

Safety detection solutions

Key-operated safety switches

XCSA, XCSB and XCSC metal, turret head

XCSMP, XCSPA and XCSTA

plastic, double insulated, turret head

XCSA, XCSB, XCSC metal

Key-operated switches with or without locking of the actuating key



XCSA



XCSB



XCSC

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XCSMP, XCSPA, XCSTA plastic

Key-operated switches without locking of the actuating key



XCSMP



XCSPA



XCSTA

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Environmental characteristics

Key-operated switch type		XCSA, XCSB, XCSC (metal)	XCSMP, XCSPA, XCSTA (plastic)
Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 no. 14	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications		UL, CSA, CCC, EAC	UL, CSA, CCC, EAC (cULus, EAC for XCSMP)
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}		XCSA/PA/TA/MP: 5,000,000 XCSB/C: 3,000,000 (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 (-25...+80 °C for XCSMP)	
Vibration resistance		5 gn (10...500 Hz) conforming to EN/IEC 60068-2-6 (6 gn (10...55 Hz) for XCSMP)	
Shock resistance		10 gn (duration 11 ms) conforming to EN/IEC 60068-2-27 (50 gn (duration 11 ms) for XCSMP)	
Electric shock protection		Class I conforming to EN/IEC 61140	Class II conforming to EN/IEC 61140
Degree of protection		IP 67 conforming to EN/IEC 60529 and EN/IEC 60947-5-1 (2)	
Cable entry		1 entry tapped ISO M20 x 1.5 (clamping capacity 7 to 13 mm) or tapped for Pg 13.5 cable gland (clamping capacity 9 to 12 mm) or for 1/2" NPT conduit	1 entry (XCSPA) or 2 entries (XCSTA) tapped for ISO M16 x 1.5 cable gland (clamping capacity 4.5 to 10 mm) or for Pg 11 cable gland, or tapped 1/2" NPT, or for 1/2" NPT conduit using metal adapter DE9RA1012) for XCSTA (other entry fitted with blanking plug).
Connecting cable		–	Pre-cabled, either 4 x 0.5 mm ² or 6 x 0.5 mm ² (XCSMP)
Materials		Zamak case	Polyamide PA66 fibreglass impregnated case
		Actuating keys (all types): steel XC60, surface treated	

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

(2) Live parts of these switches are protected to some extent against the penetration of dust and water. However, when installing take all necessary precautions to help prevent the penetration of solid bodies, or liquids with a high dust content, into the actuating key aperture. Use of blanking plugs in unused key slots can reduce the penetration of unwanted elements (XCSZ28 for XCSMP and XCSZ27 for XCSA, XCSB, XCSC). One blanking plug is delivered with the product. Not recommended for use in saline atmospheres.

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Contact block characteristics			
Rated operational characteristics	2 and 3 contacts, slow break	XCSA, XCSB, XCSC, XCSTA, XCSPA: ~ AC-15, A300: $U_e = 240\text{ V}$, $I_e = 3\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 6\text{ A}$ XCSMP: ~ AC-15, C300: $U_e = 240\text{ V}$, $I_e = 0.75\text{ A}$ or $U_e = 120\text{ V}$, $I_e = 1.5\text{ A}$ All models: --- DC-13, Q300: $U_e = 250\text{ V}$, $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1	
	2 contacts, snap action	XCSPA: ~ AC-15, A300: $U_e = 240\text{ V}$, $I_e = 3\text{ A}$ --- DC-13, Q300: $U_e = 250\text{ V}$, $I_e = 0.27\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1	
	3 contacts, snap action	XCSPA: ~ AC-15, B300: $U_e = 240\text{ V}$, $I_e = 1.5\text{ A}$ --- DC-13, R300: $U_e = 250\text{ V}$, $I_e = 0.1\text{ A}$ or $U_e = 125\text{ V}$, $I_e = 0.55\text{ A}$ conforming to EN/IEC 60947-5-1	
Conventional thermal current in enclosure		XCSA, XCSB, XCSC, XCSTA (3 slow break contacts): $I_{the} = 10\text{ A}$ XCSPA (2 slow break and snap action contacts): $I_{the} = 10\text{ A}$ XCSTA (3 slow break and snap action contacts): $I_{the} = 6\text{ A}$ XCSMP (2 and 3 slow break contacts): $I_{the} = 2.5\text{ A}$	
Rated insulation voltage	2 and 3 contacts	3 contacts (XCSA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSMP): $U_i = 500\text{ V}$ conforming to EN/IEC 60947-1; $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14	
	3 contacts	XCSPA: $U_i = 400\text{ V}$ degree of pollution 3 conforming to EN/IEC 60947-1 $U_i = 300\text{ V}$ conforming to UL 508, CSA C22-2 no. 14	
Rated impulse withstand voltage	2 and 3 contacts	3 contacts (XCSA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSMP): $U_{imp} = 6\text{ kV}$ conforming to EN/IEC 60947-5-1	
	3 contacts	XCSPA: $U_{imp} = 4\text{ kV}$ conforming to EN/IEC 60947-5-4	
Positive operation		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1, Section 3	
Resistance across terminals		$\leq 30\text{ m}\Omega$ conforming to EN/IEC 60947-5-4	
Short-circuit protection	2 and 3 contacts	3 contacts (XCSA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA), 2 and 3 contacts (XCSMP): 10 A cartridge fuse type gG (gl)	
	3 contacts	XCSPA: 6 A cartridge fuse type gG (gl)	
Connection	Pre-cabled	4 x 0.5 mm ² or 6 x 0.5 mm ² (XCSMP). PVC	
	Screw clamp terminals	2 contacts, snap action	XCSPA, XCSTA: Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
		2 and 3 contacts	3 contacts (XCSA, XCSB, XCSC, XCSTA), 2 contacts (XCSPA): Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 1.5 mm ² with or without cable end
3 contacts	XCSPA: clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²		

