

# Limit switches

## XC Special range

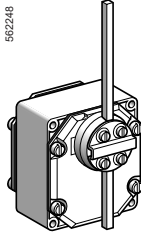
For hoisting and material handling applications, XCR

### ■ XCR

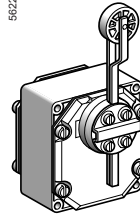
#### □ With head for rotary movement operators, spring return to off position

1 contact actuation position per direction

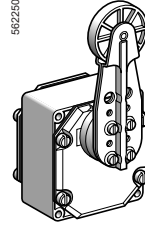
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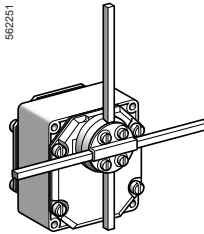


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#### □ With head for rotary movement operators, stay put

1 contact actuation position per direction

562251



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# Limit switches

## XC Special range

For hoisting and material handling applications, XCR, XCKMR and XCKVR

For conveyor belt shift monitoring applications, XCRT

Environment characteristics				
Limit switches		XCR and XCRT	XCKMR (metal)	XCKVR (plastic)
Conformity to standards	Products	EN/IEC 60947-5-1, CSA C22-2 n° 14, CCC	EN/IEC 60947-5-1, CSA C22-2 n° 14, UL 508, CCC	
	Machine assemblies	EN/IEC 60204-1		
Product certifications		XCRA, B, E, F: CE, CSA, UL, CCC, EAC	CE, UL, CSA, CCC, EAC	
Protective treatment	Standard version	"TC"		
Ambient air temperature	For operation	- 25...+ 70 °C	- 25...+ 70 °C	- 25...+ 70 °C
	For storage	- 40...+ 70 °C	- 40...+ 85 °C	- 40...+ 70 °C
Vibration resistance	Conforming to EN/IEC 60068-2-6	9 gn (10...500 Hz)	25 gn (10...500 Hz)	25 gn (10...500 Hz)
Shock resistance	Conforming to EN/IEC 60068-2-27	XCRA, B, E, F: 68 gn, XCRT: 30 gn (18 ms)	50 gn	50 gn
Electric shock protection		Class I conforming to IEC 60536		Class II conforming to IEC 60536
Degree of protection	Conforming to EN/IEC 60529	XCRA, B, E, F: IP 65, XCRT: IP 65	IP 66	IP 65
Degree of protection against mechanical impacts	Conforming to IEC 62262	IK 07	IK 07	IK 04
Materials	Enclosure	Metal (except XCRT315: polyester)	Zamak ZP3	(PBT + PC) - GF 30 FR (Valox)
	Cover	Metal (except XCRT315: polyester)	DC03 steel	(PBT + PC) - GF 30 FR (Valox)
	Head	Metal	Zamak ZP3	(PBT + PC) - GF 30 FR (Valox)
Cable entry		1 tapped entry for Pg 13.5 cable gland	3 tapped entries for Pg 13.5 cable gland or tapped M20 x 1.5	1 tapped entry M20 x 1.5. 2 breakout holes for ISO M20 cable gland
Contact block characteristics				
Rated operational characteristics	Conforming to EN/IEC 60947-5-1 Appendix A	XCRA, B, E, F: ~ AC-15; A300 (Ue = 240 V, Ie = 3 A), Ithe = 10 A --- DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A)  XCRT: ~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A/ Ue = 120 V, Ie = 3 A) --- DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A)	~ AC-15 ; A300 (Ue = 240 V, Ie = 3 A), Ithe = 10 A --- DC-13 ; Q150 (Ue = 125 V, Ie = 0.55 A)	
Rated insulation voltage		Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14		
Rated impulse withstand voltage		U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664		
Positive operation (depending on model)		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Section 3 (except XCRT)	NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Section 3 (contacts 21-22)	
Resistance across terminals		≤ 25 m Ω conforming to NF C 93-050 method A or IEC 60255-7 category 3		
Short-circuit protection		10 A cartridge fuse type gG (gl)		
Connection	Screw clamp terminals	Clamping capacity  XE2N P2151 ou XCRT: min: 1 x 0.5 mm <sup>2</sup> , max: 2 x 2.5 mm <sup>2</sup>  XE2S P2151: min: 1 x 0.34 mm <sup>2</sup> , max: 2 x 1.5 mm <sup>2</sup>	Clamping capacity  min: 1 x 0.5 mm <sup>2</sup> max: 2 x 2.5 mm <sup>2</sup>	
Minimum actuation speed		XE2SP2151 or XCRT: 0.01 m/mn	XE2NP2151 or XCKMR and XCKVR : 6 m/mn	

