Limit switches
XC Standard range

Catalogue



Simply easy!™

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Contents

Limit switches
XC Standard range

Selection guide . . . . . ***page 2***

■ **Variable composition:** Simplicity through innovation . . . . . *page 16*

■ General . . . . . *page 18*

XC Standard

■ Miniature design, metal, XCMD

□ Presentation . . . . . *page 26*
□ Pre-cabled . . . . . *page 28*
□ Integral or remote connector . . . . . *page 36*
□ Separate components . . . . . *page 49*

■ Miniature design for mobile equipment, metal, XCMV

□ Presentation . . . . . *page 50*
□ Complete units with connector . . . . . *page 53*
□ Modular units with connector . . . . . *page 56*
□ Pre-cabled modular units . . . . . *page 62*

■ Compact design, plastic, XCKP

□ Presentation . . . . . *page 80*
□ Complete units with 1 cable entry . . . . . *page 82*
□ Integral M12 connector . . . . . *page 86*

■ Compact design, metal, XCKD

□ Presentation . . . . . *page 80*
□ Complete units with 1 cable entry . . . . . *page 88*
□ Integral M12 connector . . . . . *page 92*

■ Compact design, plastic, XCKT

□ Presentation . . . . . *page 80*
□ Complete units with 2 cable entries . . . . . *page 94*

■ Compact design, XCKD, XCKP and XCKT

□ Presentation . . . . . *page 80*
□ Variable composition . . . . . *page 96*
□ Adaptable sub-assemblies: bodies, contacts . . . . . *page 98*

XC Standard, with reset

■ Compact design, plastic, XCPR

□ Presentation . . . . . *page 102*
□ Complete switches with 1 cable entry . . . . . *page 104*

■ Compact design, plastic, XCTR

□ Presentation . . . . . *page 102*
□ Complete switches with 2 cable entries . . . . . *page 106*

XC Basic

■ Miniature design, plastic, XCMH - Presentation . . . . . *page 68*

□ Complete units, pre-cabled . . . . . *page 70*

■ Miniature design, plastic, XCMN - Presentation . . . . . *page 76*

□ Complete units, pre-cabled . . . . . *page 78*

■ Compact design, plastic, XCKN and XCNT - Presentation . . . . . *page 108*

□ Complete units with 1 cable entry . . . . . *page 110*
□ Complete units with 2 cable entries . . . . . *page 112*

■ Compact design, with reset, XCNR - Presentation . . . . . *page 116*

□ Complete units with 1 cable entry . . . . . *page 118*

XC Standard, “Classic” format

■ Metal, XCKM - Presentation . . . . . *page 120*

□ Complete switches with 3 cable entries . . . . . *page 122*

■ Metal, XCKL - Presentation . . . . . *page 120*

□ Complete switches incorporating cable gland . . . . . *page 124*

■ Metal, 2 x 2-pole contacts, XCKML - Presentation . . . . . *page 120*

□ Complete switches with 3 cable entries . . . . . *page 126*

■ Metal, XCKM and XCKL

□ Variable composition . . . . . *page 128*
□ Adaptable sub-assemblies . . . . . *page 130*

XC Standard, EN 50041 format

■ Plastic, double insulated, XCKS - Presentation . . . . . *page 136*

□ Complete switches with 1 cable entry . . . . . *page 138*
□ Variable composition . . . . . *page 142*
□ Adaptable sub-assemblies: bodies, contact blocks . . . . . *page 144*

XC Standard, industrial EN 50041 format

■ Metal, XCKJ - Presentation . . . . . *page 148*

□ Complete switches
- Fixed body with 1 cable entry . . . . . *page 150*
- Fixed body with 1 integral M12 connector . . . . . *page 154*
- Fixed body with 1 integral 7/8”16 UN connector . . . . . *page 156*

□ Variable composition: standard bodies, ixed or plug-in . . . . . *page 158*
□ Adaptable sub-assemblies
- Bodies, contact blocks . . . . . *page 160*
- For low temperature applications (- 40 °C) . . . . . *page 170*
- For high temperature applications (+ 120 °C) . . . . . *page 173*

