

## 3.6.10 Four digital outputs 2 A - EPM-S309

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, each can be loaded with 2 A (permanent total current max. 4 A)
- ▶ LEDs show the switching states of the digital outputs
- ▶ Overload protection (outputs switch off at overload)

## Overview

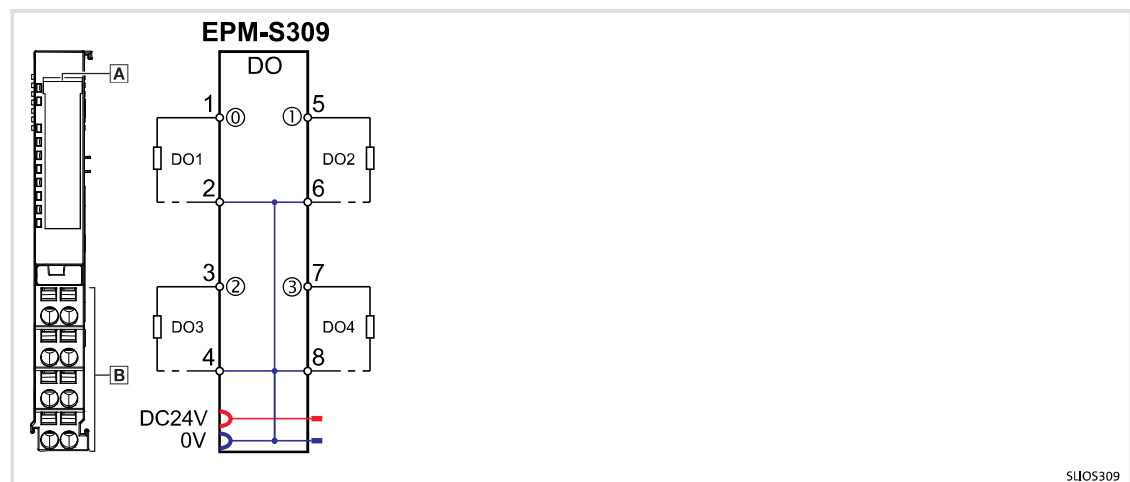


Fig. 3-33 Elements and circuit diagram

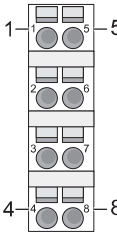
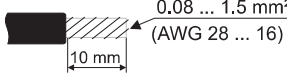
|          |                                |
|----------|--------------------------------|
| <b>A</b> | Displays for module status     |
| <b>B</b> | Terminals                      |
| 1 ... 8  | Connection number              |
| ① ... ⑦  | Bit number in bit presentation |

## Status displays

| Module status LEDs  |      |             |        |                                                                                          |
|------------------------------------------------------------------------------------------------------|------|-------------|--------|------------------------------------------------------------------------------------------|
| View                                                                                                 | Pos. | Designation | Colour | Explanation                                                                              |
| <br>SLO001          | 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    |             | -      | Not assigned                                                                             |
|                                                                                                      | 8    | -           |        |                                                                                          |
|                                                                                                      | 9    |             |        |                                                                                          |
|                                                                                                      | 10   |             |        |                                                                                          |

| Messages of the status LEDs RUN and MF |          |                                                                                                                |
|----------------------------------------|----------|----------------------------------------------------------------------------------------------------------------|
| RUN                                    | MF       | Meaning                                                                                                        |
| On                                     | Off      | Module status OK<br>Bus communication is OK                                                                    |
| On                                     | On       | Module reports error<br>Bus communication is OK                                                                |
| Off                                    | On       | Module reports error<br>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                                                                         |
| <br>SLO002                          | 1           | Digital output DO1 |  |
|                                                                                                                        | 2           | GND                |                                                                                       |
|                                                                                                                        | 3           | Digital output DO3 |                                                                                       |
|                                                                                                                        | 4           | GND                |                                                                                       |
|                                                                                                                        | 5           | Digital output DO2 |                                                                                       |
|                                                                                                                        | 6           | GND                |                                                                                       |
|                                                                                                                        | 7           | Digital output DO4 |                                                                                       |
|                                                                                                                        | 8           | GND                |                                                                                       |

## Product description

I/O compound modules - digital I/O  
Four digital outputs 2 A - EPM-S309

### Technical data

| EPM-S309: rated data                                    |                                |
|---------------------------------------------------------|--------------------------------|
| Module identifier                                       | 264 <sub>dec</sub>             |
| <b>Current consumption/power loss</b>                   |                                |
| Current consumption from backplane bus                  | 65 mA                          |
| Power loss                                              | 0.8 W                          |
| <b>Digital outputs</b>                                  |                                |
| 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+                | 20 mA (without load)           |
| Total current                                           |                                |
| for each group, horizontal structure, 40°C              | 4 A                            |
| for each group, horizontal structure, 60°C              | 4 A                            |
| for each group, vertical structure                      | 4 A                            |
| Output current                                          |                                |
| for "1" signal, nominal value                           | 2 A                            |
| Output delay                                            |                                |
| from "0" to "1"                                         | 100 µs                         |
| from "1" to "0"                                         | 250 µs                         |
| Lamp load                                               | 10 W                           |
| 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. 1000 Hz                   |
| for inductive loads                                     | Max. 0.5 Hz                    |
| for lamp loads                                          | Max. 10 Hz                     |
| Limitation (internal) of the inductive breaking voltage | L+ (-52 V)                     |
| Short circuit protection of the output                  | Electronically                 |
| Operating threshold of the protection system            | 2.7 A                          |
| Output data size                                        | 8 bits (with EPM-S110: 4 bits) |

**EPM-S309: 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 |