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## XC Special range

For hoisting and material handling applications, XCR, XCKMR and XCKVR

For conveyor belt shift monitoring applications, XCRT

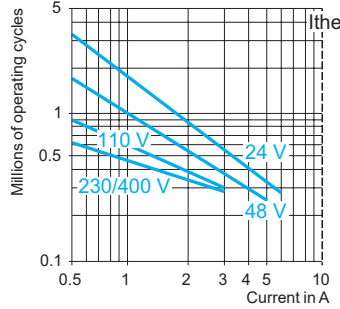
### Contact block characteristics (continued)

**Electrical durability**

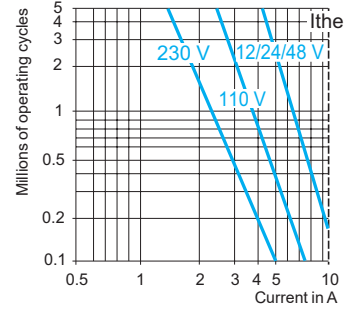
- Conforming to EN/IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply  
~ 50/60 Hz  
~ inductive circuit

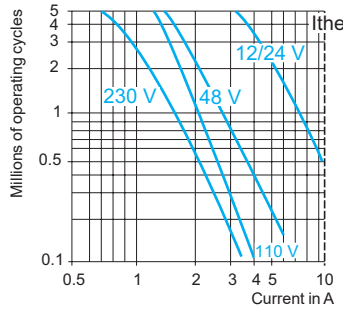
**XE2SP2151**



**XE2NP2151**



**XCRT contacts**



DC supply ---

	Voltage V	24	48	120
Power broken in W for 5 million operating cycles	<b>XE2SP2151</b>	10	7	4
	<b>XE2NP2151</b>	13	9	7
	<b>XCRT contacts</b>	10	7	4

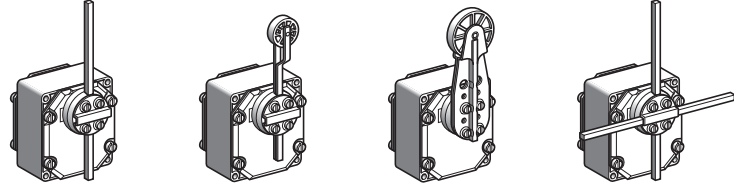
For XE2SP2151 on ~ or --- NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

# Limit switches

## XC Special range

For hoisting and material handling applications, XCR  
Complete switches with 1 cable entry

Type of head	Rotary with spring return to off position	Stay put
Maximum displacement	55° in each direction	90° in each direction



Type of operator	Metal rod, $\varnothing$ 6 mm	Thermoplastic roller lever	Large thermoplastic roller lever	Metal rods, $\varnothing$ 6 mm, crossed rods for XCRE●●8, "T" rods for XCRF●●7
Rod length	1 rod of 200 mm	—	—	XCRE●●: 2 rods of 200 mm XCRF●●: 1 rod of 200 mm and 1 rod of 300 mm