■ **Product reference index** . . . . . *page 176*

Limit switches
XC Standard range

Design/Applications	Miniature format	Miniature format for mobile equipments	Compact format, CENELEC EN 50047	Compact format, CENELEC EN 50047		Compact format, with reset	
	Metal, pre-cabled	Metal, pre-cabled	Plastic, 1 cable entry	Plastic, 2 cable entries	Metal, 1 cable entry	Plastic, 1 cable entry	Plastic, 2 cable entries
							
Enclosure	Metal	Metal	Plastic, double insulated	Plastic, double insulated	Metal	Plastic, double insulated	
Modularity	Head, body and connection modularity	Head and body modularity	Head, body and cable entry modularity	Head and body modularity	Head, body and connection modularity	–	
Conformity/Certifications	CE, UL, CSA, CCC, EAC	CE, UL, CSA	CENELEC EN 50047 UL, CSA, CCC, EAC	CENELEC EN 50047, UL, CSA, CCC, EAC		CE, UL, CSA, EAC	
Body dimensions (w x h x d) in mm	30 x 50 x 16	30 x 50 x 20.5	31 x 65 x 30	58 x 51 x 30	31 x 65 x 30	31 x 65 x 30	58 x 51 x 30
Head	Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional Same heads for ranges XCMD, XCMV, XCKD, XCKP and XCKT			Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional Same heads for ranges XCMD, XCMV, XCKD, XCKP and XCKT		Linear movement (plunger) Rotary movement (lever)	
Contact blocks							
2 electrically separate contacts – snap action with positive opening operation	●	●	●	●	●	●	●
2 electrically separate contacts – slow break with positive opening operation	●	●	●	●	●	●	●
2 same polarity contacts – snap action	–	–	–	–	–	–	–
2 same polarity contacts – slow break	–	–	–	–	–	–	–
3 electrically separate contacts – snap action with positive opening operation	●	–	●	●	●	–	–
3 electrically separate contacts – slow break with positive opening operation	●	–	●	●	●	–	–
4 electrically separate contacts – snap action with positive opening operation	●	–	–	–	–	–	–
4 electrically separate contacts – slow break with positive opening operation	–	–	–	–	–	–	–
4 contacts (2 x 2 same polarity contacts) – snap action	–	●	–	–	–	–	–
Degree of protection IP/IK	IP 66, IP 67, IP 68, IK 06	IP 66, IP 67, IP 69, IK 04, IK 06 depending on model	IP 66, IP 67, IK 04,	IP 66, IP 67, IK 04	IP 66, IP 67, IK 06	IP 66, IP 67, IK 04	
Operating temperature	- 25 °C... + 70 °C, -40°C depending on heads			- 25 °C... + 70 °C			
Raccordement – **Screw terminals**	–	–	1 entry for ISO M16 or M20, Pg 11, Pg 13.5 cable gland or 1/2" NPT, PF 1/2	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)	1 entry for ISO M16 or M20, Pg 11, Pg 13.5 cable gland or 1/2" NPT, PF 1/2	1 entry for ISO M20 or Pg 13.5 cable gland or 1/2" NPT	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)
Raccordement – **Pre-cabled**	Ø 7.5 PvR, CEI, halogen free, depending on model	Ø 6,4 PvR	–	–			
Raccordement – **Connector**	Integral or remote M12 or remote 7/8"-16UN	M12, Deutsch DT04-4P or AMP Superseal 1.5	M12	–	M12	–	
Type reference	**XCMD**	**XCMV**	**XCKP**	**XCKT**	**XCKD**	**XCPR**	**XCTR**
Pages	28	50	82 and 86	94	88 and 92	104	106

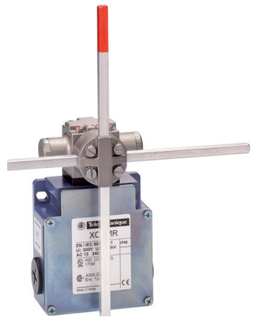
Limit switches
XC Standard range

Design		"Classic" format		Industrial EN 50041 format	
		Metal, 3 cable entries	Metal, 1 cable entry	Plastic, 1 cable entry	Metal, 1 cable entry or connector
					
