

Product description

I/O compound modules - digital I/O

Four digital outputs 0.5 A - EPM-S301 and EPM-S304 (NPN)

3.6.7 Four digital outputs 0.5 A - EPM-S301 and EPM-S304 (NPN)

This module detects up to four binary control signals from the higher-level bus system and transmits them to the process level.

Features

- ▶ 4 digital outputs (EPM-S304 N-switching)
- ▶ LEDs display the switching states of the digital outputs

Overview

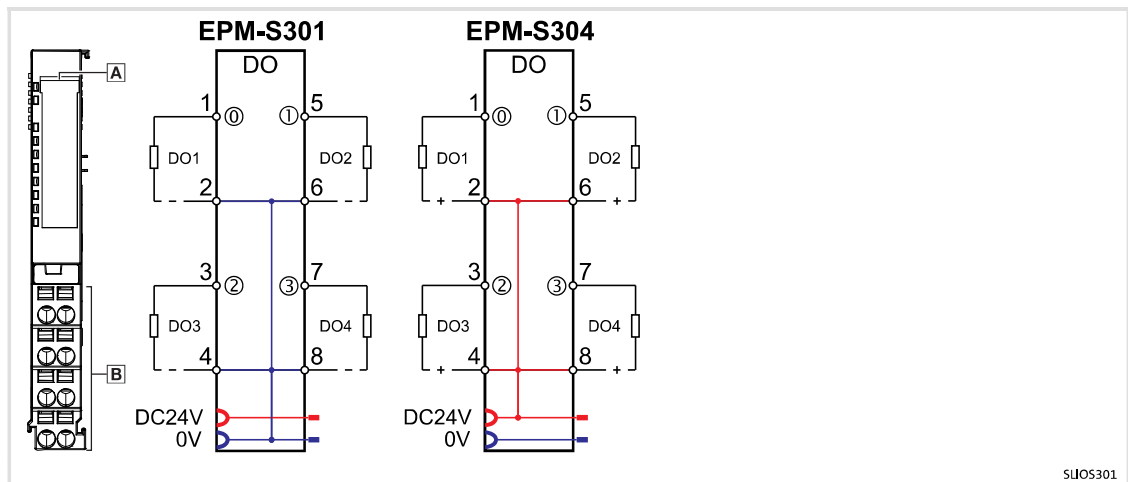

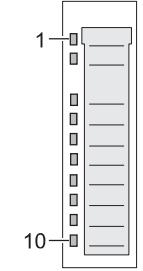



Fig. 3-30 Elements and circuit diagram


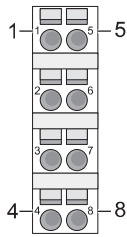
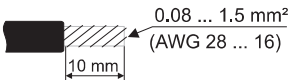
- A** Displays for module status
- B** Terminals
- 1 ... 8 Connection number
- ① ... ⑦ Bit number in bit presentation

Status displays

Module status LEDs 					
View	Pos.	Designation	Colour	Explanation	
 S110001	1	RUN	Green	On: Module is ready for operation	
	2	MF	Red	On: Module error and error at overload, short circuit, overtemperature (see table below)	
	3	DO1	Green	On: Digital output triggered	
	4	DO2			
	5	DO3			
	6	DO4			
	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
 S110002	1	Digital output DO1	
	2	EPM-S301: GND EPM-S304: 24 V DC	
	3	Digital output DO3	
	4	EPM-S301: GND EPM-S304: 24 V DC	
	5	Digital output DO2	
	6	EPM-S301: GND EPM-S304: 24 V DC	
	7	Digital output DO4	
	8	EPM-S301: GND EPM-S304: 24 V DC	

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Technical data

EPM-S301 / EPM-S304 (NPN): rated data	
Module identifier	EPM-S301: 260 _{dec} ; EPM-S304: 261 _{dec}
Current consumption/power loss	
Current consumption from backplane bus	EPM-S301: 55 mA; EPM-S304: 65 mA
Power loss	0.5 W
Digital outputs	
Number of outputs	4
Cable length	
shielded	1000 m
unshielded	600 m
Load voltage	
Nominal value	DC 24 (DC 20.4 ... 28.8 V)
Current consumption from load voltage L+	EPM-S301: 10 mA (without load); EPM-S304: 5 mA (without load)
Total current	
for each group, horizontal structure, 40°C	2 A
for each group, horizontal structure, 60°C	2 A
for each group, vertical structure	2 A
Output voltage	
for "1" signal, max. current	Only for EPM-S304: M (+250 mV)
for "1" signal, min. current	Only for EPM-S304: M (+0 V)
Output current	
for "1" signal, nominal value	0.5 A
Output delay	
from "0" to "1"	30 µs
from "1" to "0"	EPM-S301: 175 µs; EPM-S304: 100 µs
Lamp load	10 W
Parallel switching of outputs	
for redundant control	Not possible
for power increase	Not possible
Control of a digital input	Possible
Switching frequencies	
for ohmic loads	Max. 1000 Hz
for inductive loads	Max. 0.5 Hz
for lamp loads	Max. 10 Hz
Limitation (internal) of the inductive breaking voltage	EPM-S301: L+ (-52 V); EPM-S304: +45 V
Short circuit protection of the output	Electronically
Operating threshold of the protection system	EPM-S301: 1 A; EPM-S304: 1.7 A
Output data size	8 bits (with EPM-S110: 4 bits)

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EPM-S301 / EPM-S304 (NPN): 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 SF-LED
Channel error display	None

Electrical isolation

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