### References of complete switches (⊖ NC contact with positive opening operation)

<b>Two 2-pole NC + NO snap action XE2SP2151</b>  1 <sup>st</sup> contact      2 <sup>nd</sup> contact	Both contacts operate in each direction	<b>X CRA11</b> ⊖ (3) 	<b>X CRA12</b> ⊖ (3) 	<b>X CRA15</b> ⊖ (3) 	<b>X CRE18</b> ⊖ (3) (4) 
	1 contact operates in each direction	<b>X CRB11</b> ⊖ (3) 	<b>X CRB12</b> ⊖ (3) 	<b>X CRB15</b> ⊖ (3) 	<b>X CRF17</b> ⊖ (3) 
<b>Two 2-pole NC + NO break before make, slow break XE2NP2151</b>  1 <sup>st</sup> contact      2 <sup>nd</sup> contact	Both contacts operate in each direction	<b>X CRA51</b> ⊖ (3) 	<b>X CRA52</b> ⊖ (3) 	<b>X CRA55</b> ⊖ (3) 	<b>X CRE58</b> ⊖ (3) (4) 
	1 contact operates in each direction	<b>X CRB51</b> ⊖ (3) 	<b>X CRB52</b> ⊖ (3) 	<b>X CRB55</b> ⊖ (3) 	<b>X CRF57</b> ⊖ (3) 
<b>Weight (kg)</b>	1.110	1.145	1.155	1.135	
<b>Contact operation</b>	■ closed (P) = positive opening point □ open (1) 1 <sup>st</sup> contact (2) 2 <sup>nd</sup> contact				

### Complementary characteristics

<b>Lever maximum actuation speed</b>	1.5 m/s
<b>Mechanical durability</b>	10 million operating cycles
<b>Minimum torque</b>	For tripping: 0.45 N.m For positive opening: 0.75 N.m
<b>Cable entry</b>	1 entry tapped for Pg 13.5 cable gland conforming to NF C 68-300 (DIN Pg 13.5) Clamping capacity 9 to 12 mm

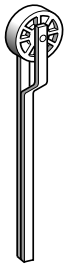
(3) For a limit switch with watertight reinforced seal (IP 65), add 1 to the end of the reference. Example: XCRF17 becomes XCRF171.

(4) The rotation is not limited for XCRE18 and XCRE58.

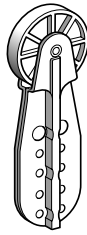
# Limit switches

## XC Special range

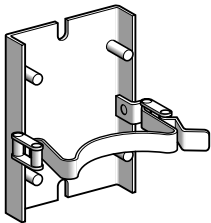
For hoisting and material handling applications, XCR



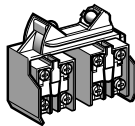
XCRZ02



XCRZ05



XCRZ09



XCRZ11

### Separate components

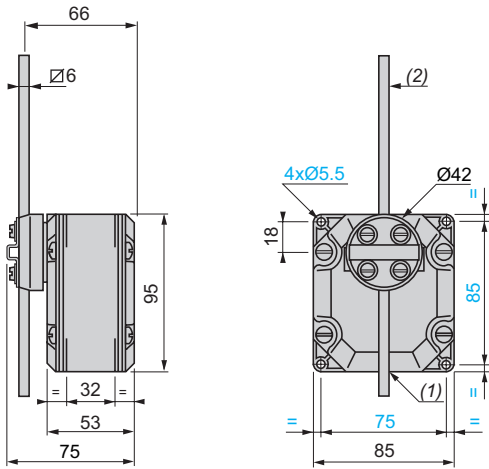
Description	For switches	Type	Reference	Weight kg
Rod, $\varnothing$ 6 mm	XCRA XCRB XCRE XCRF	L = 200 mm	<b>XCRZ03</b>	0.020
	XCRF	L = 300 mm	<b>XCRZ04</b>	0.030
<b>Roller lever</b> thermoplastic roller	XCRA XCRB	–	<b>XCRZ02</b>	0.050
<b>Large roller lever</b> thermoplastic roller	XCRA XCRB	–	<b>XCRZ05</b>	0.090
<b>Quick fixing/ release bracket</b>	XCRA, XCRB XCRE, XCRF	–	<b>XCRZ09</b>	0.520
<b>Contact block (2 contacts) with mounting plate</b>	XCRA, XCRB XCRE, XCRF	2-pole NC + NO snap action	<b>XCRZ12</b>	0.135
		2-pole NC + NO break before make, snap action	<b>XCRZ15</b>	0.135

