

# 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 <sub>100</sub>		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 <sup>2</sup> or 6 x 0.5 mm <sup>2</sup> (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.

# Safety detection solutions

## Key-operated safety switches

XCSA, XCSB and XCSC metal, turret head

XCSMP, XCSPA and XCSTA plastic, double insulated, turret head

### Contact block characteristics

<b>Rated operational characteristics</b>	2 and 3 contacts, 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 contacts, snap action	<b>XCSPA:</b> ~ AC-15, A300: Ue = 240 V, Ie = 3 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 contacts, snap action	<b>XCSPA:</b> ~ AC-15, B300: Ue = 240 V, Ie = 1.5 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, XCSTA</b> (3 slow break contacts): Ithe = 10 A <b>XCSPA</b> (2 slow break and snap action contacts): Ithe = 10 A <b>XCSPA</b> (3 slow break and snap action contacts): Ithe = 6 A <b>XCSMP</b> (2 and 3 slow break contacts): Ithe = 2.5 A	
<b>Rated insulation voltage</b>	2 and 3 contacts	3 contacts ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contacts ( <b>XCSPA</b> ), 2 and 3 contacts ( <b>XCSMP</b> ): Ui = 500 V conforming to EN/IEC 60947-1; Ui = 300 V conforming to UL 508, CSA C22-2 no. 14	
	3 contacts	<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 no. 14	
<b>Rated impulse withstand voltage</b>	2 and 3 contacts	3 contacts ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contacts ( <b>XCSPA</b> ), 2 and 3 contacts ( <b>XCSMP</b> ): Uimp = 6 kV conforming to EN/IEC 60947-5-1	
	3 contacts	<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 contacts	3 contacts ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contacts ( <b>XCSPA</b> ), 2 and 3 contacts ( <b>XCSMP</b> ): 10 A cartridge fuse type gG (gl)	
	3 contacts	<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 terminals	2 contacts, snap action	<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 contacts	3 contacts ( <b>XCSA, XCSB, XCSC, XCSTA</b> ), 2 contacts ( <b>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 contacts	<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

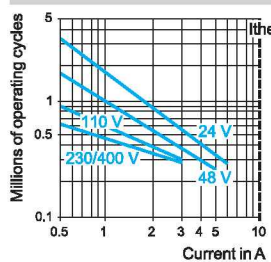
- Conforming to EN/IEC 60947-5-1 Appendix C
- Utilization categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

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

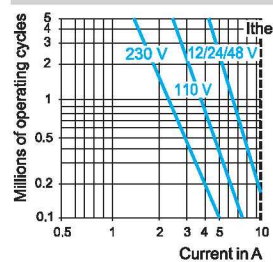
#### XCSA 2 snap action contact version

AC supply  
50/60 Hz ~  
∞m. inductive circuit



Voltage V	24	48	120
∞m. W	10	7	4

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

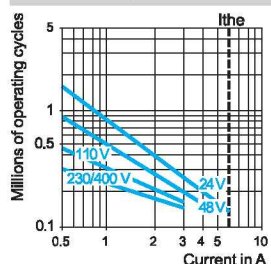


Voltage V	24	48	120
∞m. W	13	9	7

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

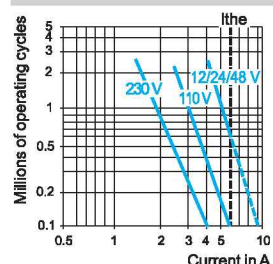
#### XCSA 3 snap action contact version

AC supply  
50/60 Hz ~  
∞m. inductive circuit



Voltage V	24	48	120
∞m. W	3	2	1

#### XCSA 3 slow break contact version



Voltage V	24	48	120
∞m. W	4	3	2

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

# Safety detection solutions

Key-operated safety switches

XCSMP plastic, fixed head

Pre-cabled, length 2 m, 5 m or 10 m

**Type of switch** Without locking of actuating key



XCSMP switch

**References of switches without actuating key (4) (⊖ NC contact with positive opening operation) (1) (3)**

2-pole 1 NC + 1 NO break before make, slow break (2)		XCSMP59L● ⊖
2-pole 2 NC slow break (2)		XCSMP79L● ⊖
3-pole 2 NC + 1 NO break before make, slow break (2)		XCSMP70L● ⊖
3-pole 3 NC slow break (2)		XCSMP80L● ⊖
Weight (kg)		0.110

**Complementary characteristics not shown under general characteristics (page 40)**

Actuation speed	Maximum: 1.5 m/s, minimum: 0.05 m/s
Mechanical durability	> 1 million operating cycles
Pre-cabled connection	4 x 0.5 mm <sup>2</sup> or 6 x 0.5 mm <sup>2</sup>
Maximum operating rate	For maximum durability: 1 200 operating cycles per hour
Minimum force for extraction of actuating key	≥ 8 N

**References of actuating keys**

Description	Straight actuating key	Right-angled actuating key	Pivoting actuating key	
			For right-hand door	For left-hand door
For XCSMP safety switches	XCSZ81	XCSZ84	XCSZ83	XCSZ85
Weight (kg)	0.015	0.025	0.085	0.085

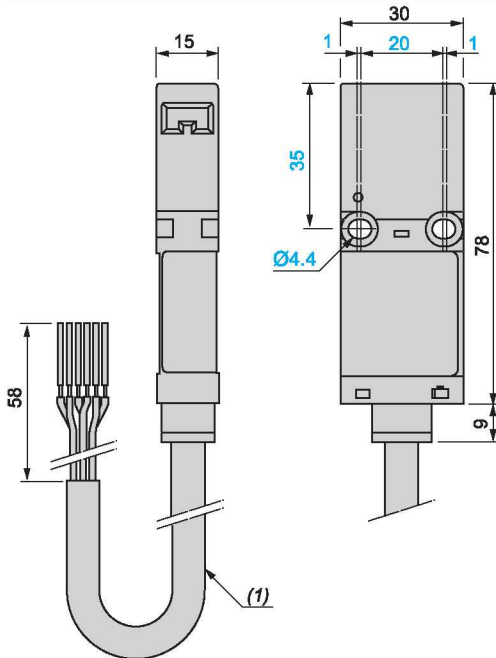
**Separate components**

Description	Unit reference	Weight kg
Blanking plugs for operating head slot (Sold in lots of 10)	XCSZ29	0.005

(1) Blanking plug for operating head slot included with switch.  
 (2) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.  
 (3) Basic reference, to be completed: replace the dot with 2 for a 2 m long cable, with 5 for a 5 m long cable or with 10 for a 10 m long cable. Some lengths may not be available. Example: XCSMP70L● becomes XCSMP70L10 for a switch with a 10 m long cable.  
 (4) Actuating keys to be ordered separately (see above).

