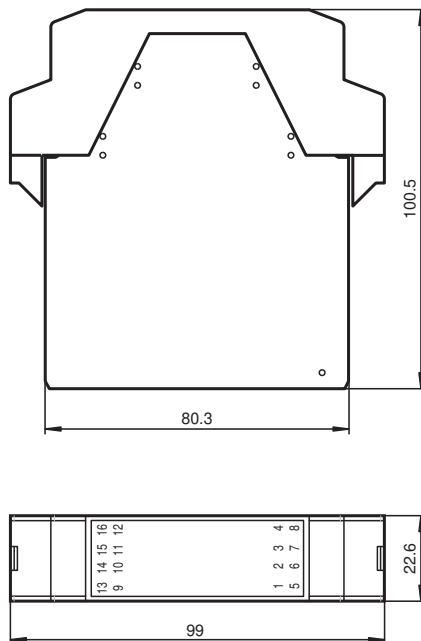## Safety control unit module
## SB4 Module OR/165

- OSSD-R/Supply-module
- Safety outputs OSSD, external status displays OSSD
- Start/Restart disable
- Operating mode can be selected by means of DIP switches
- Relay monitor
- Screw terminals or spring terminals

Safety control unit module

# Dimensions

# Technical Data

| General specifications | |
|---|---|
| Operating mode | Start/restart disable, relay monitor, |
| **Functional safety related parameters** | |
| Safety Integrity Level (SIL) | SIL 3 |
| Performance level (PL) | PL e |
| Category | Cat. 4 |
| Mission Time ($T_M$) | 20 a |
| $B_{10d}$ | see instruction manuals |
| Type | 4 |
| **Indicators/operating means** | |

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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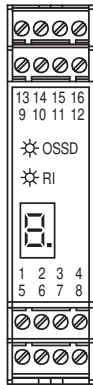Germany: +49 621 776 1111
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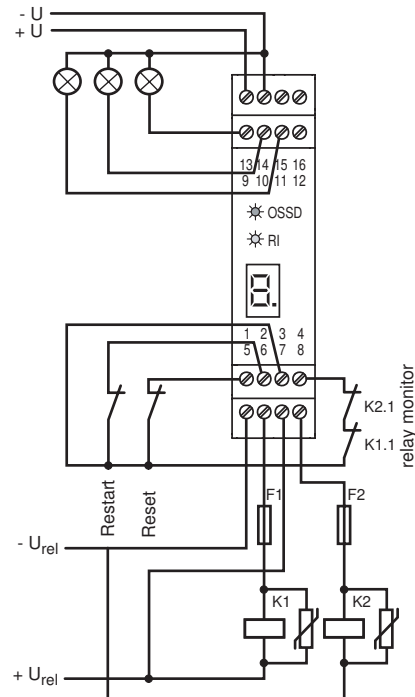fa-info@sg.pepperl-fuchs.com

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## Technical Data

| | | |
|---|---|---|
| Diagnostics indicator | | 7-segment display |
| Function indicator | | LED red: OSSD OFF<br>LED green: OSSD ON Yellow LED: start readiness |
| Control elements | | DIP switch |
| **Electrical specifications** | | |
| Operating voltage | $U_B$ | 24 V DC ± 20 % , via SB4 Housing |
| **Input** | | |
| Activation current | | approx. 7 mA |
| Activation time | | 0.4 ... 1.2 s |
| Test input | | Reset-input for system test |
| **Output** | | |
| Safety output | | 2 relay outputs, force-guided NO-contact |
| Signal output | | Output for displaying the switching state of the OSSDs |
| Switching voltage | | 10 V ... 250 V AC/DC |
| Switching current | | min. 10 mA , max. 6 A AC/DC |
| Switching power | | max. DC 24 VA , AC 230 VA |
| **Conformity** | | |
| Functional safety | | ISO 13849-1 ; EN 61508 part1-4 |
| Product standard | | EN 61496-1 |
| **Approvals and certificates** | | |
| CE conformity | | CE |
| UL approval | | cULus |
| TÜV approval | | TÜV |
| **Ambient conditions** | | |
| Ambient temperature | | 0 ... 50 °C (32 ... 122 °F) |
| Storage temperature | | -20 ... 70 °C (-4 ... 158 °F) |
| **Mechanical specifications** | | |
| Degree of protection | | IP20 |
| Connection | | Cage tension spring terminals , Cable cross-section 0.2 ... 1.5 mm$^2$ |
| Material | | |
|    Housing | | Polyamide (PA) |
| Mass | | approx. 150 g |

