

# XCSRC12M12

Preventa RFID safety switch, Telemecanique  
Safety switches XCS, contactless Daisy Chain  
model, Unique pairing



## Main

Range of Product	Telemechanique Safety switches XCS
Product or Component Type	Preventa RFID safety switch
Component name	XCSRC

## Complementary

Design	Rectangular, standard
Size	Transponder 50 x 15 x 15 mm Reader 119.6 x 30 x 15 mm
Material	Valox
Electrical Connection	2 male connectors
Connector Type	M12 male
Type of output stage	Solid-state, PNP
Safety outputs	2 NO
Number of poles	5
Local signalling	Green, orange and red 2 multi-colour LEDs
[Sao] assured operating sensing distance	0.39 in (10 mm) face to face
[Sar] assured release sensing distance	1.38 in (35 mm) face to face
Approach directions	3 directions-transponder with rotary sensing face
[Ue] rated operational voltage	24 V DC - 20...10 %)SELV or PELV IEC 60204-1
[Ie] rated operational current	60 mA
[Ui] rated insulation voltage	30 V DC
[Uimp] rated impulse withstand voltage	0.8 kV IEC 60947-5-2
Protection Type	Short-circuit protection
Maximum switching voltage	26.4 V DC
Switching capacity in mA	200 mA
Switching frequency	<= 0.5 Hz
risk time	120 ms + 18 ms per additional switch connected in series
Response time	120 ms + 50 ms typical per additional switch connected in series
Maximum delay first up	5 s
Tightening torque	< 1.5 N.m
Standards	ISO 14119 IEC 60947-5-2 IEC 60947-5-3
Product Certifications	Ecolab[RETURN]IC[RETURN]TÜV[RETURN]E2[RETURN]RCM[RETURN]FCC[R 22-2

Marking	IC TÜV FCC CULus RCM EAC CE
Safety level	SIL 3 IEC 61508 SILCL 3 IEC 62061 PL = e ISO 13849-1 Category 4 ISO 13849-1
Safety reliability data	PFH<SUB>D</SUB> = 5E-10/h IEC 62061 PFH<SUB>D</SUB> = 5E-10/h ISO 13849-1
Mission time	20 year(s)
Ambient Air Temperature for Operation	-13...158 °F (-25...70 °C)
Ambient Air Temperature for Storage	-40...185 °F (-40...85 °C)
Vibration resistance	10 gn 10...150 Hz)IEC 60068-2-6
Shock resistance	30 gn 11 ms IEC 60068-2-27
Electrical shock protection class	Class III IEC 61140
IP degree of protection	IP65 conforming to IEC 60529 IP66 conforming to IEC 60529 IP67 conforming to IEC 60529 IP69K conforming to DIN 40050

### Ordering and shipping details

Category	US10DS222455
Discount Schedule	0DS2
GTIN	3389119634885
Returnability	No
Country of origin	FR

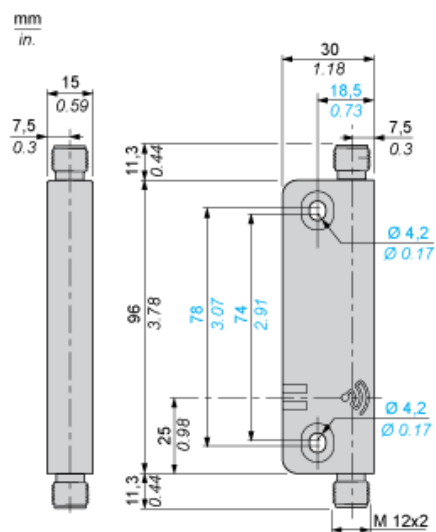
### Packing Units

Unit Type of Package 1	PCE
Number of Units in Package 1	1
Package 1 Height	0.98 in (2.500 cm)
Package 1 Width	5.12 in (13.000 cm)
Package 1 Length	5.91 in (15.000 cm)
Package 1 Weight	3.77 oz (107.000 g)
Unit Type of Package 2	S01
Number of Units in Package 2	12
Package 2 Height	5.91 in (15.000 cm)
Package 2 Width	5.91 in (15.000 cm)
Package 2 Length	15.75 in (40.000 cm)
Package 2 Weight	3.22 lb(US) (1.462 kg)