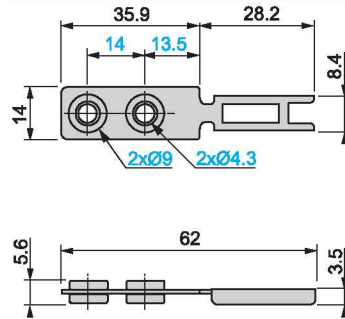
#### Dimensions

##### XCSMP

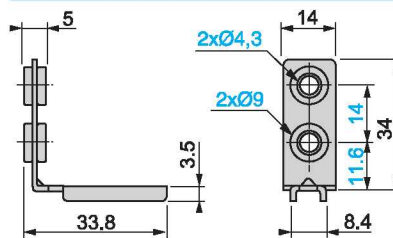


(1)  $\varnothing 7.6$ , length 2, 5 or 10 m.

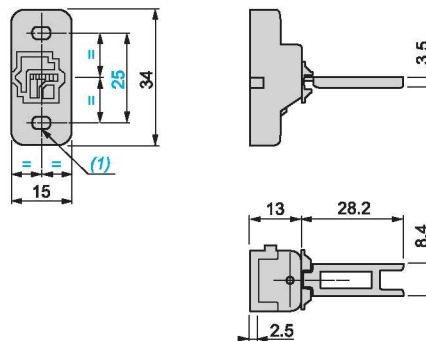
##### XCSZ81



##### XCSZ84

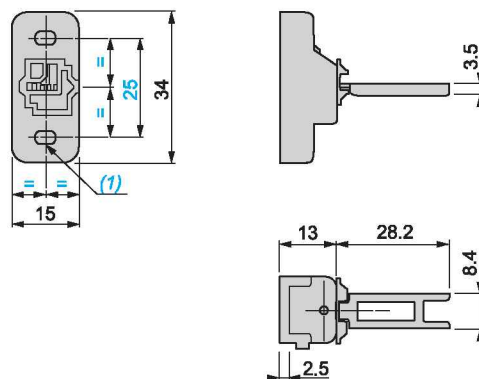


##### XCSZ83



(1) 2 elongated holes  $\varnothing 4.2 \times 6$ .

##### XCSZ85



(1) 2 elongated holes  $\varnothing 4.2 \times 6$ .

# Safety detection solutions

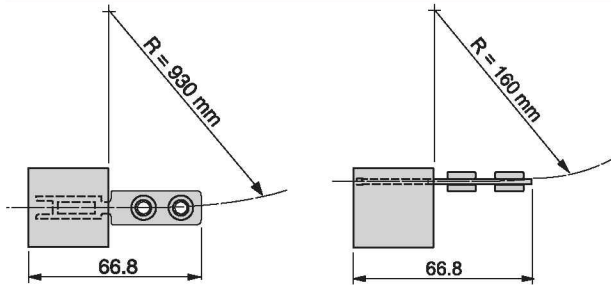
Key-operated safety switches

XCSMP plastic, fixed head

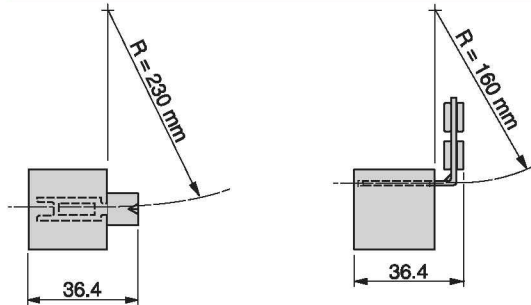
Pre-cabled, length 2 m, 5 m or 10 m

## Operating radius required for actuating key

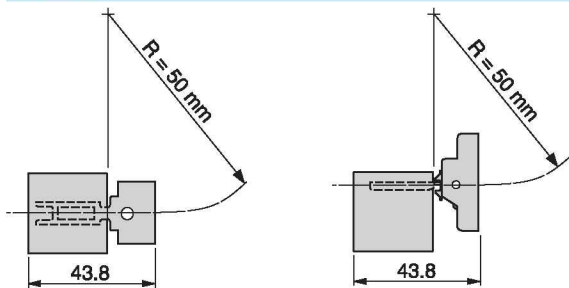
XCSZ81



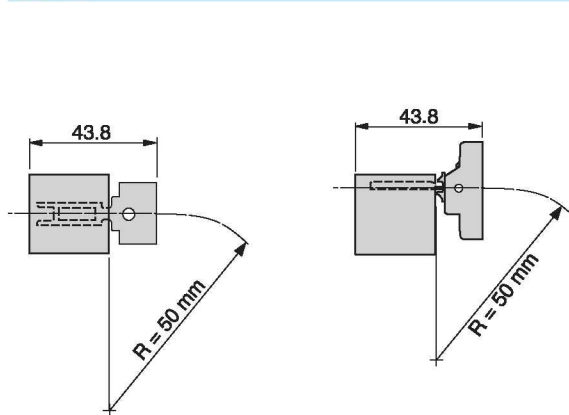
XCSZ84



XCSZ83



XCSZ85



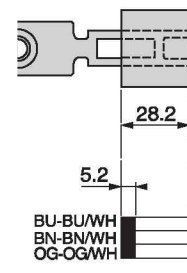
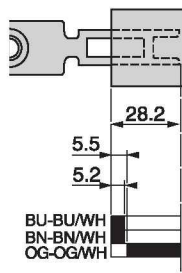
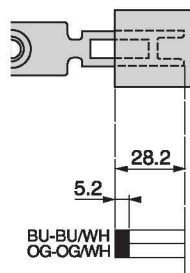
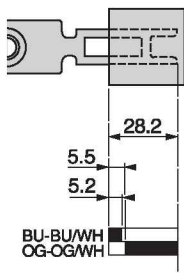
## Functional diagrams

XCSMP59●

XCSMP79●

XCSMP70●

XCSMP80●



Contact operation

■ closed  
□ open

# Safety detection solutions

Key-operated safety switches

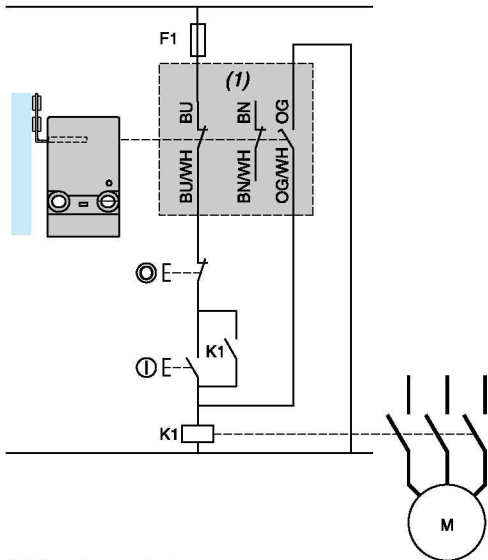
XCSMP plastic, fixed head

Pre-cabled, length 2 m, 5 m or 10 m

**Schemes** Note: These schemes are given as examples only, the designer should refer to the relevant safety standards for guidance.

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

Example with 3-pole 2 NC + 1 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.

