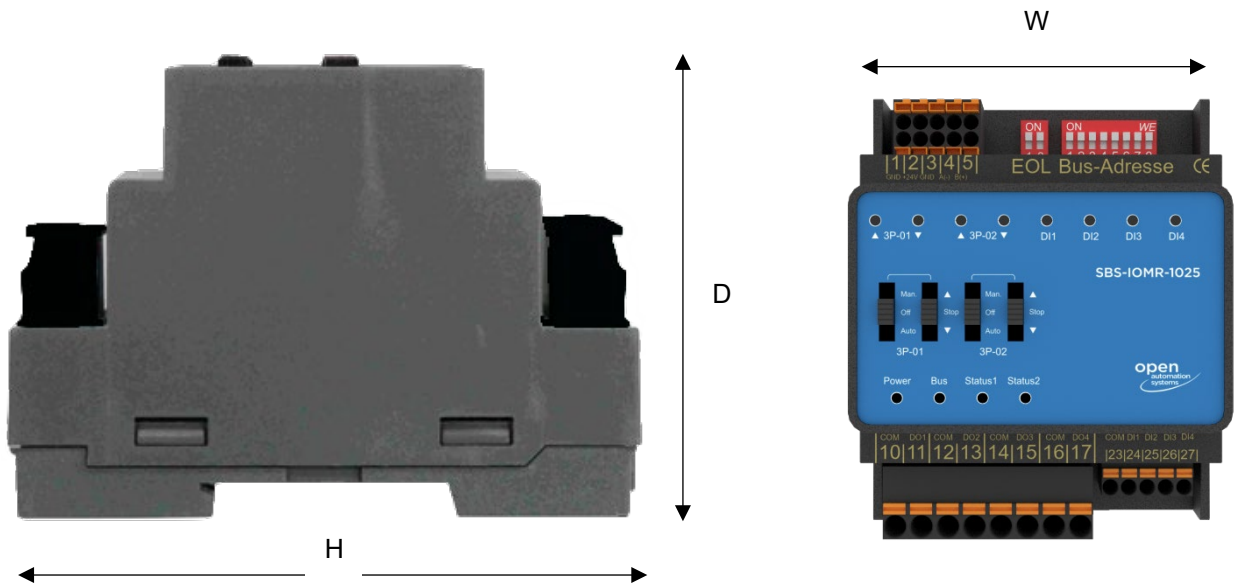
Power supply:	24 V AC or DC, connection via terminals
Specifications digital outputs:	Relay outputs (NO contact), max. 250 VAC)
Characteristics (Resistive Load):	
Initial contact resistance	100mΩ (at 1A / 24 VDC)
Rated load:	3 A at 250 VAC / 30 VDC
Max. switching voltage	277 VAC, 30 VDC
Max. switching capacity	830 VA (AC), 90 W (DC)
Endurance	1x10 ⁵ ops (Rated load)
Inductive loads	should be avoided as far as possible, or be suppressed at the source, respectively.
Current consumption:	typically, 68 mA (DC), 152 mA (AC) (with all relay outputs activated)
Power dissipation	max. 1,7 W (DC), 3,7 W (AC) (with all outputs activated)
Counting puls (only digital inputs)	duration min. 10 ms, only for DC signals
Max. counter value (digital inputs)	65.535 (= 2 ¹⁶ -1)
Bus interface	RS485
Bus interface (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
Memory	μPC internally
Max. number of write cycles	Configuration settings such as setting the LED colors, inverting the inputs, or upshift and downshift times are stored in the internal EEPROM and can be overwritten up to 100,000 times.
Protocol	MODBus rtu (RS485), Format 8 N 1
Inputs and outputs	see corresponding documentation of the respective modules

Environmental conditions:

Operating temperature	0...50°C
Transport and storage temperature	0...70°C
Relative humidity	10...90%, non-condensing
Protection class	IP 20
Dimensions	(for exact dimensions see chapter Dimensions and weights)

