

3.6.12 Two relay outputs - EPM-S308

This module detects up to two binary control signals from the higher-level bus system and transmits them to the process level via relay outputs (switches).

Features

- ▶ 2 relay outputs (switches), potential-free
- ▶ LEDs show the switching states of the outputs

Overview

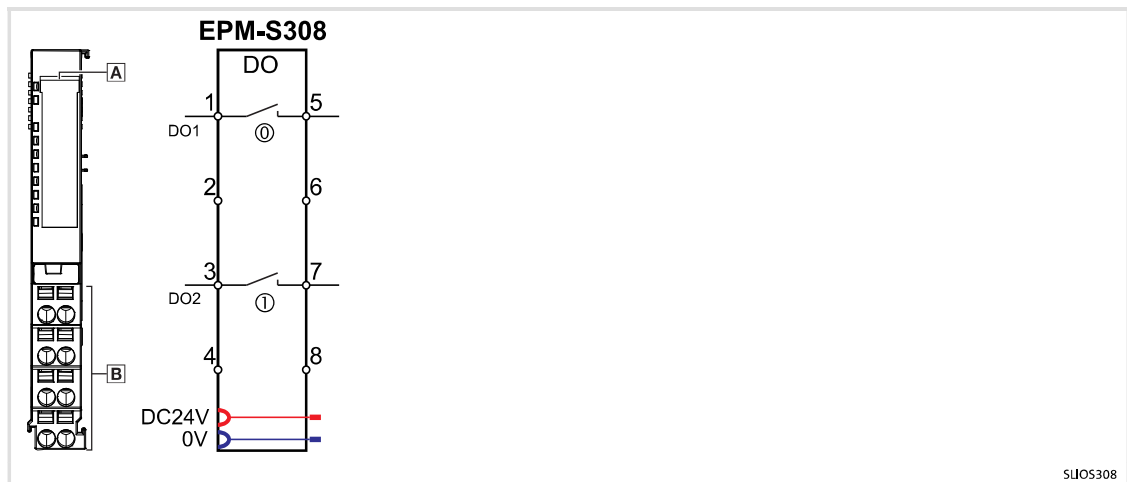




Fig. 3-44 Elements and circuit diagram


- Ⓐ Displays for module status
- Ⓑ Terminals
- 1 ... 8 Connection number
- ① ... ② Bit number in bit presentation

Product description


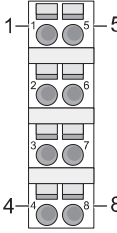
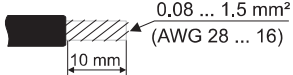
I/O compound modules - digital I/O
Two relay outputs - EPM-S308

Status displays

Module status LEDs 					
View	Pos.	Designation	Colour	Explanation	
 SUI0001	1	RUN	Green	On: Module is ready for operation	
	2	MF	Red	On: Module error (see table below)	
	3	DO1	Green	On: Relay output triggered	
	4	DO2			
	5				
	6				
	7				
	8	-	-		Not assigned
	9				
	10				

Messages of the status LEDs RUN and MF		
RUN	MF	Meaning
On	Off	Module status OK Bus communication is OK
On	On	Module reports error Bus communication is OK
Off	On	Module reports error Bus communication not possible
Off	Off	Error in the bus supply voltage
Blinking	Blinking	Configuration error  274)

Terminals

Module terminals, spring terminals 			
View	Designation	Explanation	Terminal data
 SUI0002	1	Relay output DO1	
	2	Not assigned	
	3	Relay output DO2	
	4	Not assigned	
	5	Relay output DO1	
	6	Not assigned	
	7	Relay output DO2	
	8	Not assigned	

Technical data

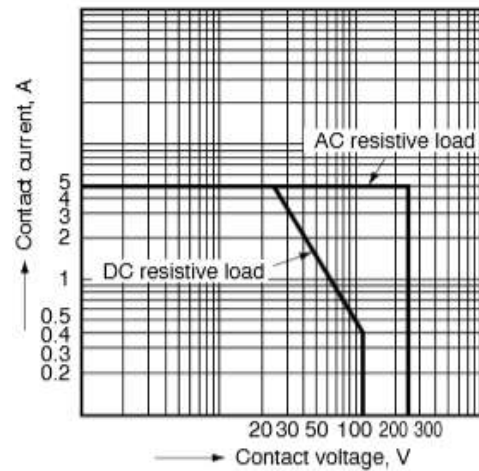
EPM-S308: rated data	
Module identifier	265 _{dec}
Current consumption/power loss	
Current consumption from backplane bus	130 mA
Power loss	0.7 W

EPM-S308: rated data

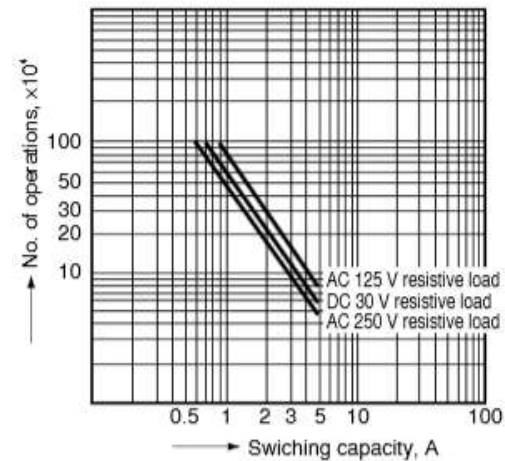
Relay outputs

Number of outputs	2
Load voltage	
Nominal value	DC 30 V / AC 230 V
Total current	
for each group, horizontal structure, 40°C	3 A
for each group, horizontal structure, 60°C	3 A
for each group, vertical structure	3 A
Output current	
for "1" signal, nominal value	3 A

Maximum switching capacity



Service life



Parallel switching of outputs

for redundant control	Not possible
for power increase	Not possible
Control of a digital input	Not possible
Switching frequencies	
for ohmic loads	Max. 100 Hz
Output data size	8 bits (with EPM-S110: 2 bits)

Product description

I/O compound modules - digital I/O

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EPM-S308: rated data

Status, alarm, diagnostics

Status display	Green LEDs per channel
Alarms	No
Process alarm	No
Diagnostic alarm	No
Diagnostic function	No
Diagnostic information can be read out	None
Module status	Green LED
Module error display	Red LED
Channel error display	None

Electrical isolation

between the channels	Yes
Between the channels and the backplane bus	Yes
Insulation checked with	DC 500 V

3.7 I/O compound modules - analog I/O

3.7.1 Representation of analog values

Analog values can only be processed in a binary form. For this, the analog module converts each process signal into a digital form and passes it on as a word.

Resolution	Analog value															
	HIGH byte (byte 0)								LOW byte (byte 1)							
Bit number	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0
Valency	Sign bit	2^{14}	2^{13}	2^{12}	2^{11}	2^{10}	2^9	2^8	2^7	2^6	2^5	2^4	2^3	2^2	2^1	2^0
12 bits + sign bit	Sign bit	Measured value												0	0	0
15 bits + sign bit	Sign bit	Measured value														

Resolution: In the case of a resolution of 12 bits plus sign bit, the lower-order digits that are not used (3 bits) are written to with "0".

Sign bit: Bit 15 = "0" → positive value; bit 15 = "1" → negative value.

Response in the event of an error: If a measured value exceeds the overrange or falls below the lower range, the following value is output:

Measured value > overrange → 32767 (7FFF_h)

Measured value < lower range → -32768 (8000_h)

If a parameterisation error occurs, the measured value 32767 (7FFF_h) is output.