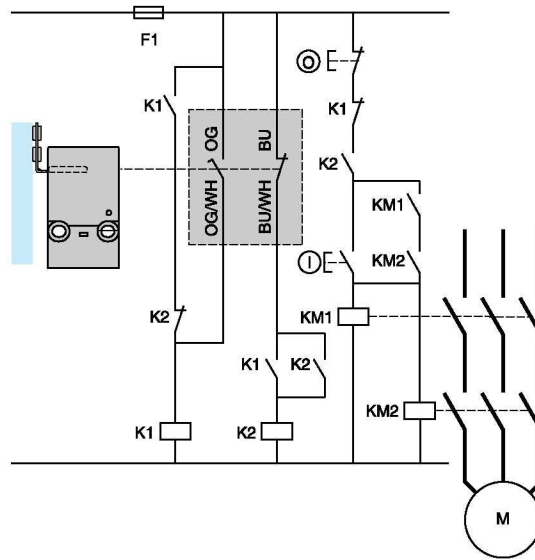


(1) Signaling contact

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

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

To activate K1, it is necessary to remove and re-insert the actuating key when the supply is switched on.

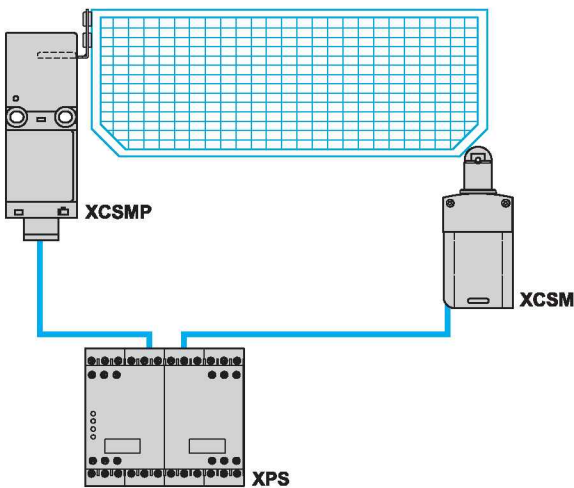


**Wiring to PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061. Wiring method used in conjunction with a safety control unit.**

(The guard switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy).

**Method for machines with quick rundown time (low inertia)**

Locking or interlocking device based on the principle of redundancy and self-monitoring. The safety control units provide these functions.



Locking of actuating key and operation in positive mode associated with a safety control unit.

# Safety detection solutions

Key-operated safety switches  
XCSPA and XCSTA plastic, turret head  
1 or 2 cable entries

**Type of switch** Without locking of actuating key



XCSPA



XCSTA

**References of switches without actuating key (4) (⊖ NC contact with positive opening operation) with 1 or 2 cable entries tapped ISO M16 x 1.5**

<b>2-pole 1 NC + 1 NO (2)</b> break before make, slow break		<b>XCSPA592</b>	⊖	—
<b>2-pole 1 NC + 1 NO (2)</b> snap action		<b>XCSPA192</b>	⊖	—
<b>2-pole 1 NO + 1 NC (2)</b> make before break, slow break		<b>XCSPA692</b>	⊖	—
<b>2-pole 2 NC (2)</b> slow break		<b>XCSPA792</b>	⊖	—
<b>2-pole 2 NC (2)</b> snap action		<b>XCSPA292</b>	⊖	—
<b>3-pole 1 NC + 2 NO (2)</b> break before make, slow break		<b>XCSPA892</b>	⊖	<b>XCSTA592</b> ⊖
<b>3-pole 2 NC + 1 NO (2)</b> break before make, slow break		<b>XCSPA992</b>	⊖	<b>XCSTA792</b> ⊖
<b>3-pole 2 NC + 1 NO (2)</b> snap action		<b>XCSPA492</b>	⊖	—
<b>3-pole 3 NC (2)</b> slow break		—	—	<b>XCSTA892</b> ⊖
<b>Weight (kg)</b>		0.110		0.160

**References of switches without actuating key (4) (⊕ NC contact with positive opening operation) with 1 or 2 cable entries tapped Pg 11 or 1/2" NPT**

To order a switch with 1 or 2 cable entries for Pg 11 cable gland (clamping capacity 7 to 10 mm), replace the last number (2) with 1 in the selected reference. Example: XCSPA592 becomes **XCSPA591** (some Pg 11 references may not be available).  
To order a switch with 1 or 2 cable entries for 1/2" NPT conduit (one Pg 11 tapped entry fitted with DE9RA1012 metal adapter), replace the last number (2) with 3 in the selected reference. Example: XCSTA592 becomes **XCSTA593** (some 1/2" NPT references may not be available).

**Complementary characteristics not shown under general characteristics (page 40)**

<b>Actuation speed</b>	Maximum: 0.5 m/s, minimum: 0.01 m/s
<b>Resistance to forcible withdrawal of actuating key</b>	<b>XCSPA, XCSTA:</b> 10 N (50 N using actuating keys <b>XCSZ12</b> or <b>XCSZ13</b> together with guard retaining device <b>XCSZ21</b> )
<b>Mechanical durability</b>	<b>XCSPA, XCSTA:</b> > 1 million operating cycles
<b>Maximum operating rate</b>	For maximum durability: 600 operating cycles per hour
<b>Minimum force for positive opening</b>	≥ 15 N
<b>Cable entry</b>	<b>XCSPA:</b> 1 entry tapped M16 x 1.5 for ISO cable gland. <b>XCSTA:</b> 2 entries tapped M16 x 1.5 for ISO cable gland.
<b>Materials</b>	Body and head: polyamide PA66, fibreglass impregnated

**References of accessories**

	Description	For use with	Unit reference	Weight kg
 XCSTA91	<b>Blanking plugs for operating head slot</b> (Sold in lots of 10)	XCSPA, XCSTA	<b>XCSZ28</b>	0.050
 XCSTA91	<b>Padlocking device</b> to help prevent insertion of actuating key, for up to 3 padlocks (padlocks not included)	XCSPA, XCSTA	<b>XCSZ91</b>	0.053
 XCSTA200	<b>Actuating key centering device (3)</b> (Fixing screws included)	XCSPA, XCSTA	<b>XCSZ200</b>	0.022

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.  
(2) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.  
(3) Not for use with XCSTA91.  
(4) Actuating keys to be ordered separately (see page 47).

Other versions: please consult our Customer Care Center.

