# Technical data sheet
# Safety transponder
Part no.: 63002062
RD800-MSCA-CB2-L



For Illustration purposes only

**Contents**


- Technical data
- Dimensioned drawings
- Electrical connection
- Circuit diagrams
- Diagrams
- Notes

# Technical data

Leuze

## Basic data

| | |
|---|---|
| **Series** | RD800 |
| **Application** | Individual use |
| | Series use |
| **Code type** | Standard code |

## Characteristic parameters

| | |
|---|---|
| **SIL** | Up to 3, IEC 61508 |
| **SILCL** | Up to 3, IEC/EN 62061 |
| **Performance Level (PL)** | Up to and including e, EN ISO 13849-1 |
| **$MTTF_d$** | 4,077 years, EN ISO 13849-1 |
| **$PFH_D$** | 1,19E-09 per hour |
| **Mission time $T_M$** | 20 years, EN ISO 13849-1 |
| **Category** | Up to and including 4, EN ISO 13849 |
| **DC** | High |

## Electrical data

| | |
|---|---|
| **Protective circuit** | Cross circuit protection |
| | Short circuit protected |
| **Pulse resistance** | 1,500 V |
| **Usage category at DC 12** | Ue 24 V, Ie 0.25 A, EN 60947-5-1 |

### Performance data

| | |
|---|---|
| **Supply voltage $U_B$** | 24 V, DC, -15 ... 10 % |
| **Current consumption, max.** | 250 mA |
| **Power consumption, max.** | 1 W |
| **Nominal current, min.** | 0.5 mA |
| **Overvoltage category** | III |
| **Fuse, external** | 1 A |
| **Fuse, internal** | 0.75 A polyfuse (O1 + O2 + O3) |
| **Rated insulation voltage** | 32 V DC |
| **Conventional thermal current, max.** | 0.25 A |

### Inputs

| | |
|---|---|
| **Number of digital switching inputs** | 2 Piece(s) |

#### Switching inputs

| | |
|---|---|
| **Type** | Digital switching input |
| **Switching voltage, type.** | 24 V |
| **Voltage type** | DC |
| **Current consumption, max.** | 5 mA |

### Outputs

| | |
|---|---|
| **Number of safety-related switching outputs (OSSDs)** | 2 Piece(s) |
| **Number of digital switching outputs** | 1 Piece(s) |
| **Switching power, max.** | 6 W |

#### Safety-related switching outputs

| | |
|---|---|
| **Type** | Safety-related switching output OSSD |
| **Switching voltage, type.** | 24 V |
| **Voltage type** | DC |
| **Test-pulse length, max.** | 0.3 ms |
| **Output current, max.** | 250 mA |
| **Capacitance, max. between an output and GND** | 200 nF |
| **Capacitance, max. between two outputs** | 200 nF |

#### Safety-related switching output 1

| | |
|---|---|
| **Switching element** | Transistor, PNP |

#### Safety-related switching output 2

| | |
|---|---|
| **Switching element** | Transistor, PNP |

#### Switching outputs

| | |
|---|---|
| **Type** | Digital switching output |
| **Switching voltage, type.** | 24 V |
| **Voltage type** | DC |
| **Switching current, max.** | 100 mA |

#### Switching output 1

| | |
|---|---|
| **Switching element** | Transistor, PNP |
| **Function** | Signal output |

## Time behavior

| | |
|---|---|
| **Reaction time after removing the actuator, min.** | 80 ms |
| **Reaction time after removing the actuator, max.** | 150 ms |
| **Reaction time after shutdown, input, min.** | 7 ms |
| **Reaction time after shutdown, input, max.** | 12 ms |

## Connection

| | |
|---|---|
| **Number of connections** | 1 Piece(s) |

### Connection 1

| | |
|---|---|
| **Function** | Connection with PLC |
| | Signal OUT |
| | Voltage supply |
| **Type of connection** | Cable |
| **Cable length** | 2,000 mm |
| **Connector** | On left side |
| **Sheathing material** | PVC |
| **Cable color** | Black |
| **Number of conductors** | 8 -wire |

#### Cable properties

| | |
|---|---|
| **Length of connection cable, max.** | 50 m |

## Mechanical data

| | |
|---|---|
| **Design** | Cubic |
| **Dimension (W x H x L)** | 25 mm x 18 mm x 72 mm |
| **Housing material** | Plastic |
| **Plastic housing** | PA 66 |
| **Net weight** | 150 g |
| **Housing color** | Black |
| **Type of fastening** | Through-hole mounting |
| **Switching hysteresis, max.** | 2.4 mm |
| **Assured cut-out distance (Sar), min.** | 16 mm |
| **Assured cut-in distance (Sao), max.** | 10 mm |
| **Nominal switch-off distance, max.** | 14 mm |
| **Nominal operating distance, max.** | 12 mm |
| **Distance between two systems (sensor, actuator), min.** | 50 mm |
| **Repeatability, max.** | 1.2 mm |
| **Screw tightening torque** | 1 N·m |