Enclosure		Metal		Plastic, double insulated	Metal
Modularity		Head, body and operator modularity			
Conformity/Certifications		CE, UL, CSA, CCC, EAC	CE, UL, CSA, EAC	CENELEC EN 50041 UL, CSA, CCC, EAC	
Body dimensions (w x h x d) in mm		63 x 64 x 30	52 x 72 x 30	40 x 72.5 x 36	40 x 77 x 44 42.5 x 84 x 36
Head		Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional			
Contact blocks					
2 electrically separate contacts	snap action with positive opening operation	•	•	•	•
	slow break with positive opening operation	•	•	•	•
2 same polarity contacts	snap action	–	–	–	•
	slow break	–	–	–	–
3 electrically separate contacts	snap action with positive opening operation	•	•	•	•
	slow break with positive opening operation	•	•	•	•
4 electrically separate contacts	snap action with positive opening operation	–	–	–	–
	slow break with positive opening operation	–	–	–	–
4 contacts (2 x 2 same polarity contacts)	snap action	–	–	•	•
Degree of protection IP/IK		IP 66, IK 06		IP 65, IK 03	IP 66, IK 07
Operating temperature		- 25°C... + 70°C			- 25°C... + 70°C - 40°C or + 120°C depending on model
Connection	**Screw terminals (entry for cable gland)**	3 entries for ISO M20, Pg 11 cable gland or 1/2" NPT	1 entry incorporating cable gland or tapped 1/2" NPT	1 entry for ISO M20, Pg 13.5 cable gland or 1/2" NPT	1 entry for ISO M20, Pg 13.5 cable gland or 1/2" NPT
	Pre-cabled	–			
	Connector	–			Integral M12 or 7/8"-16UN
Type reference		**XCKM**	**XCKL**	**XCKS**	**XCKJ**
Pages		120	120	136	148

Limit switches
XC Basic range

Miniature format		Compact format EN 50047		Compact format, with reset knob
Plastic, pre-cabled		Plastic, 1 cable entry	Plastic, 2 cable entries	Plastic, 1 cable entry
				
Plastic, double insulated				
–				
CE, cULus, CCC	CE, UL, CSA, CCC, EAC	CENELEC EN 50047, UL, CSA, CCC, EAC		CE, UL, CSA, CCC, EAC
30 x 50 x 16	30 x 50 x 16	31 x 65 x 30	59 x 51 x 30	31 x 65 x 30
Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional				
•	•	•	•	•
–	–	•	•	•
•	–	–	–	–
–	–	–	•	–
–	–	•	–	•
–	–	•	–	•
–	–	–	–	
–	–	–	–	
–	–	–	–	
IP 66, IP 67, IK 04	IP 65, IK 04			
- 25 °C... + 70 °C				
–	–	1 entry for ISO M20 or Pg 11 cable gland Other cable entries: ISO M16 x 1.5 or PF 1/2 (G1/2)	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)	1 entry for ISO M20 or Pg 11 cable gland Other cable entries: ISO M16 x 1.5 or PF 1/2 (G1/2)
Ø 4.2 mm PvR, lateral or axial cable output, depending on model	Ø 7.5 PvR, CEI, halogen free, depending on model	–		
XCMH	**XCMN**	**XCKN**	**XCNT**	**XCNR**
68	78	110	112	118

Limit switches
XC Special range

Design/Applications	**Very severe applications**	**For hoisting and material handling applications (XCR); for conveyor belt shift monitoring (XCRT)**	**For hoisting and material handling applications**	**Subminiature format and microswitch. Applications requiring high precision and a low operating force**
	Metal, 1 cable entry	**Metal or polyester, 1 cable entry**	**Metal or plastic, 3 cable entries**	**Plastic, pre-cabled**
				