### Offer Sustainability

Sustainable offer status	Green Premium product
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 <a href="http://www.P65Warnings.ca.gov">www.P65Warnings.ca.gov</a>
Circularity Profile	No need of specific recycling operations
For all Reach Rohs enquiries contact us at	<a href="mailto:sustainability@tesensors.com">sustainability@tesensors.com</a>

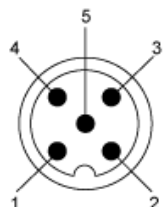
Dimensions



## Connections

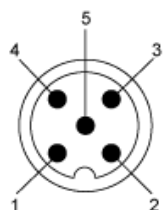
### M12 Connectors, 5-pin

Output Connector



- (1) + 24 VDC
- (2) OSSD2 (O2)
- (3) 0 VDC
- (4) OSSD1 (O1)
- (5) Diagnosis Out (Do)

Input Connector

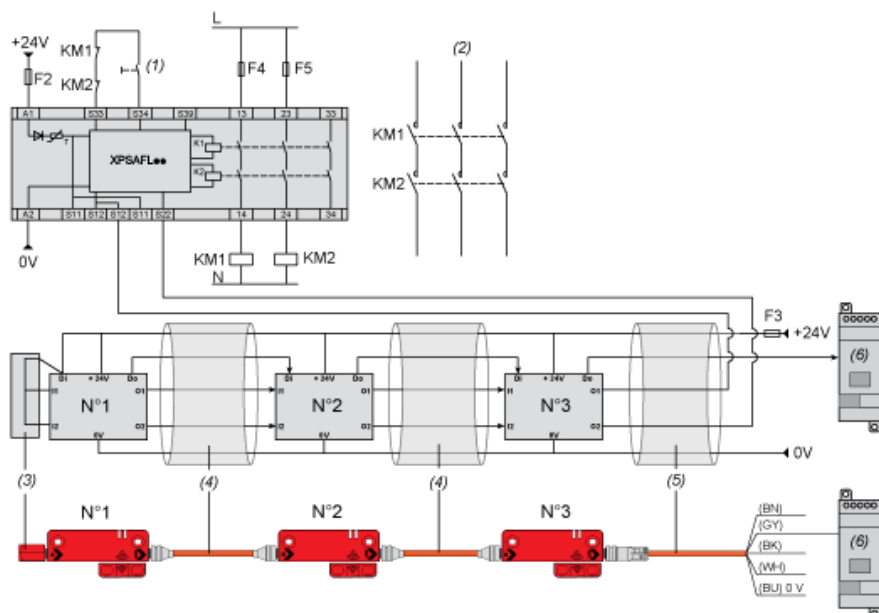


- (1) + 24 VDC
- (2) INPUT 2 (I2)
- (3) 0 VDC
- (4) INPUT 1 (I1)
- (5) Diagnosis In (Di)

## Connections

### Wiring Diagram: Series Connection

Cat. 4 / PL=e (EN/ISO 13849-1) / SIL3 (IEC 61508) / SILCL3 IEC 62061), if combined with an appropriate Preventa XPS Safety module  
PL=e / SIL3

