

# Product data sheet

# XCSRC31AM12

Safety RFID switch XCSRC, contactless, standalone model, EDM + Auto Start, multiple pairing enabled, M12

## Main

| | |
|---|---|
| Range of product | Telemecanique Safety switches XCS |
| Product or component type | Preventa RFID safety switch |
| Component name | XCSRC |
| Design | Rectangular, standard |
| Sensor design | RECTANGULAR STANDARD |
| ETIM classification | ETIM 9 - EC002544 - Magnetic proximity switch |
| Connector type | M12 male |
| Material | Valox |
| Approach directions | 3 directions-transponder with rotary sensing face |
| Number of poles | 8 |
| Safety level | SIL 3 conforming to IEC 61508, SILCL 3 conforming to IEC 62061, PL = e conforming to ISO 13849-1, category 4 conforming to ISO 13849-1 |
| Safety reliability data | PFHD = 5E-10/h conforming to IEC 62061, PFHD = 5E-10/h conforming to ISO 13849-1 |
| [Sa] assured operating distance | 10 mm face to face |
| [Sar] assured tripping distance | 35 mm face to face |
| Product certifications | CSA 22-2<br>E2<br>Ecolab<br>FCC<br>IC<br>RCM<br>TÜV |
| Marking | CE<br>cULus<br>EAC<br>FCC<br>IC<br>RCM<br>TÜV |
| Standards | IEC 60947-5-2<br>IEC 60947-5-3<br>ISO 14119 |
| Indivisible sale quantity | 1 |

## Complementary

| | |
|---|---|
| Electrical connection | 1 male connector |
| [Ue] rated operational voltage | 24 V DC (- 20...10 %)SELV or PELV conforming to IEC 60204-1 |

The information provided in this documentation contains general descriptions and/or technical characteristics of the performance of the products contained herein.
This documentation is not intended as a substitute for and is not to be used for determining suitability or reliability of these products for specific user applications.
It is the duty of any such user or integrator to perform the appropriate and complete risk analysis, evaluation and testing of the products with respect to the relevant specific application or use thereof.
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| | |
|---|---|
| Maximum switching voltage | 26.4 V DC |
| [Uimp] rated impulse withstand voltage | 0.8 kV conforming to IEC 60947-5-2 |
| Switching capacity in mA | 400 mA |
| [Ui] rated insulation voltage | 30 V DC |
| [Ie] rated operational current | 60 mA |
| Electrical shock protection class | Class III conforming to IEC 61140 |
| Response time | 250 ms typical |
| Protection type | Short-circuit protection |
| Local signalling | Green, orange and red 2 multi-colour LEDs |
| Safety outputs | 2 NO |
| Type of output stage | Solid-state, PNP |
| Tightening torque | < 1.5 N.m |
| Switching frequency | <= 0.5 Hz |
| Discordance time | 120 ms |
| Delay first up | 5 s |
| Service life | 20 year |
| Size | Transponder: 50 x 15 x 15 mm, reader: 108.3 x 30 x 15 mm |

## Environment

| | |
|---|---|
| IP degree of protection | IP65 conforming to IEC 60529, IP66 conforming to IEC 60529, IP67 conforming to IEC 60529, IP69K conforming to DIN 40050 |
| Ambient air temperature for operation | -25-70 °C |
| Ambient air temperature for operation | -25...70 °C |
| Ambient air temperature for storage | -40...85 °C |
| Shock resistance | 30 gn for 11 ms conforming to IEC 60068-2-27 |
| Vibration resistance | 10 gn (f= 10-150 Hz) conforming to IEC 60068-2-6 |

## Offer Sustainability

| | |
|---|---|
| California proposition 65 | WARNING: This product can expose you to chemicals including: Diisononyl phthalate (DINP), which is known to the State of California to cause cancer, and Di-isodecyl phthalate (DIDP), which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov |

## Warranty

| | |
|---|---|
| Warranty | 18 months |

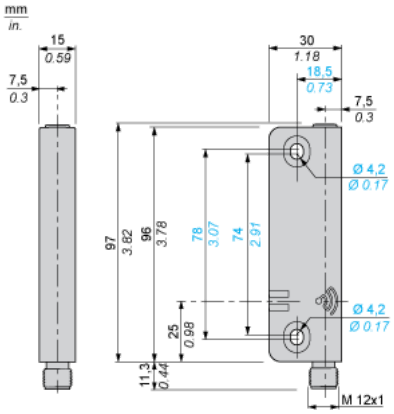
## Packing Units

| | |
|---|---|
| Country of origin | FR (France) |
| Unit type of package 1 | PCE |
| Number of units in package 1 | 1 |