# Safety detection solutions

## Key-operated safety switches

XCSPA and XCSTA plastic, turret head (1)

1 or 2 cable entries

### References of actuating keys and guard retaining device



Description	Straight actuating key	Actuating key with wide fixing (1)		Pivoting actuating key	Right-angled actuating key	Guard retaining device (2)
For XCSPA and XCSTA key-operated safety switches	XCSZ11	XCSZ12	XCSZ15	XCSZ13	XCSZ14	XCSZ21
Weight (kg)	0.015	0.015	0.012	0.085	0.025	0.080

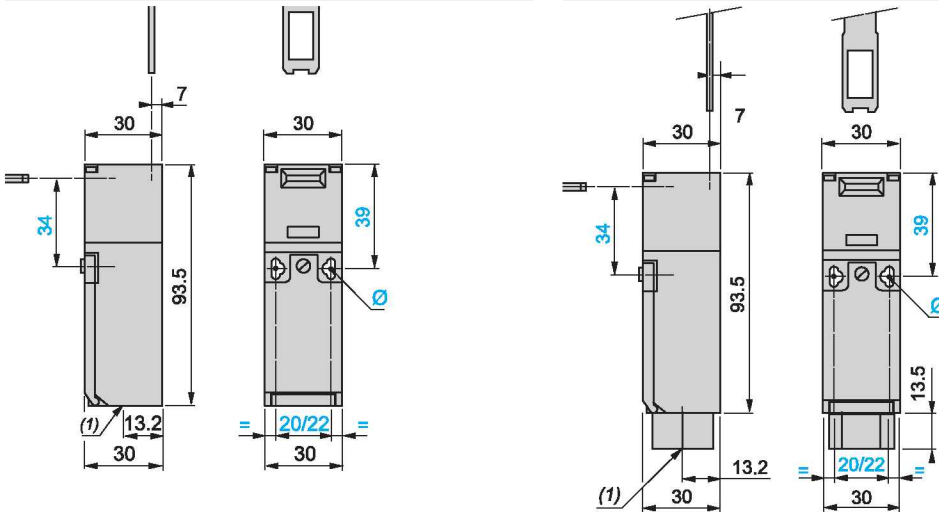
(1) 2 actuating key lengths, XCSZ12: L = 40 mm, XCSZ15: L = 29 mm.

(2) Only for use with XCSPA and XCSTA key-operated switches (without XCSZ200 actuating key centering device) used in conjunction with XCSZ12, XCSZ13 or XCSZ15 actuating keys.

### Dimensions

XCSPA<sup>91</sup>, XCSPA<sup>92</sup>

XCSPA<sup>93</sup>



(1) 1 tapped entry for cable gland

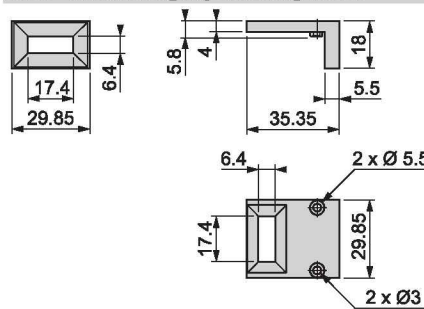
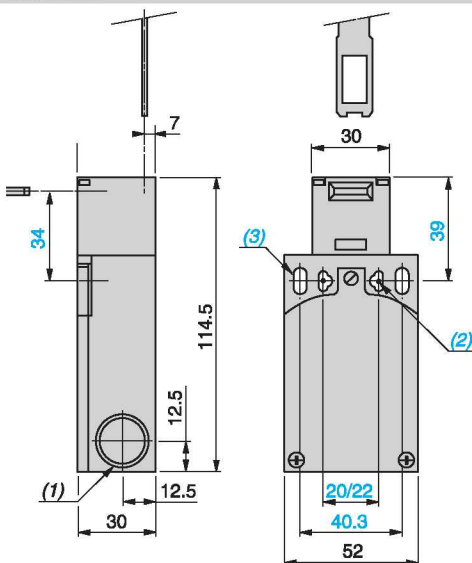
Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

(1) 1 tapped entry for 1/2" NPT conduit

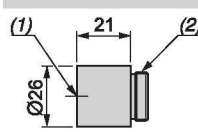
Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

XCSTA<sup>90</sup>

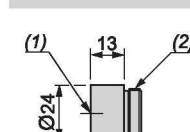
XCSZ200 actuating key centering device



1/2" NPT conduit adapter  
DE9RA1012



M16 x 1.5 adapter  
DE9RA1016



(1) 2 tapped entries for cable gland or 1/2" NPT conduit adapter

(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

(1) Tapped entry for 1/2" NPT conduit

(2) Pg 11 threaded shank

(1) M16 x 1.5 tapped entry

(2) Pg 11 threaded shank



# Safety detection solutions

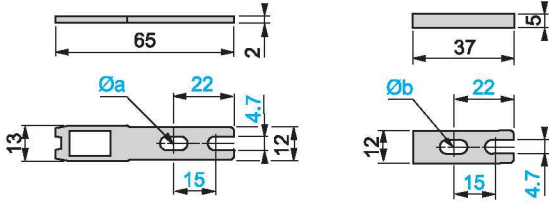
## Key-operated safety switches

### XCSPA and XCSTA plastic, turret head

#### 1 or 2 cable entries

#### Dimensions (continued)

##### XCSZ11

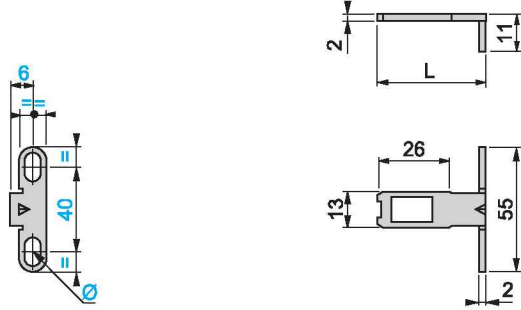


(1) Adapter (included with XCSZ11 actuating key) for replacing, without drilling an additional fixing hole, a legacy XCKP/T key-operated switch with XCKY01 actuating key by an XCSTA key-operated switch with XCSZ11 actuating key.

Ø a: 2 elongated holes Ø 4.7 x 10

Ø b: 1 elongated hole for M4 or M4.5 screw

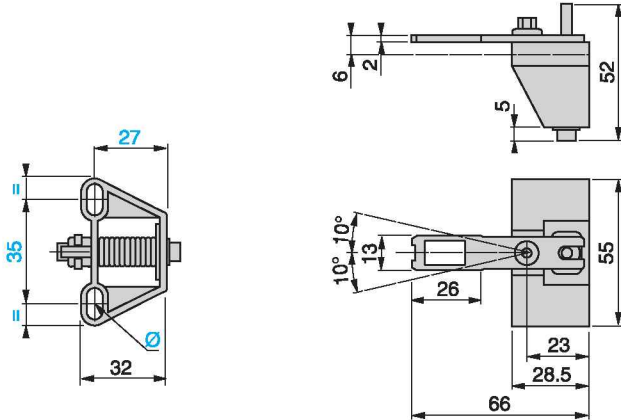
##### XCSZ12, XCSZ15



Ø: 2 elongated holes Ø 4.7 x 10

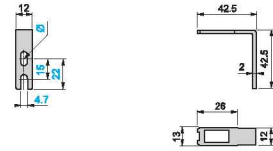
L = 40 mm (XCSZ12) or 29 mm (XCSZ15)

