

Safety detection solutions

Lever or spindle-operated safety switches
XCSP, XCSPR and XCSTR
plastic, double insulated, turret head

XCSP with 1 cable entry

With rotary operating head, with elbowed lever (flush with rear of switch) or straight lever, for hinged covers and guards



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XCSPR with 1 cable entry

With rotary operating head, with spindle operator, for hinged covers and guards



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XCSTR with 2 cable entries

With rotary operating head, with spindle operator, for hinged covers and guards



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Environmental characteristics

Conformity to standards	Products	EN/IEC 60947-5-1, EN/IEC 60947-5-4, UL 508, CSA C22-2 no. 14
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119
Product certifications		UL, CSA, CCC, EAC
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061
Reliability data B_{10D}		5,000,000 (value given for a service life of 20 years, limited by mechanical or contact wear)
Ambient air temperature	For operation	-25...+70 °C
	For storage	-40...+70 °C
Vibration resistance		50 gn (10...500 Hz) conforming to EN/IEC 60068-2-6
Shock resistance		50 gn (duration 11 ms) conforming to EN/IEC 60068-2-27
Electric shock protection		Class II conforming to EN/IEC 61140
Degree of protection		IP 67 conforming to EN/IEC 60529
Cable entry		<p>XCSP and XSPR: 1 entry tapped M16 x 1.5 for:</p> <ul style="list-style-type: none"> ■ ISO cable gland (clamping capacity 4.5 to 10 mm) or ■ Pg 11 cable gland (clamping capacity 7 to 10 mm) or ■ 1/2" NPT conduit. <p>XSTR: 2 entries tapped M16 x 1.5 for:</p> <ul style="list-style-type: none"> ■ ISO cable gland (clamping capacity 4.5 to 10 mm) or ■ Pg 11 cable gland (clamping capacity 7 to 10 mm) or ■ 1/2" NPT conduit using the DE9 RA1012 adapter in one of the Pg 11 tapped entries and a blanking plug in the other.
Materials		Polyamide PA66 fibreglass impregnated case. Stainless steel lever and fixings

(1) Using an appropriate and correctly connected safety control unit.

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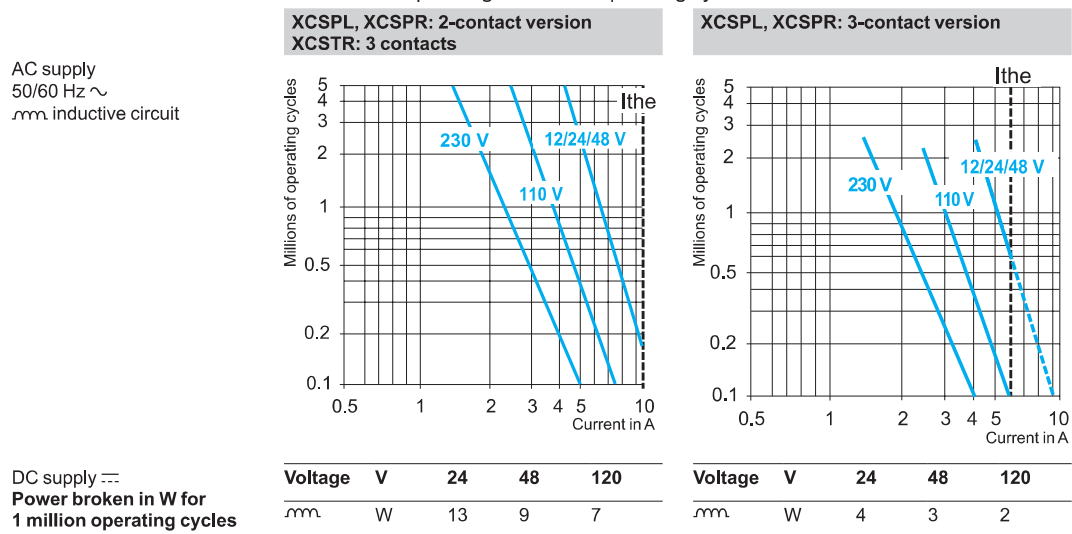
plastic, double insulated, turret head