| | |
|---|---|
| New Package 1 GTIN-13 | 3666916059272 |
| Package 1 height | 1 cm |
| Package 1 width | 5 cm |
| Package 1 length | 10 cm |
| Package 1 weight | 0.103 kg |
| Unit type of package 2 | S01 |
| Number of units in package 2 | 12 |
| New Package 2 GTIN 14 | 13666916059279 |
| Package 2 height | 15 cm |
| Package 2 width | 15 cm |
| Package 2 length | 40 cm |
| Package 2 weight | 1.425 kg |
| Unit type of package 3 | S02 |
| Number of units in package 3 | 10 |
| New Package 3 GTIN 14 | 23666916059276 |
| Package 3 height | 15 cm |
| Package 3 width | 30 cm |
| Package 3 length | 40 cm |

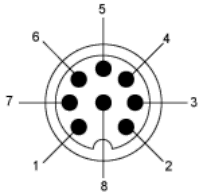
## Technical Drawings

### Dimensions



## Connections

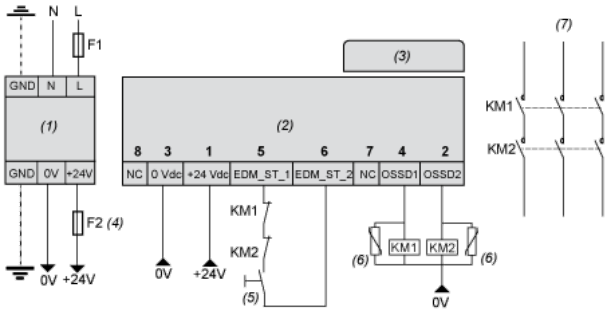
### M12 Connector, 8-pin




- (1) + 24 VDC
- (2) OSSD2
- (3) 0 VDC
- (4) OSSD1
- (5) EDM_ST_1
- (6) EDM_ST_2
- (7) NC (Not connected)
- (8) NC (Not connected)

## Connections

### Wiring Diagram




- (1) Power Supply
- (2) Reader
- (3) Transponder
- (4) 1 A max.
- (5) Restart
- (6) Use of arc suppressors for KM1 and KM2 is recommended.
- (7) Power circuit

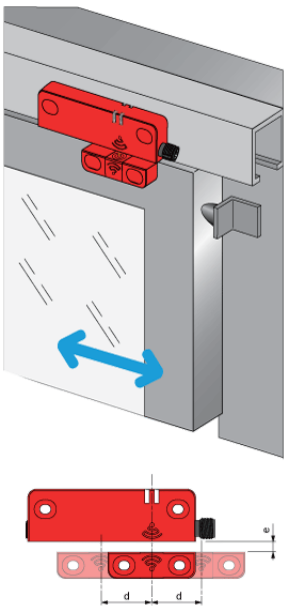
Cat. 4 / PL=e (EN/ISO 13849-1) / SIL3 (IEC 61508) / SILCL3 IEC 62061)

NOTE:

## Mounting and Clearance

## Mounting and Clearance

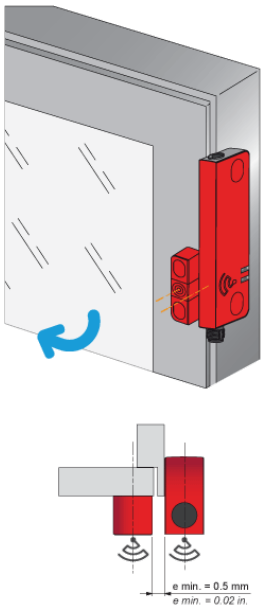
### Face to Face Mounting (Preferred Configuration)




- e min. > 2 mm. (e: recommended minimum mounting distance between transponder and reader)
- d : Detection limit

## Mounting and Clearance

### Side by Side Mounting

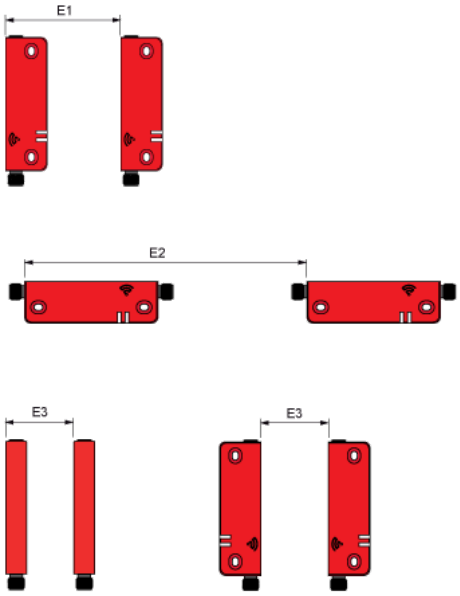



- e: Recommended minimum mounting distance between transponder and reader.