##### XCSZ13



Ø: 2 elongated holes Ø 4.7 x 10

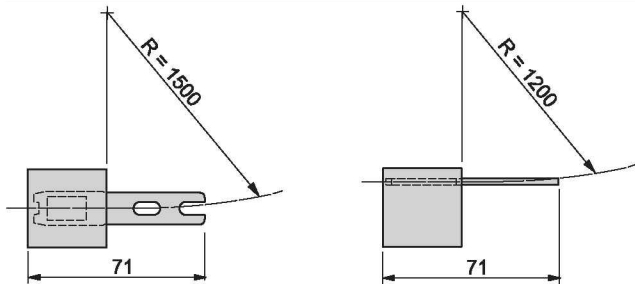
##### XCSZ14



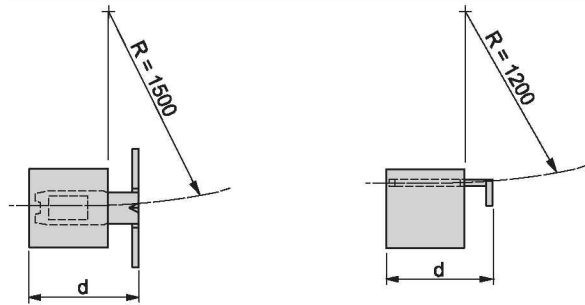
Ø: 1 elongated hole Ø 4.7 x 10

#### Operating radius required for actuating key

##### XCSZ11

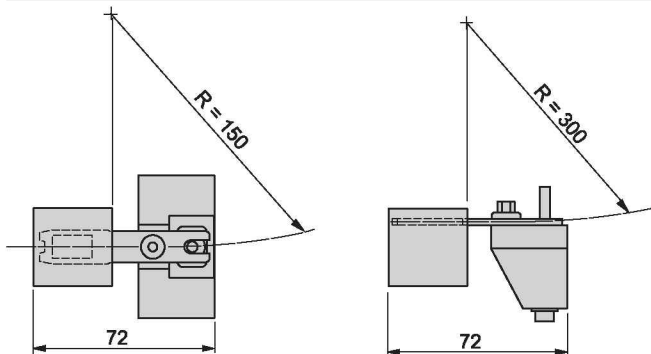


##### XCSZ12, XCSZ15

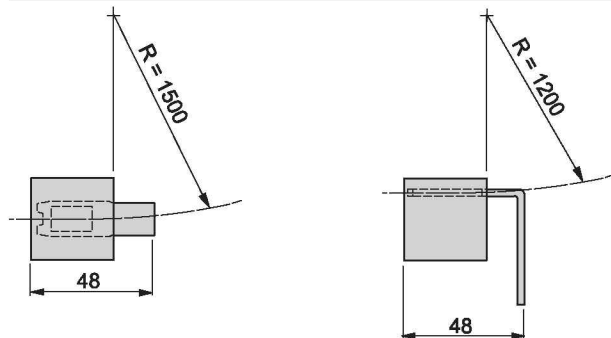


d = 46 mm (XCSZ12) or 35 mm (XCSZ15)

##### XCSZ13



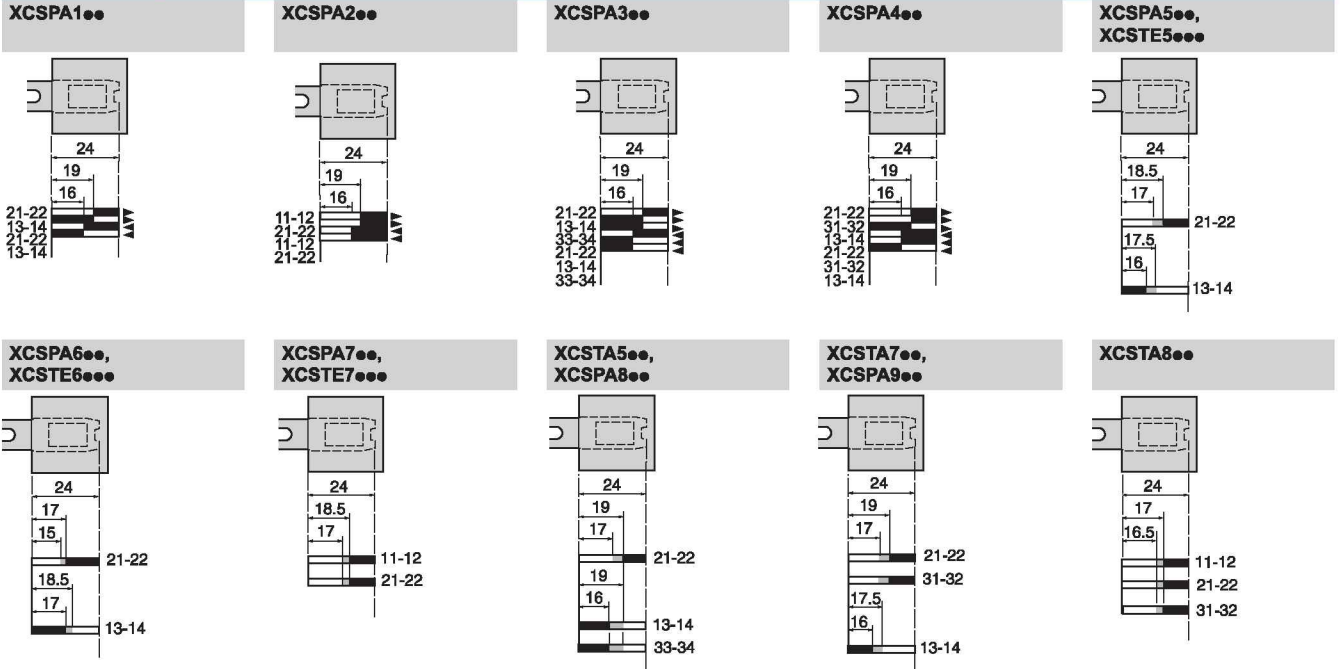
##### XCSZ14



R = minimum radius

### Setting-up

#### Functional diagrams



Contact operation

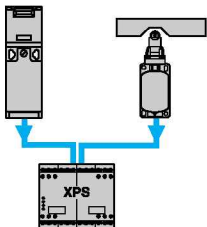
■ Closed    □ Open    ▒ Transient state

**Schemes** Note: These schemes are given as examples only, the designer should refer to the relevant safety standards for guidance.

**Wiring to PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061**  
Wiring method used in conjunction with a safety control unit

(The key-operated switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy)

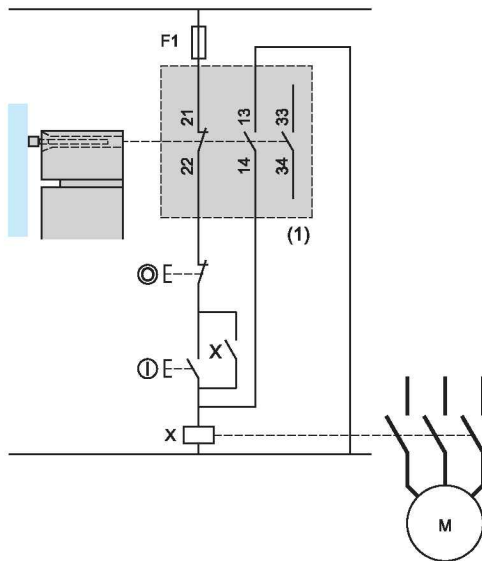
Method for machines with quick rundown time (low inertia)



Locking of actuating key and operation in positive mode associated with a safety control unit.