Enclosure	Metal	Metal or polyester	Metal or plastic	Polyester
Modularity	Head and body modularity	–	–	–
Conformity/Certifications	CE, UL, CSA, EAC	CE, CSA (XCR) CCC (XCR), EAC	CE, UL, CSA, CCC, EAC	CE, UL
Body dimensions (w x h x d) in mm	40 x 81 x 41	85 x 95 x 75	118 x 77 x 59 (metal) 118 x 77 x 67 (plastic)	Depending on model
Head	Linear movement (plunger) or rotary movement (lever)	Rotary movement (lever)	Rotary movement (lever)	–
Contact blocks				
2 electrically separate contacts				
snap action with positive opening operation	–	–	–	–
slow break with positive opening operation	–	–	–	–
2 same polarity contacts				
snap action	●	–	–	●
slow break	–	–	–	–
3 electrically separate contacts				
snap action with positive opening operation	–	–	–	–
slow break with positive opening operation	–	–	–	–
4 electrically separate contacts				
snap action with positive opening operation	–	●		–
slow break with positive opening operation	–	●	●	–
4 contacts (2 x 2 same polarity contacts), snap action	●	●	–	–
Degree of protection IP/IK	IP 65, IK 08	IP 54, IK 07 or IP 65, depending on model	IP 66, IK 07 (metal) IP 65, IK 04 (plastic)	IP 67 or IP 40 depending on model IP 00 (tags)
Operating temperature	- 25°C... + 70°C; - 40° C or + 120° C (XC2J depending on model)			
Connection				
Screw terminals (entry for cable gland)	1 entry with integral cable gland	1 tapped entry for Pg 13.5 cable gland	3 tapped entries for Pg 13.5 cable gland or tapped M20 x 1.5, depending on model	Tag connections or pre-wired, depending on model
Pre-cabled	–			
Connector	–			
Type reference	**XC2J**	**XCR XCRT**	**XCKMR XCKVR**	**XEP**
Pages	Please refer to our catalogue "Limit switches XC Special".			

Safety detection solutions
XCS safety switches

Switch type		XCS safety limit switches		
Applications		**Protection of operators by stopping the machine when the gate is opened. All machines with quick rundown time.**		
Design		**Miniature format**	**Compact format**	
		Pre-cabled	**With 1 cable entry**	
				
Case		Metal	Plastic	Metal
Features		–		
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14		
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119		
Product certifications		UL, CSA, CCC, EAC		
Dimensions (w x h x d) in mm	Switch	30 x 50 x 16	31 x 34 x 89	
	Fixings Centers	20	20/22	
Head		Plunger or rotary head Head adjustable in 15° steps through 360° Linear (plunger) or rotary (lever) actuation.		
Contact blocks		NC contacts with positive opening operation		
		2 NC + 1 NO break before make, slow break 2 NC + 1 NO and 2 NC + 2 NO snap action	XCSD: 2 NC + 1 NO break before make, slow break or snap action XCSP: 2 NC + 1 NO snap action	
Degree of protection		IP 66, IP 67 and IP 68	IP 66 and IP 67	
Ambient air temperature	For operation	-25…+70 °C		
Connection	Screw terminals (cable entry via cable gland)	–	Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT	
	Pre-cabled	L = 1, 2 or 5 m	–	
Type reference		**XCSM**	**XCSP**	**XCSD**
Pages		Please refer to our catalogue “Safety switches XCS range”.		

XCS lever or spindle-operated safety switches		
Protection of operators by stopping the machine when the operating lever (attached to hinged machine guard) is displaced by 5°. All light industrial machines fitted with hinged or rotary protective covers with small opening radius.	**Protection of operators by stopping the machine when the guard hinge rotates through 5°. All light industrial machines fitted with hinged access doors.**	
Compact format		
With 1 or 2 cable entries		
		
Plastic, double insulated		
2 types of lever: straight or elbowed (flush with rear of switch) 3 lever positions: to left, center or to right	2 types of spindle: length 30 mm or 80 mm	
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no.14, JIS C4520		
EN/IEC 60204-1, EN/ISO 14119		
UL, CSA, CCC, EAC		
30 x 87.5 x 30	30 x 96 x 30	52 x 117 x 30
20/22	20/22	20/22 or 40.3
Turret head: 4 positions Rotary actuation (lever)	Turret head: 4 positions Rotary actuation (spindle)	
Slow break safety contacts with positive opening operation NC contacts open when lever or spindle displaced by more than 5°		
1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC
IP 67		
-25…+70 °C		
1 tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT	1 tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT	2 tapped entries for Pg 11, ISO M16 cable gland or tapped 1/2" NPT
–	–	–
XCSPL	**XCSPR**	**XCSTR**
Please refer to our catalogue “Safety switches XCS range”.		