Dimensions and weights

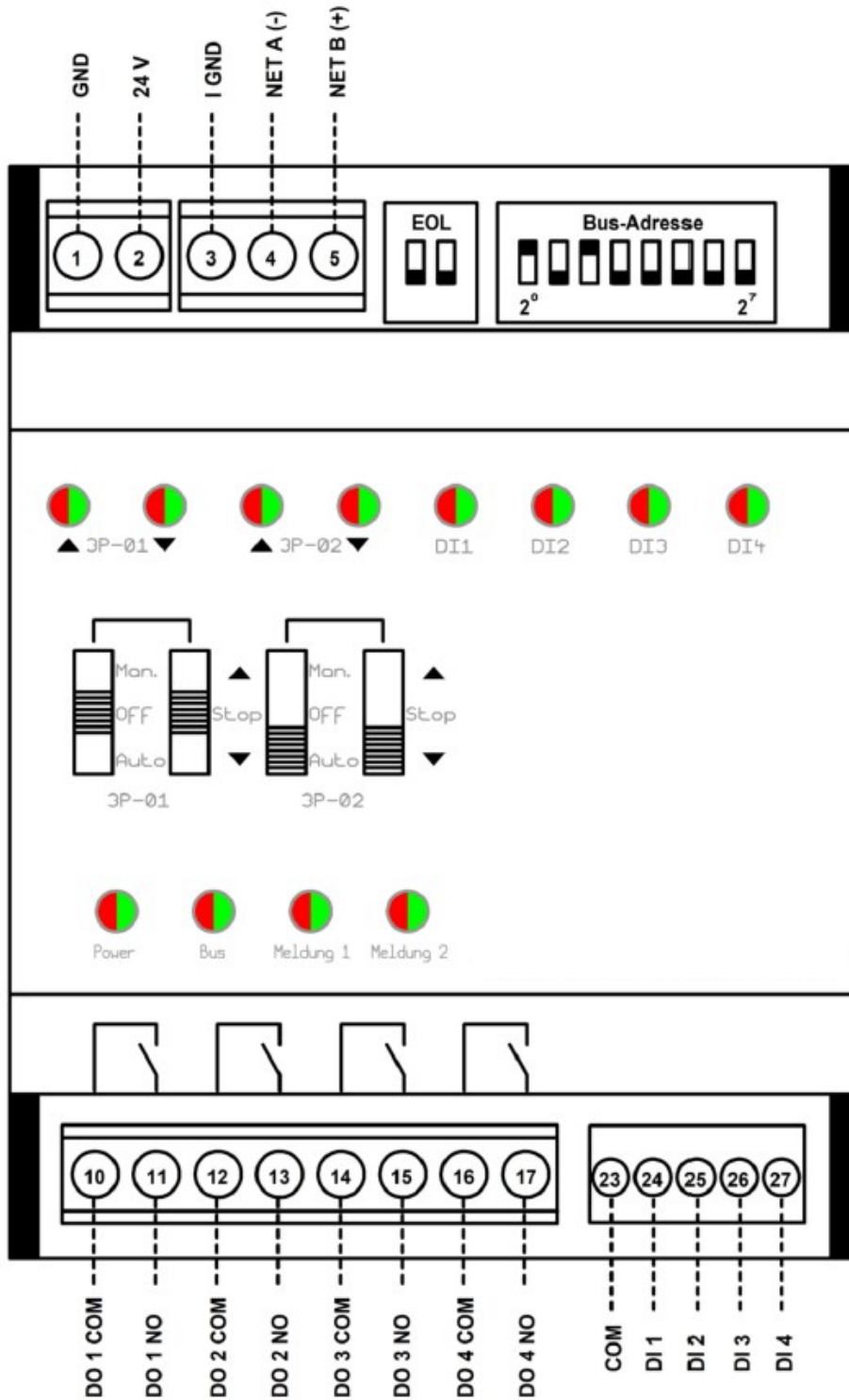
The dimensions of the modules can be seen from the following figures and the table below:



All dimensions in mm, weight in grams

Type	H	W	D						Weight
SBS-IOM-1025	92	72	70						156

Wiring diagrams



Important: The signals to be switched must have the same phasing.