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

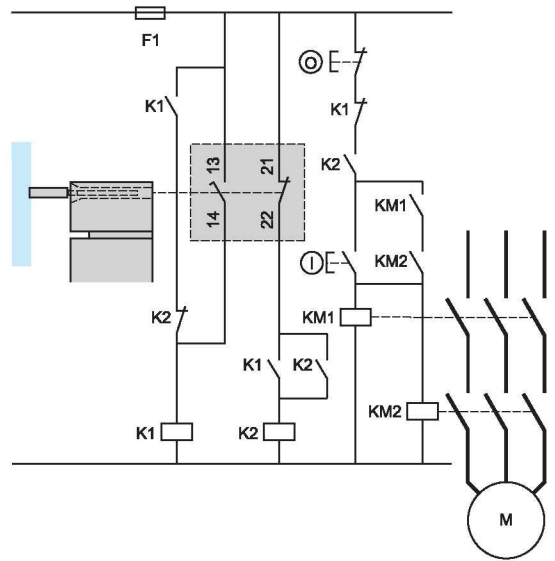
Example with 3-pole 1 NC + 2 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.



(1) Signaling contact.

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

Example with 2-pole 1 NC + 1 NO contact with mixed redundancy of the contacts and the associated control relays. To activate K1, it is necessary to remove and re-insert the actuating key when the supply is switched on.



# Safety detection solutions

Key-operated safety switches  
XCSPA and XCSTA plastic, turret head  
1 or 2 cable entries

**Type of switch** Without locking of actuating key



XCSPA



XCSTA

**References of switches without actuating key (4) (⊖ NC contact with positive opening operation) with 1 or 2 cable entries tapped ISO M16 x 1.5**

<b>2-pole 1 NC + 1 NO (2)</b> break before make, slow break		<b>XCSPA592</b>	⊖	—
<b>2-pole 1 NC + 1 NO (2)</b> snap action		<b>XCSPA192</b>	⊖	—
<b>2-pole 1 NO + 1 NC (2)</b> make before break, slow break		<b>XCSPA692</b>	⊖	—
<b>2-pole 2 NC (2)</b> slow break		<b>XCSPA792</b>	⊖	—
<b>2-pole 2 NC (2)</b> snap action		<b>XCSPA292</b>	⊖	—
<b>3-pole 1 NC + 2 NO (2)</b> break before make, slow break		<b>XCSPA892</b>	⊖	<b>XCSTA592</b> ⊖
<b>3-pole 2 NC + 1 NO (2)</b> break before make, slow break		<b>XCSPA992</b>	⊖	<b>XCSTA792</b> ⊖
<b>3-pole 2 NC + 1 NO (2)</b> snap action		<b>XCSPA492</b>	⊖	—
<b>3-pole 3 NC (2)</b> slow break		—	—	<b>XCSTA892</b> ⊖
<b>Weight (kg)</b>		0.110		0.160

**References of switches without actuating key (4) (⊕ NC contact with positive opening operation) with 1 or 2 cable entries tapped Pg 11 or 1/2" NPT**

To order a switch with 1 or 2 cable entries for Pg 11 cable gland (clamping capacity 7 to 10 mm), replace the last number (2) with 1 in the selected reference. Example: XCSPA592 becomes **XCSPA591** (some Pg 11 references may not be available).  
To order a switch with 1 or 2 cable entries for 1/2" NPT conduit (one Pg 11 tapped entry fitted with DE9RA1012 metal adapter), replace the last number (2) with 3 in the selected reference. Example: XCSTA592 becomes **XCSTA593** (some 1/2" NPT references may not be available).

**Complementary characteristics not shown under general characteristics (page 40)**

<b>Actuation speed</b>	Maximum: 0.5 m/s, minimum: 0.01 m/s
<b>Resistance to forcible withdrawal of actuating key</b>	<b>XCSPA, XCSTA:</b> 10 N (50 N using actuating keys <b>XCSZ12</b> or <b>XCSZ13</b> together with guard retaining device <b>XCSZ21</b> )
<b>Mechanical durability</b>	<b>XCSPA, XCSTA:</b> > 1 million operating cycles
<b>Maximum operating rate</b>	For maximum durability: 600 operating cycles per hour
<b>Minimum force for positive opening</b>	≥ 15 N
<b>Cable entry</b>	<b>XCSPA:</b> 1 entry tapped M16 x 1.5 for ISO cable gland. <b>XCSTA:</b> 2 entries tapped M16 x 1.5 for ISO cable gland.
<b>Materials</b>	Body and head: polyamide PA66, fibreglass impregnated

**References of accessories**

	Description	For use with	Unit reference	Weight kg
 XCSTA91	<b>Blanking plugs for operating head slot</b> (Sold in lots of 10)	XCSPA, XCSTA	<b>XCSZ28</b>	0.050
 XCSTA91	<b>Padlocking device</b> to help prevent insertion of actuating key, for up to 3 padlocks (padlocks not included)	XCSPA, XCSTA	<b>XCSZ91</b>	0.053
 XCSTA200	<b>Actuating key centering device (3)</b> (Fixing screws included)	XCSPA, XCSTA	<b>XCSZ200</b>	0.022

(1) Head adjustable in 90° steps through 360°. Blanking plug for operating head slot included with switch.  
(2) Schematic diagrams shown represent the contact states while the actuating key is inserted in the head of the switch.  
(3) Not for use with XCSTA91.  
(4) Actuating keys to be ordered separately (see page 47).

Other versions: please consult our Customer Care Center.

### References of actuating keys and guard retaining device



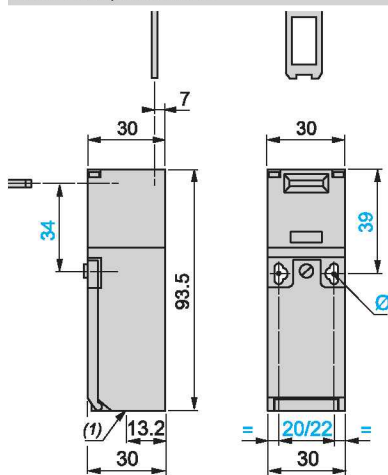
Description	Straight actuating key	Actuating key with wide fixing (1)		Pivoting actuating key	Right-angled actuating key	Guard retaining device (2)
For XCSPA and XCSTA key-operated safety switches	<b>XCSZ11</b>	<b>XCSZ12</b>	<b>XCSZ15</b>	<b>XCSZ13</b>	<b>XCSZ14</b>	<b>XCSZ21</b>
Weight (kg)	0.015	0.015	0.012	0.085	0.025	0.080

(1) 2 actuating key lengths, XCSZ12: L = 40 mm, XCSZ15: L = 29 mm.