## Operation and display

| | |
|---|---|
| **Type of display** | LED |
| **Number of LEDs** | 4 Piece(s) |

# Technical data

## Environmental data

| | |
|---|---|
| **Ambient temperature, operation** | -25 ... 70 °C |
| **Ambient temperature, storage** | -25 ... 85 °C |
| **Degree of contamination** | 3, EN 60947-1 |

## Certifications

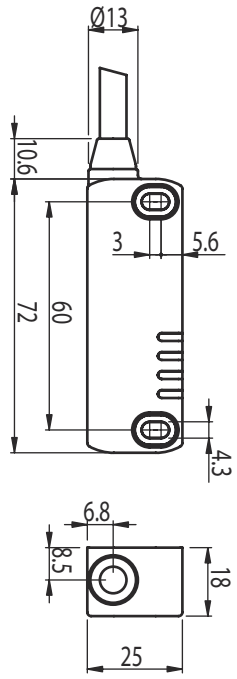
| | |
|---|---|
| **Degree of protection** | IP 67 |
| | IP 69K |
| **Approvals** | c UL US |
| | TÜV Süd |
| **Test procedure for shock in accordance with standard** | EN 60068-2-27 |
| **Test procedure for vibration in accordance with standard** | EN 60068-2-6 |

## Classification

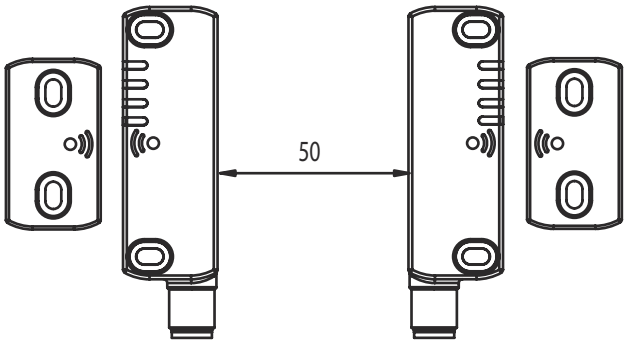
| | |
|---|---|
| **Customs tariff number** | 85369095 |
| **ECLASS 5.1.4** | 27272403 |
| **ECLASS 8.0** | 27272403 |
| **ECLASS 9.0** | 27272403 |
| **ECLASS 10.0** | 27272403 |
| **ECLASS 11.0** | 27272403 |
| **ECLASS 12.0** | 27274601 |
| **ECLASS 13.0** | 27274601 |
| **ECLASS 14.0** | 27274601 |
| **ECLASS 15.0** | 27274601 |
| **ECLASS 16.0** | 27274601 |
| **ETIM 5.0** | EC001829 |
| **ETIM 6.0** | EC001829 |
| **ETIM 7.0** | EC001829 |
| **ETIM 8.0** | EC001829 |
| **ETIM 9.0** | EC001829 |
| **ETIM 10.0** | EC001829 |
| **UNSPSC 26.08** | 39122205 |