Contact block characteristics		
Rated operational characteristics	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): ~ AC-15, A300: Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A --- DC-13, Q300: Ue = 250 V, Ie = 0.27 A or Ue = 125 V, Ie = 0.55 A conforming to EN/IEC 60947-5-1
	3-contact version	XCSP (3-contact version): ~ AC-15, B300: Ue = 240 V, Ie = 1.5 A or Ue = 120 V, Ie = 3 A --- DC-13, R300: Ue = 250 V, Ie = 0.1 A or Ue = 125 V, Ie = 0.2 A conforming to EN/IEC 60947-5-1
Conventional thermal current in enclosure	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): Ithe = 10 A
	3-contact version	XCSP (3-contact version): Ithe = 6 A
Rated insulation voltage	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 no. 14
	3-contact version	XCSP (3-contact version): Ui = 400 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): Uimp = 6 kV conforming to EN/IEC 60947-5-1
	3-contact version	XCSP (3-contact version): Uimp = 4 kV conforming to EN/IEC 60947-5-4
Positive operation		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Appendix K
Resistance across terminals		≤ 30 mΩ conforming to EN/IEC 60947-5-4
Short-circuit protection	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): 10 A cartridge fuse type gG (gl)
	3-contact version	XCSP (3-contact version): 6 A cartridge fuse type gG (gl)
Connection	2 and 3-contact versions	XCSP (2-contact version), XCST (3 contacts): Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² with or without cable end
	3-contact version	XCSP (3-contact version): Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed	2 and 3-contact versions	0.1 m/second

Complementary characteristics		
Tripping angle	5°	
Mechanical durability	1 million operating cycles	
Minimum torque	For tripping	0.1 N.m/0.88 lb-in
	For positive opening	0.25 N.m/2.21 lb-in (XCSP and XCSPR) 0.45 N.m/3.98 lb-in (XCSTR)

Electrical durability

- Conforming to EN/IEC 60947-5-1 Appendix C
- Utilization categories AC-15 and DC-13
- Load factor: 0.5
- Maximum operating rate: 3600 operating cycles/hour



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XCSP, XCSR and XCSTR

plastic, double insulated, turret head (1)
1 or 2 cable entries

Type of switch	Elbowed lever (flush with rear of switch)			Straight lever		Spindle	
Operator	To left	Centered	To right	To right OR to left	Centered	Length 30 mm (2)	
References of complete switches (⊖ NC contact with positive opening operation) with 1 cable entry tapped ISO M16 x 1.5							
2-pole 1 NC + 1 NO break before make, slow break		XCSP592	XCSP582	XCSP572	XCSP562	XCSP552	XCSR552
2-pole 2 NC slow break		XCSP792	XCSP782	XCSP772	XCSP762	XCSP752	XCSR752
3-pole 1 NC + 2 NO break before make, slow break		-	-	-	XCSP862	-	XCSR552
3-pole 2 NC + 1 NO break before make, slow break		-	-	-	XCSP962	-	XCSR952
3-pole 3 NC slow break		-	-	-	-	-	XCSR852
Weight (kg)		0.095	0.095	0.095	0.095	0.095	0.105

References of complete switches with 1 or 2 cable entries tapped no. 11 (Pg 11)

To order a complete switch with 1 or 2 Pg 11 cable entries, replace the last number in the reference (2) with 1.
Example: XCSP752 becomes **XCSP751** (some Pg 11 references may not be available).

References of complete switches with 1 or 2 cable entries for 1/2" NPT conduit

To order a complete **XCSP** or **XCSR** switch with 1 cable entry for 1/2" NPT conduit, replace the last number in the reference (2) with 3.
Example: XCSP592 becomes **XCSP593** (some 1/2" NPT references may not be available).
For a complete **XCSTR** switch with 2 entries for 1/2" NPT conduit, use DE9RA1012 adapter.



DE9RA1012

Description	Sold in lots of 10	Unit reference	Weight kg
1/2" NPT conduit adapter	10	DE9RA1012	0.050

(1) Head adjustable in 90° steps through 360°. Switches supplied with 2 additional self-locking screws for positive fixing of the head.

(2) For switches with 80 mm spindle: replace the second number in the reference (5) with 6. Example: XCSR552 becomes **XCSP562**. The weight increases by 0.032 kg (some 80 mm spindle references may not be available).

Other versions: please consult our Customer Care Center.