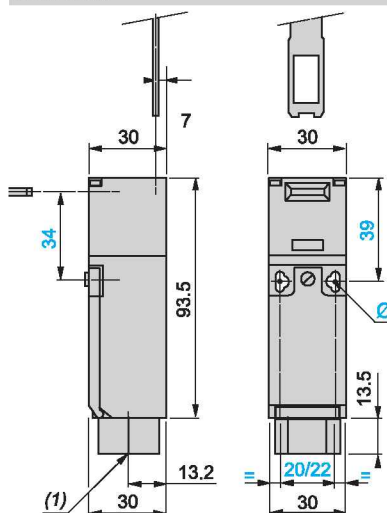
(2) Only for use with XCSPA and XCSTA key-operated switches (without XCSZ200 actuating key centering device) used in conjunction with XCSZ12, XCSZ13 or XCSZ15 actuating keys.

### Dimensions

#### XCSPA91, XCSPA92



#### XCSPA93



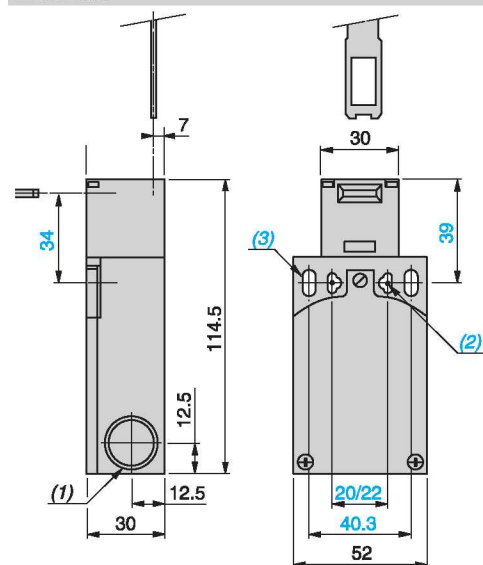
(1) 1 tapped entry for cable gland

Ø: 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

(1) 1 tapped entry 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

#### XCSTA99

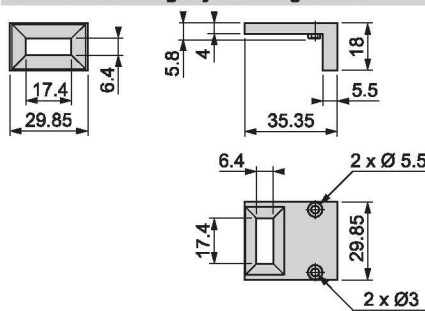


(1) 2 tapped entries for cable gland or 1/2" NPT conduit adapter

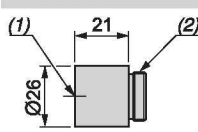
(2) 2 elongated holes Ø 4.3 x 8.3 on 22 centers, 2 holes Ø 4.3 on 20 centers

(3) 2 elongated holes Ø 5.3 x 13.3

#### XCSZ200 actuating key centering device



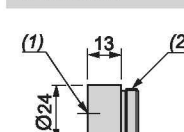
#### 1/2" NPT conduit adapter DE9RA1012



(1) Tapped entry for 1/2" NPT conduit

(2) Pg 11 threaded shank

#### M16 x 1.5 adapter DE9RA1016

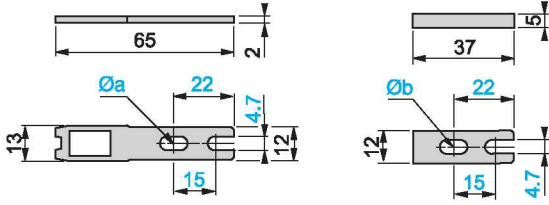


(1) M16 x 1.5 tapped entry

(2) Pg 11 threaded shank

### Dimensions (continued)

#### XCSZ11

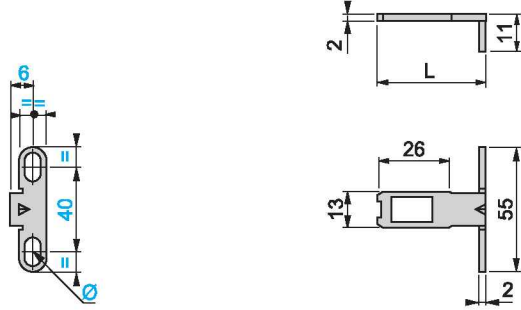


(1) Adapter (included with XCSZ11 actuating key) for replacing, without drilling an additional fixing hole, a legacy XCKP/T key-operated switch with XCKY01 actuating key by an XCSTA key-operated switch with XCSZ11 actuating key.

Ø a: 2 elongated holes Ø 4.7 x 10

Ø b: 1 elongated hole for M4 or M4.5 screw

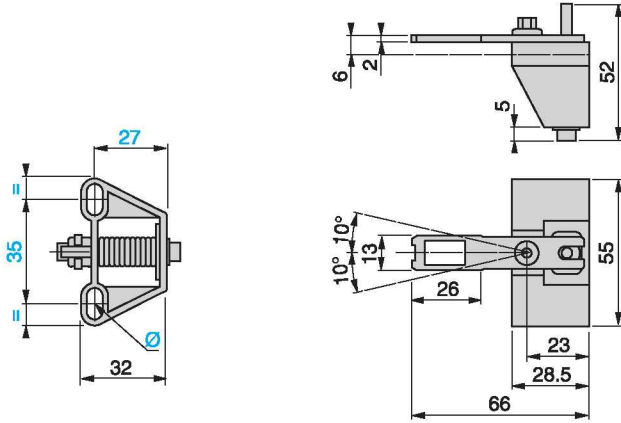
#### XCSZ12, XCSZ15



Ø: 2 elongated holes Ø 4.7 x 10

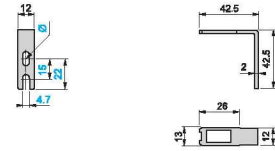
L = 40 mm (XCSZ12) or 29 mm (XCSZ15)