Safety detection solutions
XCS safety switches

Switch type				
Applications		**XCS key-operated safety switches** **Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch.** **All light industrial machines with quick rundown time** *(1)*.		
Design		**Miniature format**	**Compact format**	
		Pre-cabled	**With 1 or 2 cable entries**	
				
Case		Plastic		
Features		Without locking of actuating key.	Without locking of actuating key. Optional accessory: guard retaining device.	
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14		
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119		
Product certifications		cULus	UL, CSA, CCC, EAC	
Dimensions (w x h x d) in mm	Switch	30 x 87 x 15	30 x 93.5 x 30	52 x 114.5 x 30
	Fixings	Centers: 20/22	Centers: 20/22	Centers: 20/22 or 40.3
Head		Fixed head: 2 positions for insertion of actuating key.	Turret head: 8 positions for insertion of actuating key.	
Contact blocks		Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.		
		1 NC + 1 NO break before make 2 NC 2 NC + 1 NO break before make 3 NC	1 NC + 1 NO slow break contacts, break before make or make before break, or snap action 2 NC slow break or snap action 2 NC + 1 NO slow break contacts, break before make, or snap action 1 NC + 2 NO slow break contacts, break before make, or snap action	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC
Degree of protection		IP 67		
Ambient air temperature	For operation	-25…+70 °C		
Connection	Screw terminals (cable entry via cable gland)	–	Tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT	
	Pre-cabled	L = 2, 5 or 10 m	–	–
Type reference		**XCSMP**	**XCSPA**	**XCSTA**
Pages		Please refer to our catalogue "Safety switches XCS range".		

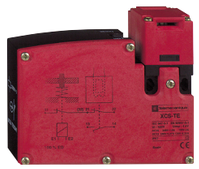
(1) Machine stopping time less than time taken for operator to access hazardous zone.

XCS key-operated safety switches		
All heavy industrial machines with quick rundown time *(1)*		
Industrial format with or without locking		
With 1 cable entry, without locking	**With 1 cable entry and manual locking/unlocking**	
		
Metal		
Without locking of actuating key.	Manual locking and unlocking of actuating key by pushbutton (can be mounted on left or right-hand side of switch head).	Manual locking and unlocking of actuating key by 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 no.14		
EN/IEC 60204-1, EN/ISO 14119		
UL, CSA, CCC, EAC		
40 x 113.5 x 44	52 x 113.5 x 44	
30 x 60	30 x 60	
Turret head: 8 positions for insertion of actuating key.	Turret head: 8 positions for insertion of actuating key.	
Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.	Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.	
1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	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.	
–	–	
XCSA	**XCSB**	**XCSC**
Please refer to our catalogue "Safety switches XCS range".		

Safety detection solutions
XCS safety switches

Switch type			XCS key-operated safety switches, locking and unlocking by solenoid	
Applications			**Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time** *(1)*	
Design			**Slim format**	
			With 3 cable entries	**With 3 cable entries**
				
Case			Plastic	Metal
Features			Locking and unlocking of actuating key using a solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using special tool) of actuating key in abnormal conditions.	Locking and unlocking of actuating key by solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using key lock) of actuating key in abnormal conditions. 1 Emergency release mushroom head pushbutton (only for XCSLF●●●●4●● and XCSLF●●●●6●●).
Conformity to standards	Products		EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14	
	Machine assemblies		EN/IEC 60204-1, EN/ISO 14119	
Product certifications			UL, CSA, CCC, EAC	
Dimensions (w x h x d or Ø) in mm	Switch		51 x 205 x 43.5	
	Fixings	Centers	30 x 153.3	
Head			Turret head: 8 positions for insertion of actuating key.	
Resistance to forcible withdrawal of the actuator	F_{1max}		1400 N	3000 N
	F_{Zh}		1100 N	2300 N
Contact blocks or outputs			Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid. Contact states given with key inserted and solenoid not energized. Slow break and NC positive opening operation	
	Main contacts		1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
	Auxiliary contacts		1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
Degree of protection			IP 66/IP 67	
Ambient air temperature	For operation		-25…+60 °C	
	For storage		-40...+70 °C	
Connection	Terminals		Spring terminals, 3 cable entries. Tapped entry for ISO M20 cable gland or tapped 1/2" NPT.	
	Connector		M23 (18 + 1 PE)	
Type reference			**XCSLE**	**XCSLF**
Pages			Please refer to our catalogue "Safety switches XCS range".	

