








Mechanical by separate key actuators	Mechanical and interlock by separate key manual unlocking	Mechanical and interlock by separate key Solenoid locking / unlocking	Contact-free, by coded magnet	
By specific key		By coded magnetic key		Reinforced by Hall effect technology
Architecture 1		-	-	-
Architecture 2		Architecture 4		Architecture 6
Architecture 3		Architecture 5		Architecture 7
<p>XCSPA XCSTA: Compact plastic body up to 3 contact</p> <p>XCSTMP: Miniature key switch with cable output</p> 	-	<p>XCSLE: Plastic body, slim dimensions, up to six contacts for high inertia machines</p> 	-	-
<p>XCSEA: Metal body for protection against accidental shocks for heavy door control</p> 	<p>XCSB XCSC: Metal body release by pushbutton or by key</p> 	<p>XCSLF: Metal body, 2300 N reinforced locking for inertia machines in harsh environments</p> 	<p>XCSDMP - XCSDMC compact XCSDMR cylindrical Various formats, ideal for dust and liquid environments</p> 	<p>XCSDM3 Cat3 / SIL2/PL=d XCSDM4 Cat4 / SIL3/PI=e No need of additional safety monitoring Perfect for small machines</p> 
, XPSAXE, XPSMP, XPSMC		XPSAC, XPSVNE	XPSDMB, XPSDME XPSDMB, XPSDME	

All heavy industrial machines, with quick rundown time (1)

Industrial format with or without locking

Metal with 1 cable entry, without locking

Metal with 1 cable entry, with manual locking/unlocking



Metal

Without locking of actuator.

Manual locking and unlocking of actuator by pushbutton or key operated lock (can be mounted on left or right-hand side of switch head).

EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 n°14 and JIS C4520

EN/IEC 60204-1, EN/ISO 14119

UL, CSA

40 x 113.5 x 44

52 x 113.5 x 44

30 x 60

Turret head: 8 positions for insertion of actuator.

Safety contacts actuated by the actuator.  
Slow break and positive opening operation.

1 NC + 2 NO break before make  
2 NC + 1 NO break before make  
3 NC

IP 67

25...+70 °C

Screw clamp terminals. Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT

Screw clamp terminals. Tapped entry for Pg 13.5 cable gland, ISO M20 or tapped 1/2" NPT

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XCSA

XCSB, XCSC

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# Safety detection solutions

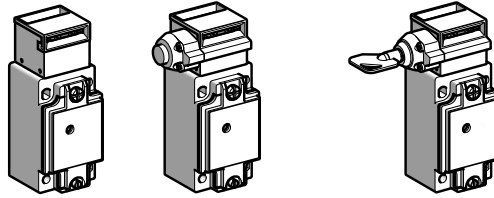
## Key operated switches

Metal, turret head, types XCSA, XCSB and XCSC

Plastic, double insulated, turret head, types XCSMP or XCSPA and XCSTA

### Metal, types XCSA, XCSB, XCSC

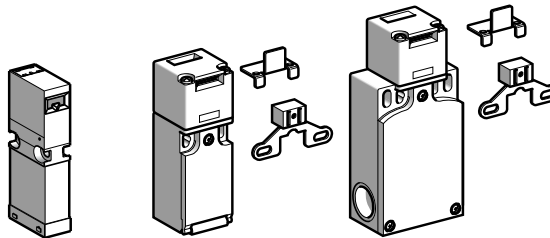
### Key operated switches with or without locking of the actuator



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### Plastic, types XCSMP, XCSPA, XCSTA

### Key operated switches with or without locking of the actuator



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## Environment 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 n° 14	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications		UL, CSA	UL, CSA (cULus 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 <sub>10d</sub>		5 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)	
Protective treatment		Standard version: "TC"	
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 1 conforming to EN/IEC 60536	Class 2 conforming to EN/IEC 60536
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 n° 13 (Pg 13.5) cable gland conforming to NFC 68-300 (clamping capacity 9 to 12 mm) or for 1/2" NPT (USAS B2-1) 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 n° 11 (Pg 11) cable gland, or tapped 1/2" NPT, or for 1/2" NPT (USAS B2-1) conduit using metal adaptor DE9RA1012) for XCSTA (other entry fitted with blanking plug).
Connecting cable		–	Pre-cabled, either 4 x 0.5 mm <sup>2</sup> or 6 x 0.5 mm <sup>2</sup> (XCSMP)
Materials		XCSA/B/C Zamak case	XCSMP/PA/TA Polyamide PA66 fibreglass impregnated case

Actuators (all types): steel XC60, surface treated

(1) Using an appropriate and correctly connected control system.