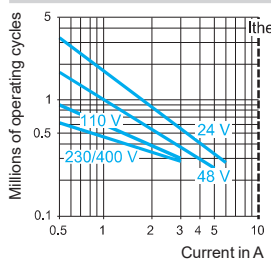
Electrical durability

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

Only applicable to **XCSMP**:

- Conforming to EN/IEC 60947-5-1 Appendix C
- Utilization categories AC-15 and DC-13
- Maximum operating rate: 900 operating cycles/hour

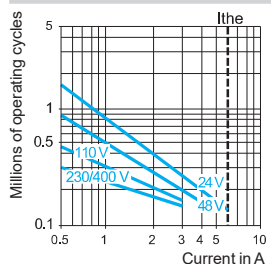
XCSA 2 snap action contact version



Voltage	V	24	48	120
mm	W	10	7	4

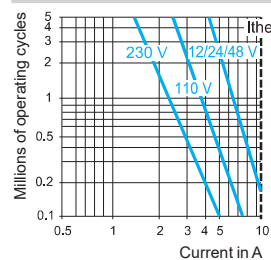
For **XE2SP•151** on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

XCSA 3 snap action contact version



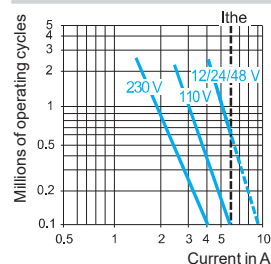
Voltage	V	24	48	120
mm	W	3	2	1

XCSA, XCSB, XCSC, XCSTA 3 slow break contact version and XCSPA 2 slow break contact version



Voltage	V	24	48	120
mm	W	13	9	7

XCSA 3 slow break contact version



Voltage	V	24	48	120
mm	W	4	3	2

AC supply
50/60 Hz ~
mm inductive circuit

DC supply ---
Power broken in W for
1 million operating cycles

AC supply
50/60 Hz ~
mm inductive circuit




DC supply ---
Power broken in W for
5 million operating cycles.

Safety detection solutions

Key-operated switches

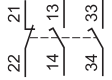
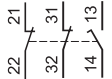
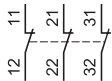
XCSA, XCSB and XCSC metal, turret head (1)

1 cable entry

Type of switch	Without locking of actuating key	With locking of actuating key, manual unlocking (2)		
				
	XCSA	XCSB	XCSC	

LED indication on opening of NC contacts	No	1 orange LED 24/48 V ~	1 orange LED 110/240 V ~	No (4)	No (4)
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References of switches without actuating key (5) (⊖ NC contact with positive opening operation) with 1 cable entry tapped ISO M20 x 1.5

3-pole 1 NC + 2 NO break before make, slow break (3)		XCSA502 ⊖	XCSA512 ⊖	XCSA522 ⊖	XCSB502 ⊖	XCSC502 ⊖
3-pole 2 NC + 1 NO break before make, slow break (3)		XCSA702 ⊖	XCSA712 ⊖	XCSA722 ⊖	XCSB702 ⊖	XCSC702 ⊖
3-pole 3 NC slow break (3)		XCSA802 ⊖	-	-	XCSB802 ⊖	XCSC802 ⊖
Weight (kg)	0.440	0.440	0.440	0.475	0.480	

References of switches without actuating key (5) with 1 cable entry tapped Pg 13.5

To order a switch with a Pg 13.5 cable entry, replace the last number (2) with 1 in the selected reference.
Example: XCSA502 becomes **XCSA501** (some Pg 13.5 references may not be available).





References of switches without actuating key (5) with 1 cable entry tapped 1/2" NPT

To order a switch with a 1/2" NPT cable entry, replace the last number (2) with 3 in the selected reference.
Example: XCSA502 becomes **XCSA503** (some 1/2" NPT references may not be available).