# Limit switches

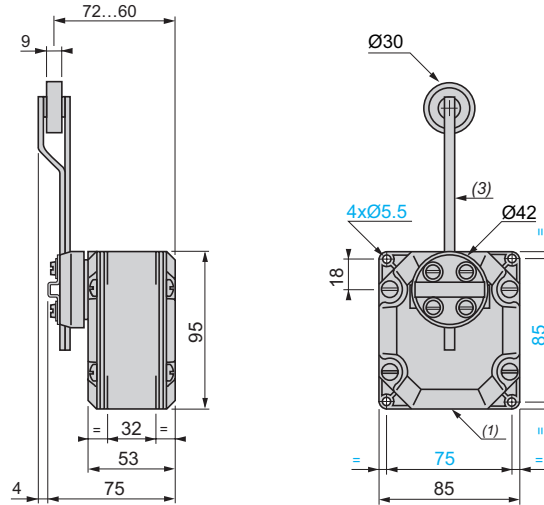
## XC Special range

For hoisting and material handling applications, XCR

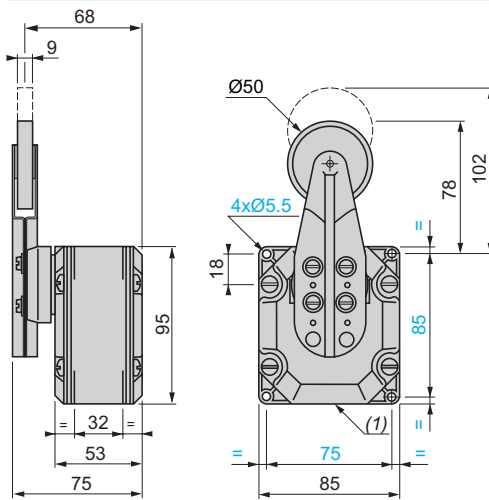
**XCRA11, XCRB11, XCRA51, XCRB51**



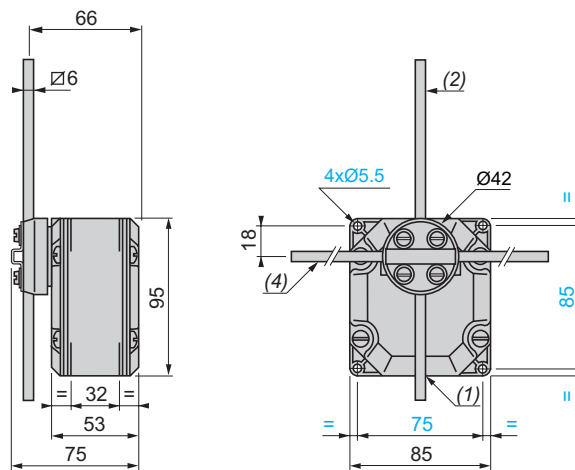
**XCRA12, XCRB12, XCRA52, XCRB52**



**XCRA15, XCRB15, XCRA55, XCRB55**



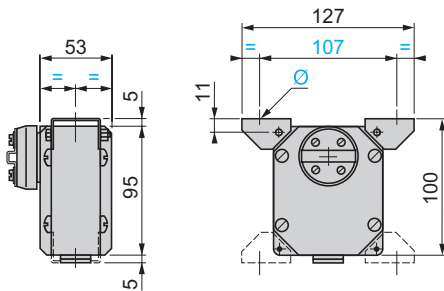
**XCRE18, XCRE58, XCRF17, XCRF57**



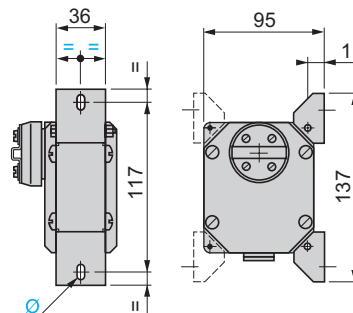
- (1) 1 tapped entry for Pg 13.5 cable gland.
- (2) Rod length: 200 mm.
- (3) Rod + roller length: 160 mm.
- (4) Rod length: 300 mm for XCRF17 and XCRF57, 200 mm for XCRE18 and XCRE58.

**Supplementary fixing using 2 adjustable lugs (included with switch)**

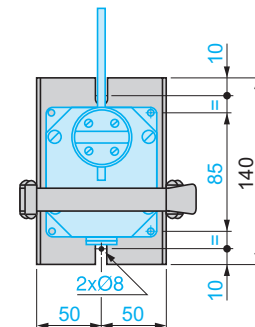
**Horizontally positioned**



**Vertically positioned**



**Quick fixing/release bracket XCRZ09**



Ø: 1 elongated hole Ø 6 x 8.