(2) Live parts of these switches are protected against the penetration of dust and water.

However, when installing take all necessary precautions to prevent the penetration of solid bodies, or liquids with a high dust content, into the actuator aperture. Not recommended for use in saline atmospheres.

## Key operated switches

Metal, turret head, types XCSA, XCS and XCSC

Plastic, double insulated, turret head, types XCSMP or XCSPA and XCSTA

### Contact block characteristics

<b>Rated operational characteristics</b>	2 and 3 contact, slow break	<b>XCSA, XCSB, XCSC, XCSTA, XCSPA:</b> ~ AC-15, A300: Ue = 240 V, Ie = 3 A or Ue = 120 V, Ie = 6 A  <b>XCSMP:</b> ~ AC-15, C300: Ue = 240 V, Ie = 0.75 A or Ue = 120 V, Ie = 1.5 A All models: --- 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
	2 contact, snap action	<b>XCSPA:</b> ~ AC-15, A300: Ue = 240 V, Ie = 3 A; Ithe = 10 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, snap action	<b>XCSPA:</b> ~ AC-15, B300: Ue = 240 V, Ie = 1.5 A; Ithe = 6 A --- DC-13, R300: Ue = 250 V, Ie = 0.1 A or Ue = 125 V, Ie = 0.55 A conforming to EN/IEC 60947-5-1
<b>Conventional thermal current in enclosure</b>		<b>XCSA, XCSB, XCSC, XCSPA</b> (2 & 3 slow break contact and 2 snap action contact versions) <b>XCSPA</b> (3 snap action contact version): Ithe = 6 A <b>XCSMP:</b> Ithe = 2.5 A
<b>Rated insulation voltage</b>	2 and 3 contact	3 contact ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contact ( <b>XCSPA</b> ), 2 and 3 contact ( <b>XCSMP</b> ): Ui = 500 V conforming to EN/IEC 60947-1; Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	3 contact	<b>XCSPA:</b> Ui = 400 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
<b>Rated impulse withstand voltage</b>	2 and 3 contact	3 contact ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contact ( <b>XCSPA</b> ), 2 and 3 contact ( <b>XCSMP</b> ): Uimp = 6 kV conforming to EN/IEC 60947-5-1
	3 contact	<b>XCSPA:</b> Uimp = 4 kV conforming to EN/IEC 60947-5-4
<b>Positive operation</b>		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1, Section 3
<b>Resistance across terminals</b>		≤ 30 mΩ conforming to EN/IEC 60947-5-4
<b>Short-circuit protection</b>	2 and 3 contact	3 contact ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contact ( <b>XCSPA</b> ), 2 and 3 contact ( <b>XCSMP</b> ): 10 A cartridge fuse type gG (gl)
	3 contact	<b>XCSPA:</b> 6 A cartridge fuse type gG (gl)
<b>Connection</b>	Pre-cabled	4 x 0.5 mm <sup>2</sup> or 6 x 0.5 mm <sup>2</sup> ( <b>XCSMP</b> ). PVC
	Screw clamp 2 contact, snap action terminals	<b>XCSPA, XCSTA:</b> Clamping capacity, min: 1 x 0.34 mm <sup>2</sup> , max: 2 x 1.5 mm <sup>2</sup>
	2 and 3 contact	<b>3 contact (XCSA, XCSB, XCSC, XCSTA), 2 contact (XCSPA):</b> Clamping capacity, min: 1 x 0.5 mm <sup>2</sup> , max: 2 x 1.5 mm <sup>2</sup> with or without cable end
	3 contact	<b>XCSPA:</b> clamping capacity, min: 1 x 0.34 mm <sup>2</sup> , max: 1 x 1 mm <sup>2</sup> or 2 x 0.75 mm <sup>2</sup>

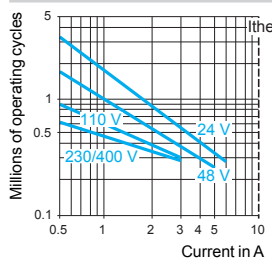
### Electrical durability

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

2 snap action contact version

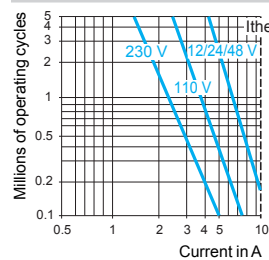
AC supply  
50/60 Hz ~  
mm. inductive circuit