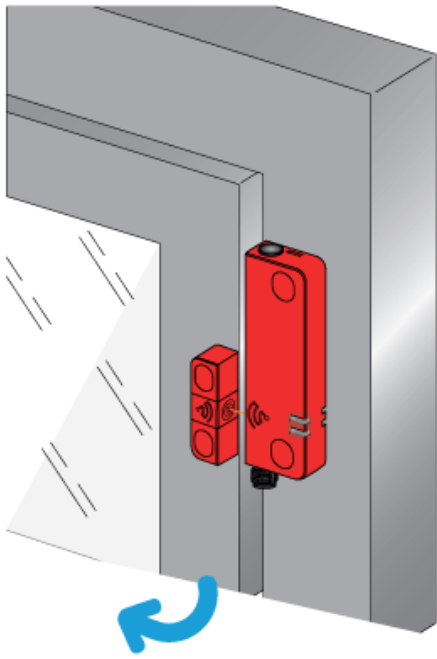
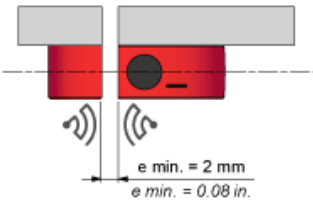
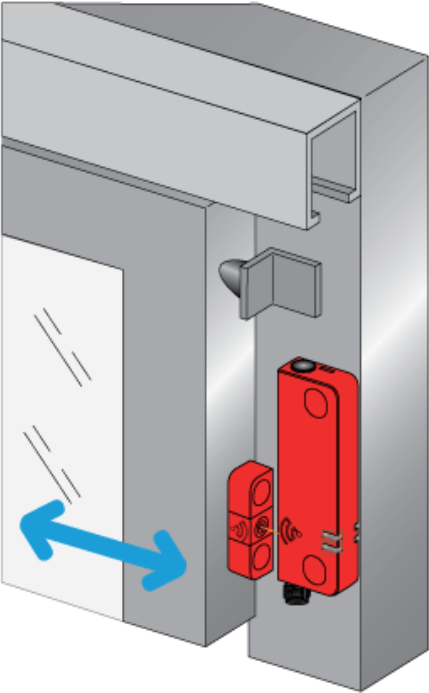
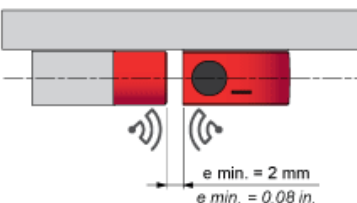


- (1) Start
- (2) Power circuit
- (3) Loopback device
- (4) M12/M12 female jumpers
- (5) Pre-wired female connectors
- (6) Diagnostic module (option)

NOTE: KM1 and KM2 contactors must have force-guided contacts.

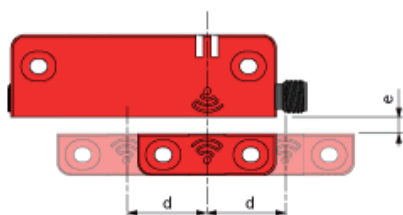
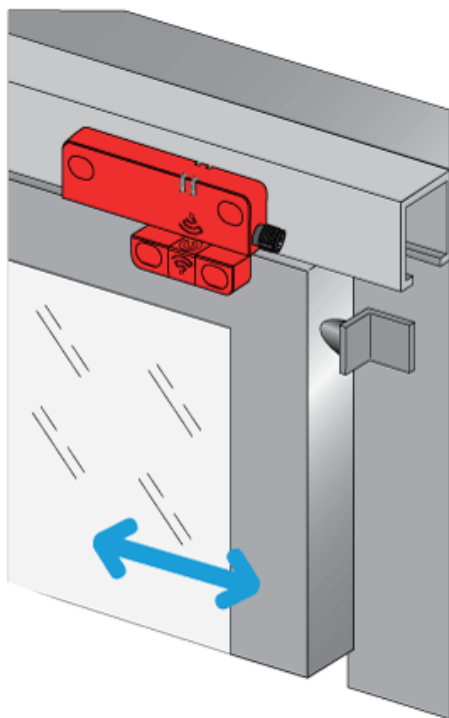
Mounting and Clearance

Face to Face Mounting (Preferred Configuration)

Example n°1	Example n°2
  <p>e min. = 2 mm e min. = 0.08 in.</p> <p>e: Recommended minimum mounting distance between transponder and reader.</p>	  <p>e min. = 2 mm e min. = 0.08 in.</p> <p>e: Recommended minimum mounting distance between transponder and reader.</p>

## Face to Face Mounting (Preferred Configuration)

Example n°3



$e > 2 \text{ mm}$ . (e: recommended minimum mounting distance between transponder and reader)  
min.

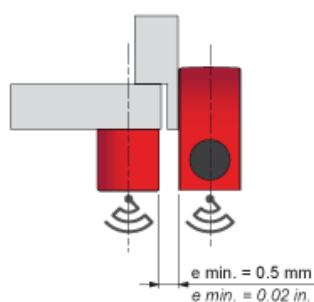
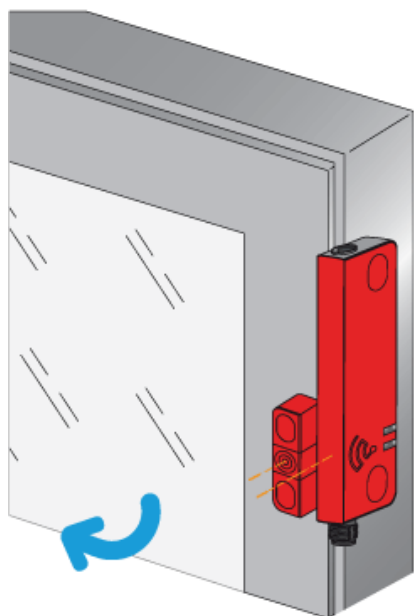
d : Detection limit