(1) Machine stopping time greater than time taken for operator to access hazardous zone.

XCS key-operated safety switches, locking and unlocking by solenoid (continued)	
Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time *(1)*	
Rectangular	
–	**With 2 cable entries**
	
Plastic, double insulated	Metal
Locking and unlocking of actuator by solenoid (either on de-energization or on energization). Manual unlocking (auxiliary release using special tool) of actuating key in abnormal conditions.	Locking and unlocking of actuating key by solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using key lock) of actuating key in abnormal conditions.
EN/IEC 60947-5-1, EN/ISO 13849-1, UL 508, CSA C22-2 no. 14, EN/IEC 62061, EN/IEC 60947-1	
EN/IEC 60204-1, EN/ISO 14119	
UL, CSA, CCC, EAC	UL, CSA, CCC, EAC
110 x 93.5 x 33	98 x 146 x 44
30 x 153.3	88 x 95
Turret head: 8 positions for insertion of actuating key	
650 N	2600 N
500 N	2000 N
Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid. Slow break and NC positive opening operation	
1 NC + 1 NO break before make 1 NC + 1 NO make before break 2 NC	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC
1 NC	1 NC + 1 NO 2 NC
IP 67	
-25…+60 °C	-25…+40 °C
-40...+70 °C	-40...+70 °C
Tapped entry for Pg 11 ISO M16 cable gland or tapped 1/2" NPT	Screw clamp terminals. 2 tapped entries for Pg 13.5 ISO M20 cable gland or tapped 1/2" NPT.
–	–
XCSTE	**XCSE**
Please refer to our catalogue "Safety switches XCS range".	

Safety detection solutions
XCS safety switches

Switch type			XCSR contactless RFID safety switches		
Applications			Highly tamper-proof protection of operators by stopping the machine when the gate is opened (transfer lines, assembly lines, automated equipment, machine tools, etc.). All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing, shocks and vibrations. This safety switch is suitable for machine with low inertia.		
Design			Rectangular format		
			M12 connector		
					
Case			Thermoplastic housing (Valox TM)		
Features			Contactless system composed of a microprocessor-controlled switch and a transponder factory-paired with a unique code. Multiposition sensor transponder.		
	Assured operating sensing distance (Sao)		15 mm		
	Assured release distance (Sar)		35 mm		
	Type of switch		Standalone RFID switch	Daisy-chain RFID switch for direct series connection	Single RFID switch for point-to-point connection
	Operating mode		Possible functioning without association with a safety control unit (Integrated External Device Monitoring (EDM) and Start/Restart function)	Functioning in combination with a safety control unit PL=e/Cat4 - SIL 3	
Conformity to standards	Products		EN/IEC 60947-5-2, EN/IEC 60947-5-3, UL 508, CSA C22.2 SIL 3 (IEC 61508), SILCL 3 (IEC 62061), PLe–Cat. 4 (EN ISO 13849-1)		
	Machine assemblies		EN/IEC 60204-1, EN/ISO 14119		
	RFID protocol		Based on ISO 15693		
Product certifications			CE, cULus, TÜV, FCC, EAC, IC, RCM, E2, ECOLAB		
Dimensions (w x h x d or Ø) in mm	Switch		30 x 108.3 x 15	30 x 118.6 x 5	30 x 108.3 x 15
	Transponder		50 x 15 x 15		
	Fixings	Centers	–		
		Reader	74…78		
		Transponder	30…34		
Contact blocks or outputs	Safety output		2 OSSDs (Safety outputs PNP NO). OSSDs are in the ON state when the gate is closed		
			Maximum current 400mA	Maximum current 200 mA	
	Contact states given in presence of magnet		–		
			–		
Degree of protection			–		
	Conforming to EN/IEC 60529		IP 65, IP 66, IP 67		
	Conforming to DIN 40050		IP 69K		
Ambient air temperature	For operation		-25...+70 °C		
	For storage		-40...+85 °C		
Connection	Pre-cabled		–		
	Connector		–		
	Conforming to EN/IEC 60947-5-2-A3 and EN/IEC 61076		1 M12 8-pin connector (A coding)	2 M12 5-pin connector (A coding)	1 M12 5-pin connector (A coding)
Type reference			XCSRC●1●M12	XCSRC●2M12	XCSRC●0M12
Pages			Please refer to our catalogue "Safety switches XCS range".		

