

# Safety Switch

RFID

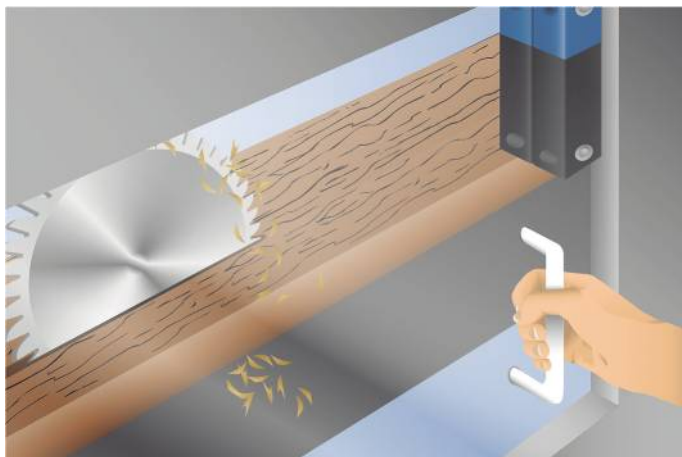
## SD4RAS02IN89

Part Number



- Easy to clean
- High level of manipulation protection thanks to RFID coding
- Integrated locking
- Protection mode IP69K
- Universal fastening opportunities

Separating safety devices can be easily protected up to cat. 4 PL e using these contactless safety switches, even during series connection. Response and risk times remain unchanged at all times. Extensive diagnosis functions boost system availability and make installation and maintenance easier. The locking version can be used as a stop and does not secure any small doors or flaps.

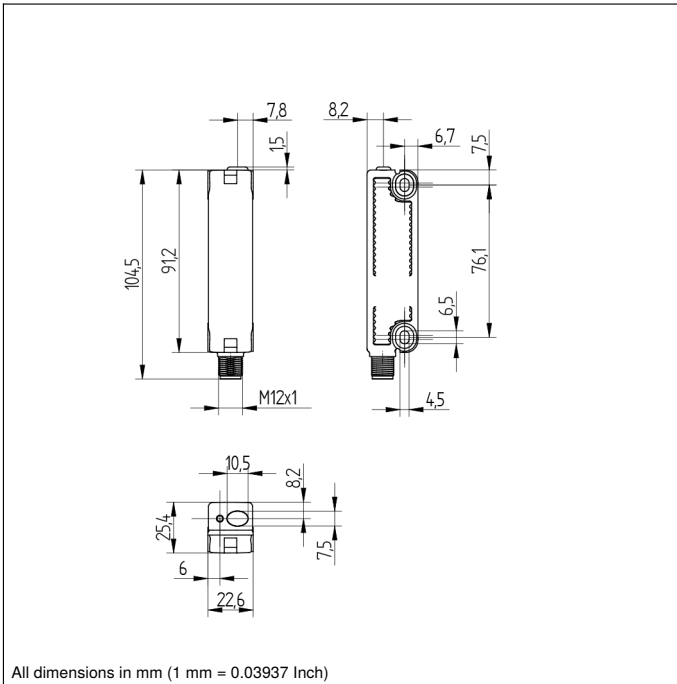


### Technical Data

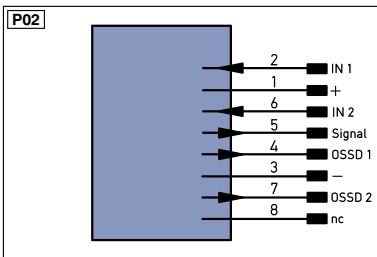
| Electrical Data                       |                  |
|---------------------------------------|------------------|
| Sensor Type                           | Switch           |
| Supply Voltage                        | 20,4...26,4 V DC |
| Response Time                         | < 100 ms         |
| Risk time                             | < 200 ms         |
| Temperature Range                     | -25...70 °C      |
| Storage temperature                   | -25...85 °C      |
| Safety Output                         | OSSD             |
| No. Safety Outputs (OSSDs)            | 2                |
| PNP Safety Output/Switching Current   | < 250 mA         |
| Safety Output Voltage Drop            | < 1 V            |
| Number of Signal Outputs              | 1                |
| PNP signal output switching current   | 50 mA            |
| Short Circuit and Overload Protection | yes              |
| Reverse Polarity Protection           | yes              |
| Protection Class                      | II               |
| Mechanical Data                       |                  |
| Switching Distance                    | 12 mm            |
| Protected Sao switching-off distance  | 10 mm            |
| Protected Sar switching-off distance  | 16 mm            |
| Housing Material                      | Plastic          |
| Degree of Protection                  | IP65/IP67/IP69K  |
| Connection                            | M12 × 1; 8-pin   |
| Latching Force, typical               | 18 N             |
| Safety-relevant Data                  |                  |
| Operating principle                   | RFID             |
| Coding                                | Individual       |
| Performance Level (EN ISO 13849-1)    | Cat. 4 PL e      |
| PFHD                                  | 2,70 × E-10 1/h  |
| Safety Integrity Level (EN 61508)     | SIL3             |
| Safety Integrity Level (EN 62061)     | SILCL3           |
| PDDb (EN 60947-5-3)                   | yes              |
| Function                              |                  |
| Series Connection                     | yes              |
| Permanent magnet                      | yes              |
| Applicable actuator                   | SD4RAA02         |
| Connection Diagram No.                | <b>P02</b>       |
| Suitable Connection Equipment No.     | <b>89</b>        |