## Mounting and Clearance

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### Side by Side Mounting

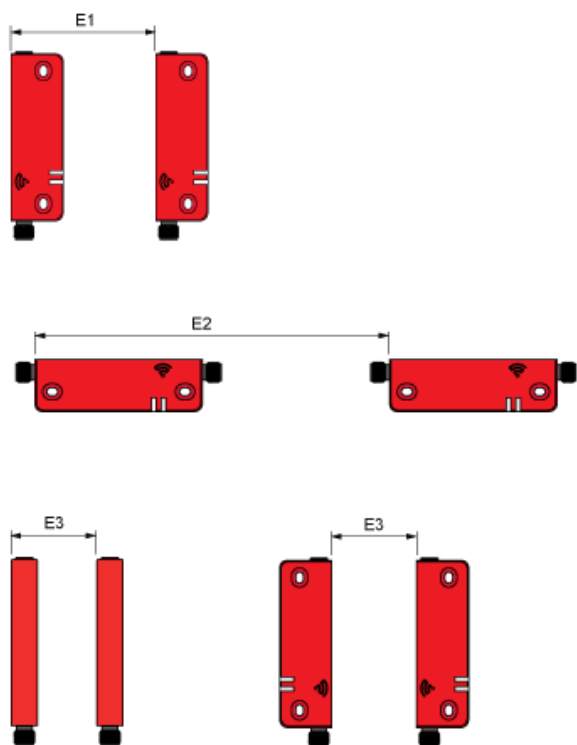
Correct Mounting Configuration



e: Recommended minimum mounting distance between transponder and reader.

## Mounting and Clearance

### Minimum Mounting Clearances between Safety Switches



Dimensions in mm

E1 min.	E2 min.	E3 min.
45	150	65



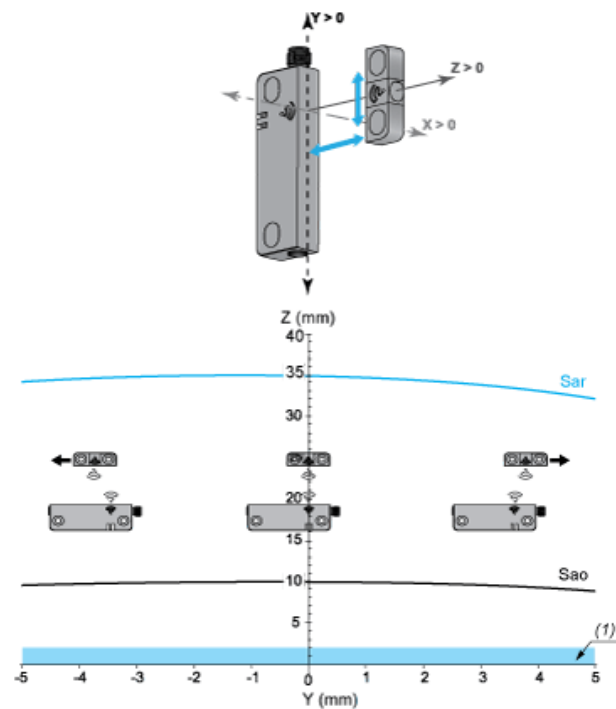
Dimensions in in.