Setting-up

Operator displacement

XCSPLe9e, PLe7e, PLe6e

XCSPLe8e, PLe5e

XCSPRe5e

XCSTRe5e



Functional diagrams

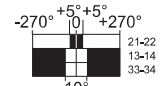
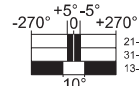
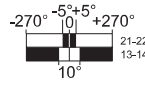
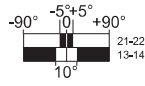
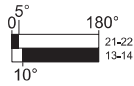
XCSPLe59e, PL57e, PL56e

XCSPLe58e, PL55e

XCSPRe55e

XCSPRe95e

XCSTR55e

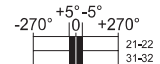
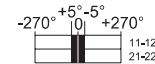
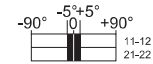
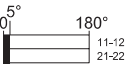


XCSPLe79e, PL77e, PL76e

XCSPLe78e, PL75e

XCSPRe75e

XCSTR75e



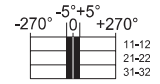
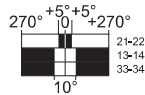
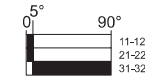
Contact operation

■ closed
□ open

XCSPLe98e

XCSPRe85e

XCSTR85e

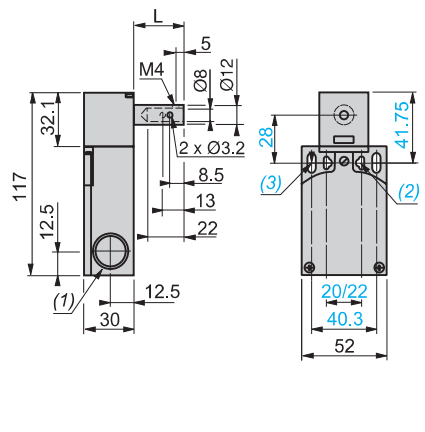
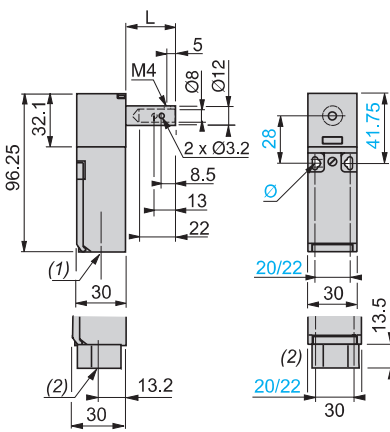
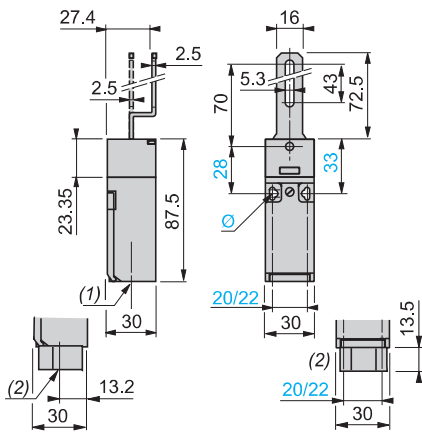


Dimensions

XCSPLe...

XCSPRe...

XCSTRe...



- (1) 1 entry tapped ISO M16 x 1.5 or tapped for Pg 11 cable gland
- (2) 1 entry tapped for 1/2" NPT conduit
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

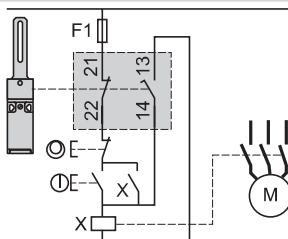
- (1) 1 entry tapped for Pg 11 cable gland
- (2) 1 entry tapped for 1/2" NPT conduit
- Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers
- L = 30 (XCSPRe5e) or 80 (XCSPRe6e)

- (1) 2 entries tapped ISO M16 x 1.5 or tapped for Pg 11 cable gland
- (2) 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers
- (3) 2 elongated holes Ø 5.3 x 13.3
- L = 30 (XCSTRe5e) or 80 (XCSTRe6e)

Schemes

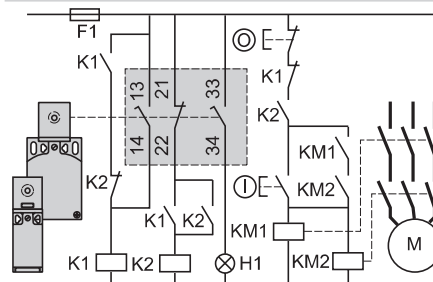
Wiring up to PL=b, category 1 conforming to EN/ISO 13849-1

Example with cable short-circuit protection fuse



Wiring up to PL=d, category 3 conforming to EN/ISO 13849-1

Example with 3-pole 1 NC + 2 NO contact with mixed redundancy of the contacts and the associated control relays



To activate K1, the lever or spindle needs to be rotated when the supply is switched on.

H1: "lever or spindle displaced from initial position" indicator. When used in conjunction with an appropriate safety control unit and another safety switch, the rotary lever or spindle-operated switch can provide locking protection to PL=d, category 3 or PL=e, category 4 conforming to EN/ISO 13849-1.