# Dimensioned drawings

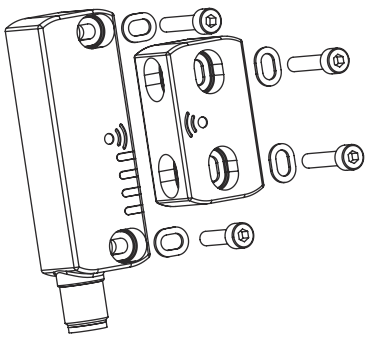
All dimensions in millimeters




## Minimum distance in mm




## Fastening



# Electrical connection

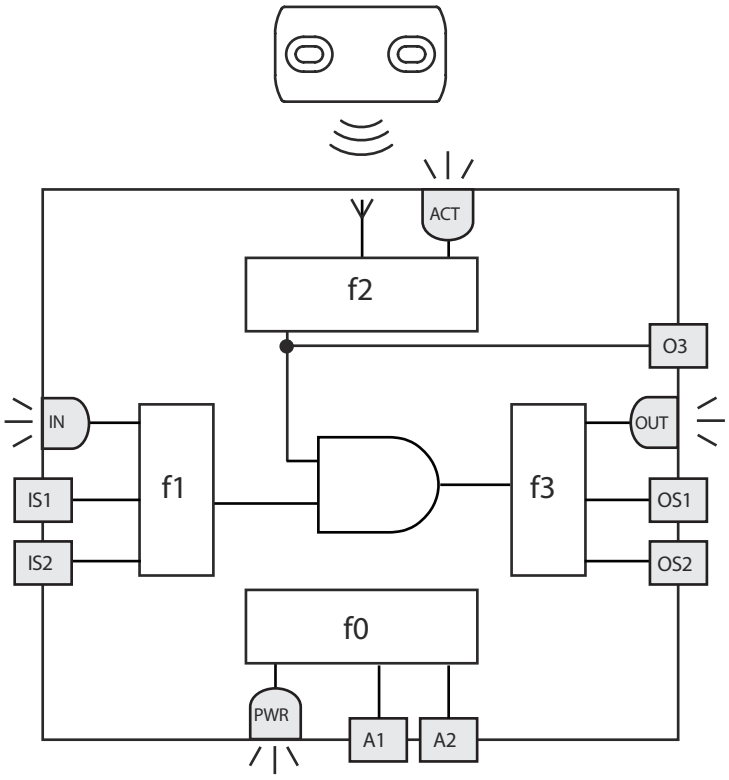
### Connection 1

| | |
|---|---|
| **Function** | Connection with PLC |
| | Signal OUT |
| | Voltage supply |
| **Type of connection** | Cable |
| **Cable length** | 2,000 mm |
| **Connector** | On left side |
| **Sheathing material** | PVC |
| **Cable color** | Black |
| **Number of conductors** | 8 -wire |

| Conductor color | Conductor assignment |
|---|---|
| **Brown** | A1 |
| **Red** | IS1 |
| **Blue** | A2 |
| **Red / White** | OS1 |
| **Black** | O3 |
| **Violet** | IS2 |
| **Black / White** | OS2 |
| **Violet / White** | n.c. |

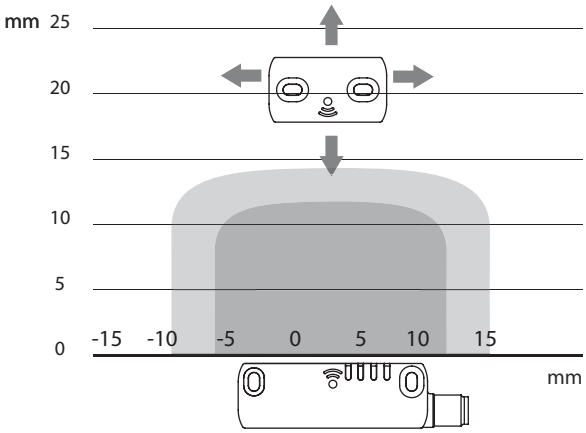
# Circuit diagrams

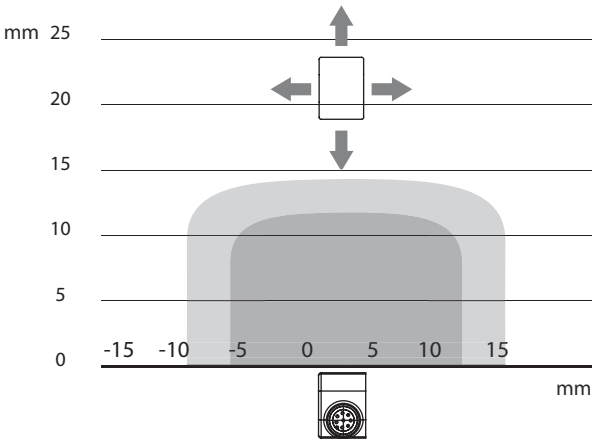
## Internal circuit diagram



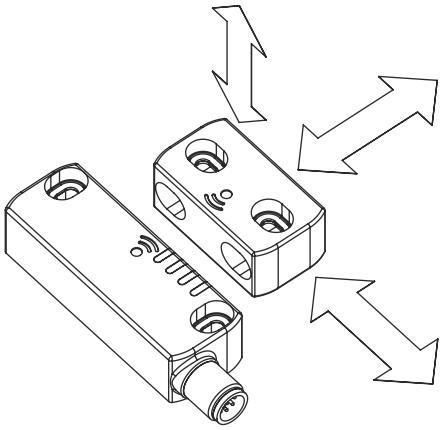
# Diagrams

## Safety-related distances




## Approach directions



# Notes

| | |
|---|---|
| **Observe intended use!** | |
| | ↳ The product may only be put into operation by competent persons.<br>↳ Only use the product in accordance with its intended use. |