Voltage	V	24	48	120
mm.	W	10	7	4

For XE2S P●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

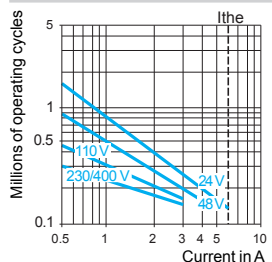
3 contact version XCSA/B/C/TA and 2 slow break contact version



Voltage	V	24	48	120
mm.	W	13	9	7

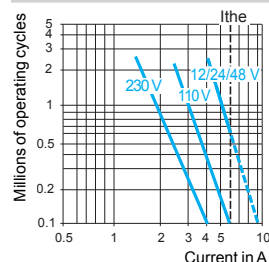
3 snap action contact version XCSPA

AC supply  
50/60 Hz ~  
mm. inductive circuit



Voltage	V	24	48	120
mm.	W	3	2	1

3 slow break contact version XCSPA



Voltage	V	24	48	120
mm.	W	4	3	2

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

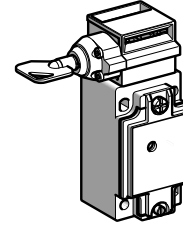
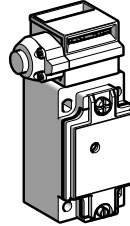
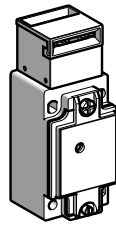
# Safety detection solutions

## Key operated switches

Metal, turret head (1), types XCSA, XCSB and XCSC

1 cable entry

Type of switch	Without locking of actuator	With locking of actuator, manual unlocking (2)
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LED indication on opening of NC contacts	Without	1 orange LED 24/48 V ~	1 orange LED 110/ 240 V ~	Without	1 orange LED 24/ 48 V ~	1 orange LED 110/ 240 V ~	Without	1 orange LED 24/48 V ~	1 orange LED 110/ 240 V ~
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### References of switches without actuator (⊖ NC contact with positive opening operation) with 1 cable entry tapped ISO M20 x 1.5

		XCSA502	XCSA512	XCSA522	XCSB502	XCSB512	XCSB522	XCSC502	XCSC512	XCSC522
3-pole 1 NC + 2 NO break before make, slow break (3)		⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
3-pole 2 NC + 1 NO break before make, slow break (3)		⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖	⊖
3-pole 3 NC slow break (3)		⊖	-	-	⊖	-	-	⊖	-	-
Weight (kg)		0.440	0.440	0.440	0.475	0.475	0.475	0.480	0.480	0.480

### References of switches without actuator (⊖ NC contact with positive opening operation) with 1 cable entry tapped Pg 13.5

To order a switch with a Pg 13.5 cable entry, replace the last number (2) by 1 in the selected reference.  
Example: XCSA502 becomes XCSA501.

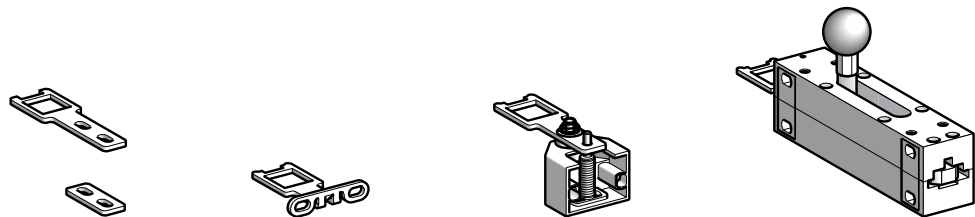
### References of switches without actuator (⊖ NC contact with positive opening operation) with 1 cable entry tapped 1/2" NPT

To order a switch with a 1/2" NPT cable entry, replace the last number (2) by 3 in the selected reference.  
Example: XCSA502 becomes XCSA503.

### Complementary characteristics not shown under general characteristics (page 38)

Actuation speed	Maximum: 0.5 m/s, minimum: 0.01 m/s
Resistance to forcible withdrawal of actuator	XCSB and XCSC: 1500 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 actuator	≥ 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 actuators



Description	Straight actuator	Actuator with wide fixing	Pivoting actuator	Latch for sliding doors
For key operated switches XCSA, B, C, E	XCSZ01	XCSZ02	XCSZ03	XCSZ05
Weight (kg)	0.020	0.020	0.095	0.600

(1) Head adjustable in 90° steps throughout 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 whilst the actuator is inserted in the head of the switch.

Other versions: please consult our Customer Care Centre.