### Complementary Products

|                                   |
|-----------------------------------|
| Safety Relay SR4B3B01S, SR4D3B01S |
| Seal Set Z0047                    |
| Software                          |



All dimensions in mm (1 mm = 0.03937 Inch)



**Legend**

|                        |  |                  |                                |                                      |                     |
|------------------------|--|------------------|--------------------------------|--------------------------------------|---------------------|
| +                      | Supply Voltage +                           | PT               | Platinum measuring resistor    | EN <sup>A</sup> EN5422               | Encoder A/Ā (TTL)   |
| -                      | Supply Voltage 0 V                         | nc               | not connected                  | EN <sup>B</sup> EN5422               | Encoder B/B̄ (TTL)  |
| ~                      | Supply Voltage (AC Voltage)                | U                | Test Input                     | EN <sup>A</sup>                      | Encoder A           |
| A                      | Switching Output (NO)                      | Ū                | Test Input inverted            | EN <sup>B</sup>                      | Encoder B           |
| Ā                      | Switching Output (NC)                      | W                | Trigger Input                  | A <sub>MIN</sub>                     | Digital output MIN  |
| V                      | Contamination/Error Output (NO)            | W-               | Ground for the Trigger Input   | A <sub>MAX</sub>                     | Digital output MAX  |
| Ṽ                      | Contamination/Error Output (NC)            | O                | Analog Output                  | A <sub>OK</sub>                      | Digital output OK   |
| E                      | Input (analog or digital)                  | O-               | Ground for the Analog Output   | SY <sub>in</sub>                     | Synchronization In  |
| T                      | Teach Input                                | BZ               | Block Discharge                | SY <sub>OUT</sub>                    | Synchronization OUT |
| Z                      | Time Delay (activation)                    | A <sub>WV</sub>  | Valve Output                   | OL <sub>T</sub>                      | Brightness output   |
| S                      | Shielding                                  | a                | Valve Control Output +         | M                                    | Maintenance         |
| RxD                    | Interface Receive Path                     | b                | Valve Control Output 0 V       | rsv                                  | reserved            |
| TxD                    | Interface Send Path                        | SY               | Synchronization                | Wire Colors according to DIN IEC 757 |                     |
| RDY                    | Ready                                      | SY-              | Ground for the Synchronization | BK                                   | Black               |
| GND                    | Ground                                     | E+               | Receiver-Line                  | BN                                   | Brown               |
| CL                     | Clock                                      | S+               | Emitter-Line                   | RD                                   | Red                 |
| E/A                    | Output/Input programmable                  | ±                | Grounding                      | OG                                   | Orange              |
|                        | IO-Link                                    | S <sub>n</sub> R | Switching Distance Reduction   | YE                                   | Yellow              |
| PoE                    | Power over Ethernet                        | Rx+/-            | Ethernet Receive Path          | GN                                   | Green               |
| IN                     | Safety Input                               | Tx+/-            | Ethernet Send Path             | BU                                   | Blue                |
| OSSD                   | Safety Output                              | Bus              | Interfaces-Bus A(+)/B(-)       | VT                                   | Violet              |
| Signal                 | Signal Output                              | L <sub>a</sub>   | Emitted Light disengageable    | GY                                   | Grey                |
| Bl..D+/-               | Ethernet Gigabit bidirect. data line (A-D) | Mag              | Magnet activation              | WH                                   | White               |
| EN <sup>0</sup> EN5422 | Encoder 0-pulse 0-0̄ (TTL)                 | RES              | Input confirmation             | PK                                   | Pink                |
|                        |  | EDM              | Contactur Monitoring           | GNYE                                 | Green/Yellow        |