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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## Connection

| Terminal | Function |
|---|---|
| 1 | Reset input; normally closed contact |
| 2 | Restart input (RI); normally closed contact |
| 3 | 24 V DC connection for reset, restart and RM |
| 4 | Relay monitor (RM) |
| 5 - 6 | OSSD1; potential free relay contact; normally open contact |
| 7 - 8 | OSSD2; potential free relay contact; normally open contact |
| 9 | Signal output OSSD OFF |
| 10 | Signal output OSSD ON |
| 11 | Signal output restart |
| 12 | Leave free (n.c.) |
| 13 | +24 V DC supply voltage |
| 14 | 0 V DC supply voltage |
| 15 | Earth |
| 16 | Leave free (n.c.) |

## Accessories

| | SB4 Cape | cover sheet |
|---|---|---|
| | SB4 Housing 2 | Empty housing for Evaluation unit SB4 |
| | SB4 Housing 3 | Empty housing for Evaluation unit SB4 |
| | SB4 Housing 4 | Empty housing for Evaluation unit SB4 |
| | SB4 Housing 5 | Empty housing for Evaluation unit SB4 |
| | SB4 Housing 6 | Empty housing for Evaluation unit SB4 |
| | SB4 Housing 8 | Empty housing for Evaluation unit SB4 |

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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This module can only be operated within an evaluation device of the SafeBox SB4 type.

The SafeBox instruction manual should be observed.

## Function

The OSSD-R/supply module contains the power supply of the SafeBox, 2 OSSDs, the relay monitor and the restart connection. This module is located in slot 1 of the SafeBox and only exists once.
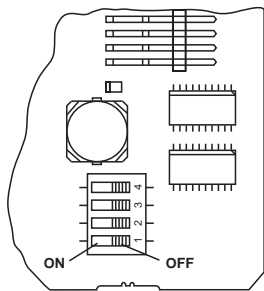
The OSSDs are designed as potential free connection NO contacts. The module can be operated with or without restart interlock. Also, monitoring of the externally connected switching elements can be activated (relay monitor). The OSSD On or Off statuses are indicated via a short-circuit-proof pnp signal output. The restart output is used for indication of the start readiness status. In the case of an error, this output oscillates with 1 Hz.

## Settings

The assembly contains 4 DIP switches for selecting the functions

Restart and relay monitor. For selecting functions, 2 selector switches must always be actuated.

**Position of the DIP switches**



| Switch | Position | Operation type |
|---|---|---|
| 1 and 3 | OFF | Without restart interlock (restart, RI) |
| | ON | With restart interlock (restart, RI) |
| 2 and 4 | OFF | Without relay monitor (RM) |
| | ON | With relay monitor (RM) |

## Displays

The OSSD-R/supply module has a red/green LED for indicating the OSSD on/off statuses, a yellow LED for the start-ready status and a 7 segment display for system diagnosis.

The 7 segment display indicates the status and the error codes of the system. The concept of error localisation is structured in such a way that the 7 segment display shows the error code. The yellow LED of the Stop 0-OSSD assembly of the group in which the error occurs is flashing and the indicators on the faulty assembly are also flashing with 5 Hz. If there is an error on the OSSD assembly itself, only the displays on this assembly are flashing.

| Display | LED | Meaning |
|---|---|---|
| OSSD | red | OSSD outputs switched off |
| | green | OSSD outputs switched on |
| RI | yellow | Continuous light: protected area free, OSSD off, start readiness, actuate restart push button |
| | | Flashing (5 Hz): Error on the card, in the switch group or system errors (see status 7 segment display) |

| Display | 7 segment display |
|---|---|
| 1 | DIP switch position does not match |
| 2 | Incorrect configuration |
| 3 | Time-out at one or more muting sensors |
| 4 | Transmitter error |
| 6 | Muting lamp error |
| 7 | Simultaneousness monitoring error |
| 8 | Receiver error |
| 9 | Error at sensor channel |
| E | System error |
| F | Relay monitor error |
| H | Selection chain error |
| U | Low voltage or voltage surge detected |

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