#### XCSZ13



Ø: 2 elongated holes Ø 4.7 x 10

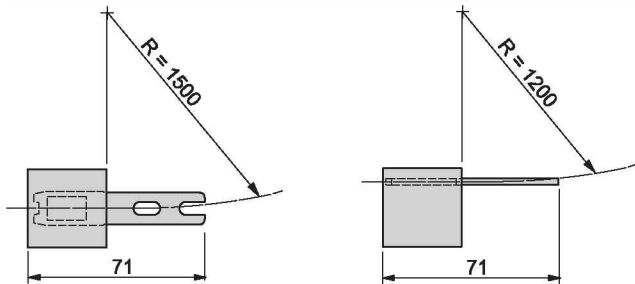
#### XCSZ14



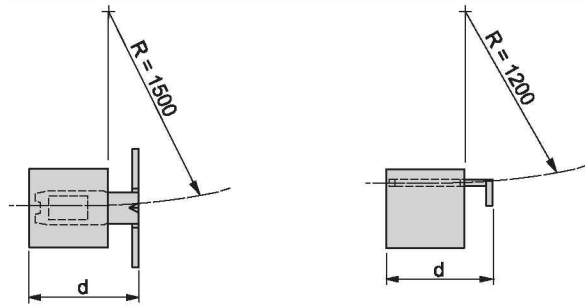
Ø: 1 elongated hole Ø 4.7 x 10

### Operating radius required for actuating key

#### XCSZ11

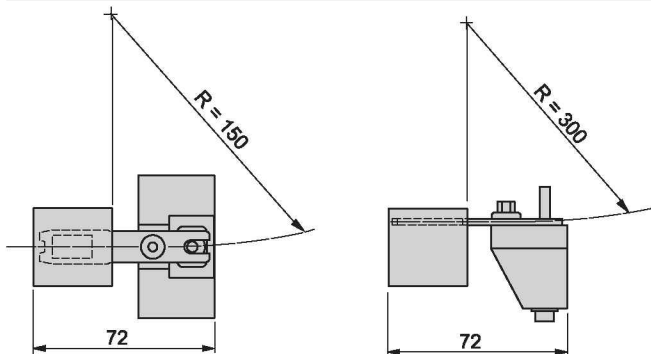


#### XCSZ12, XCSZ15

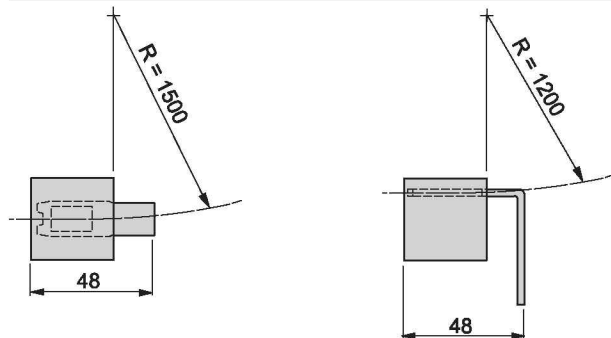


d = 46 mm (XCSZ12) or 35 mm (XCSZ15)

#### XCSZ13



#### XCSZ14



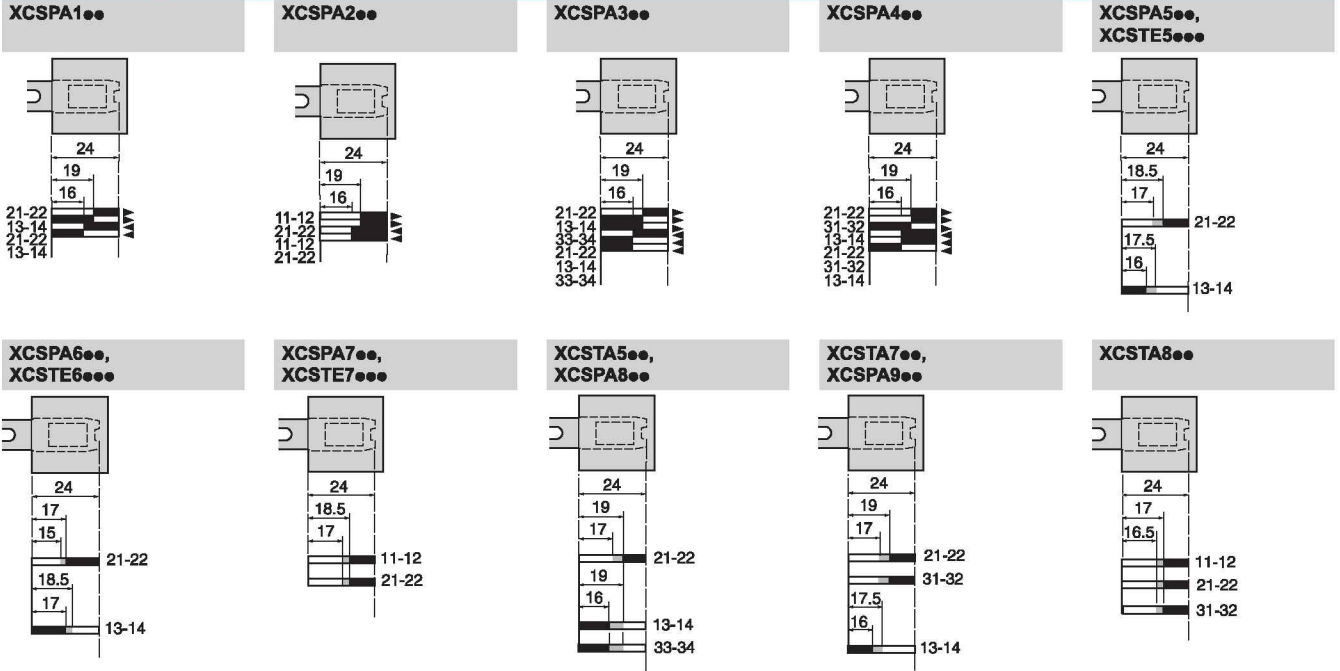
R = minimum radius

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Key-operated safety switches  
XCSPA and XCSTA plastic, turret head  
1 or 2 cable entries

## Setting-up

### Functional diagrams



Contact operation

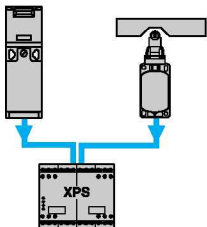
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(The key-operated switch should be used in conjunction with a safety limit switch to give electrical/mechanical redundancy)

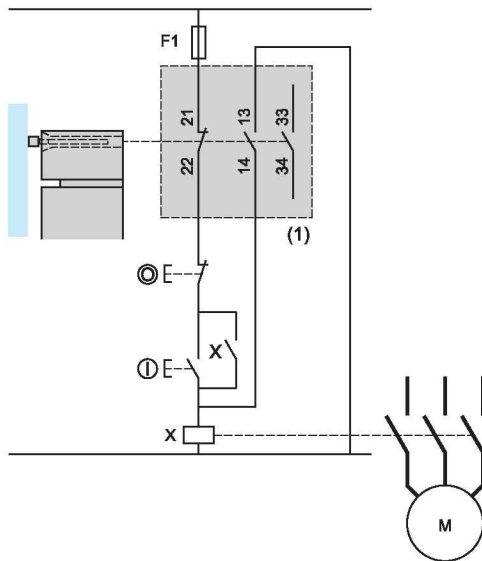
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**Wiring to PL=b, category 1 conforming to EN/ISO 13849-1**

Example with 3-pole 1 NC + 2 NO contact and protection fuse to help prevent shunting of the NC contact, due to either cable damage or tampering.



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

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