### Correct Mounting Configuration

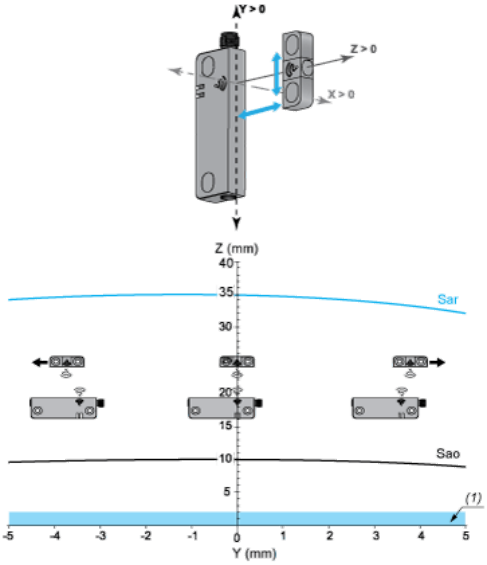
## Mounting and Clearance

### Minimum Mounting Clearances between Safety Switches




## Detection Curves

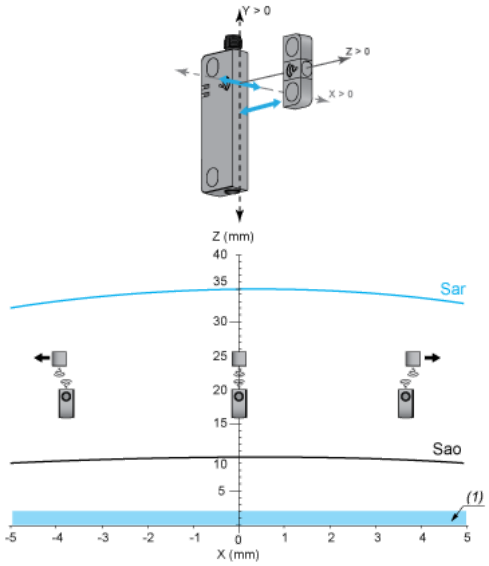
### Face to Face Mounting (Preferred Configuration)




- Sar: Assured release distance
- Sao: Assured operating distance
- (1) Recommended minimum mounting distance between transponder and reader.

Sao and Sar sensing distances along Y axis as function of Z (longitudinal misalignment for X=0)

## Detection Curves

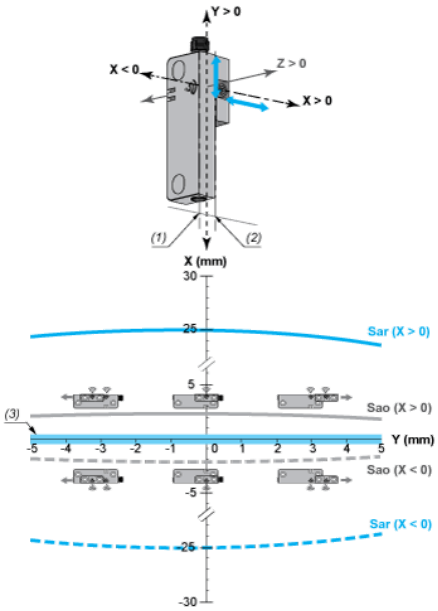



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Sao and Sar sensing distances along X axis as function of Z (transverse misalignment for Y=0)

## Detection Curves

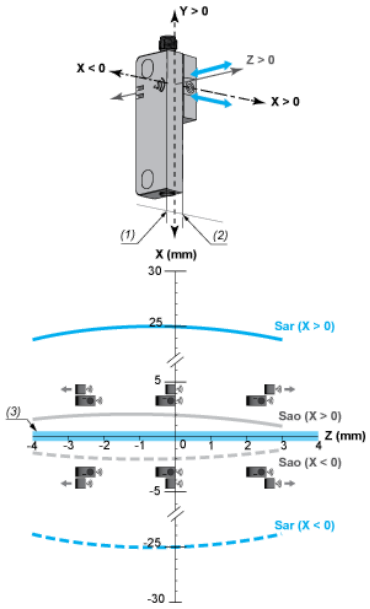
Side by Side Mounting




- Sar: Assured release distance
- Sao: Assured operating distance
- (1) X=0 for X<0
- (2) X=0 for X>0
- (3) Recommended minimum mounting distance between transponder and reader.

Sao and Sar sensing distances along Y axis as function of X (longitudinal misalignment for Z=0mm)

## Detection Curves




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