Complementary characteristics not shown under general characteristics (page 40)

Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s
Resistance to forcible withdrawal of actuating key (locked)	XCSB and XCSC: $F_{1max} = 1500\text{ N}$; $F_{zh} = 1150\text{ N}$
Mechanical durability	XCSA: > 1 million operating cycles XCSB and XCSC: 0.6 million operating cycles
Maximum operating rate	For maximum durability: 600 operating cycles per hour
Minimum force for extraction of actuating key (not locked)	≥ 20 N
Cable entry	XCSA, XCSB, XCSC: 1 cable entry Entry tapped ISO M20 x 1.5, clamping capacity 7 to 13 mm
Materials	Body: Zamak. Head: Zamak. Safety screws: 5-lobe torque. Protective plate: steel.

References of actuating keys

				
Description	Straight actuating key	Actuating key with wide fixing	Pivoting actuating key	Latch for sliding doors
For XCSA, XCSB or XCSC key-operated switches	XCSZ01	XCSZ02	XCSZ03	XCSZ05
Weight (kg)	0.020	0.020	0.095	0.600

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.
 (2) Unlocking by pushbutton for XCSB●●● and by key-operated lock for XCSC●●● (2 keys included with switch).
 (3) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.
 (4) 1 orange LED 24/48V ~/-: indicator available with the XCSZ31 accessory
 1 orange LED 110/240V ~ indicator available with the XCSZ32 accessory
 (5) Actuating keys to be ordered separately (see above).

Other versions: please consult our Customer Care Center.

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1 cable entry

Separate components



XCSZ31

Description	For use with	Supply voltage	Reference	Weight kg
1 kit including: - 1 orange LED indicator module - 1 cover - Seal - 2 fixing screws	XCSA	~ or 24/48 V $\overline{\text{---}}$	XCSZ31	0.040
		110/240 V ~	XCSZ32	0.040

Description	For use with	Unit reference	Weight kg
Blanking plugs for operating head slot (Sold in lots of 10)	XCSA, XCSB, XCSC	XCSZ27	0.050

Description	For use with	Unit reference	Weight kg
Keys for forced opening of interlocking device (Sold in lots of 10)	XCSB, XCSC	XCSZ25	0.100



XCSZ90

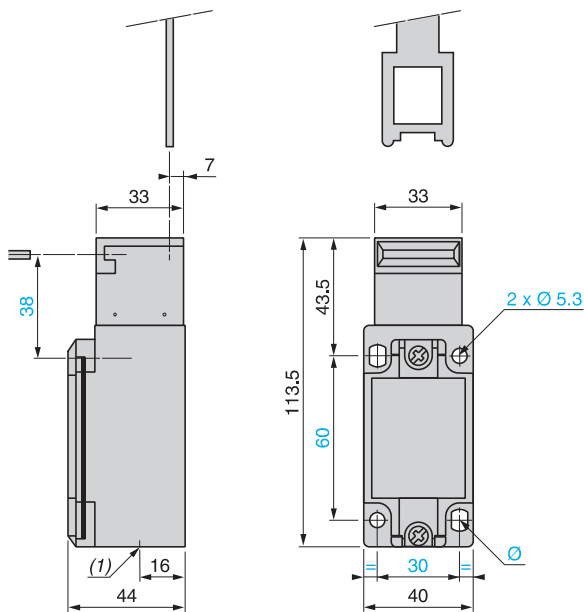
Description	For use with	Unit reference	Weight kg
Padlocking device helps to prevent insertion of actuating key, for up to 3 padlocks (padlocks not included)	XCSA, XCSB, XCSC	XCSZ90	0.055

Dimensions

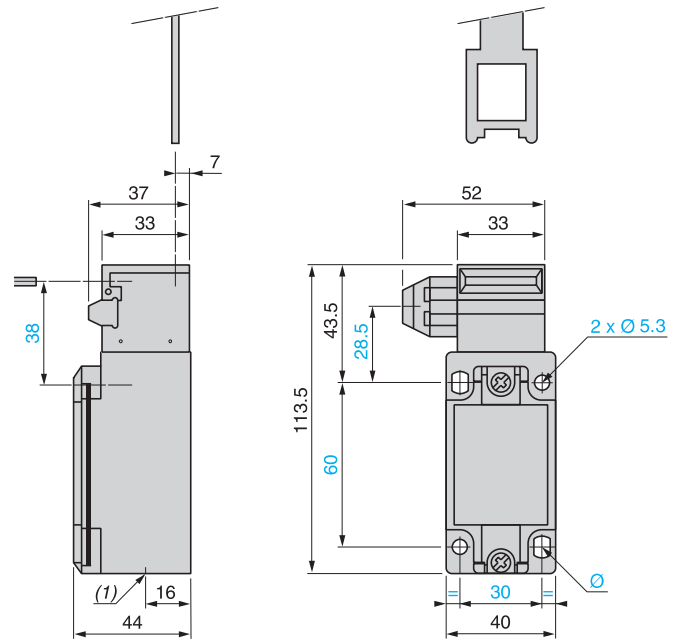
Key-operated switches

XCSA...

XCSB..., XCSC...



(1) 1 tapped entry for cable gland
Ø: 2 elongated holes Ø 5.3 x 7.3



(1) 1 tapped entry for cable gland
Ø: 2 elongated holes Ø 5.3 x 7.3