E1 min.	E2 min.	E3 min.
1.77	5.91	2.56

## Detection Curves

### Face to Face Mounting (Preferred Configuration)

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

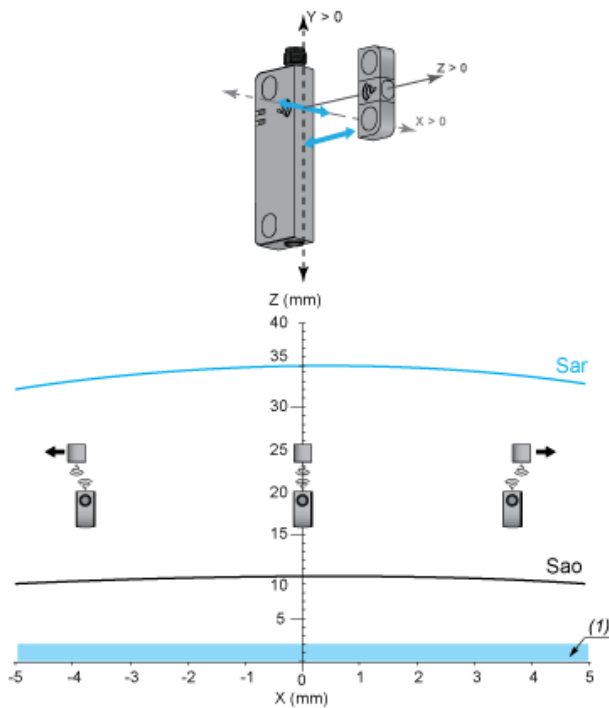


Sar: Assured release distance

Sao: Assured operating distance

(1) Recommended minimum mounting distance between transponder and reader.

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



Sar: Assured release distance

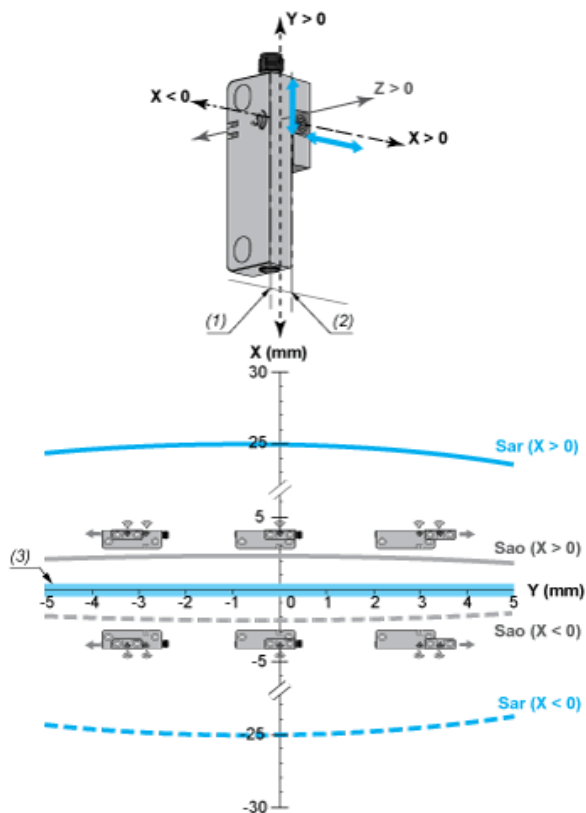
Sao: Assured operating distance

(1) Recommended minimum mounting distance between transponder and reader.

## Detection Curves

### Side by Side Mounting

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



Sar: Assured release distance

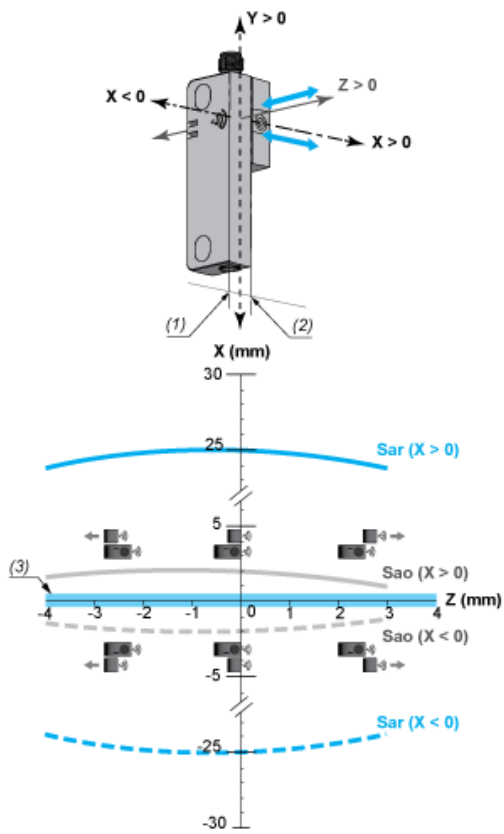
Sao: Assured operating distance

(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 Z axis as function of X (transverse misalignment for Y=0mm)



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.