XCS safety coded magnetic safety switches for detection without contact		
Protection of operators by stopping the machine when the gate is opened All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing This Safety sensor is suitable for machine with low inertia.		
Miniature rectangular format	Compact rectangular format	Cylindrical format
Pre-cabled or M8 connector on flying lead	Pre-cabled or M12 connector on flying lead	
		
Plastic		
3 approach directions		1 approach direction
5 mm	8 mm	
15 mm	20 mm	
–		
–		
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14		
EN/IEC 60204-1, EN/ISO 14119		
–		
UL, CSA, EAC, ECOLAB		
16 x 51 x 7	25 x 88 x 13	Ø 30, L 38.5
–		
16	78	–
–		
–		
–		
1 NC + 1 NO staggered 2 NC staggered Independent Reed-type contacts operated by coded magnet.	1 NC + 1 NO staggered 2 NC staggered 2 NC + 1 NO (NC staggered) 1 NC + 2 NO (NO staggered)	1 NC + 1 NO staggered 2 NC staggered
To be used with safety control units.		
IP 66 and IP 67 for pre-cabled version, IP 67 for connector on flying lead version		
–		
–		
-25…+85 °C		
–		
L = 2, 5 or 10 m		
M8, on 0.15 m flying lead	M12, on 0.15 m flying lead	
–	–	–
XCSDMC	XCSDMP	XCSDMR
Please refer to our catalogue "Safety switches XCS range".		

Limit switches
XC range
Variable composition: **s**implicity through **i**nnovation

Principle

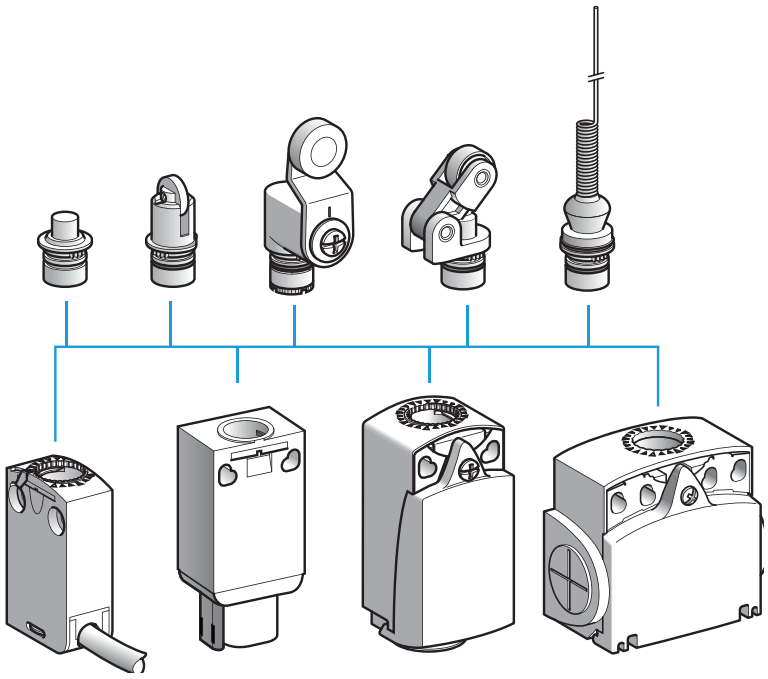
Variable composition principle

■ The Miniature design XCMD and XCMV, and Compact design XCKD, XCKP and XCKT ranges benefit from the variable composition concept.

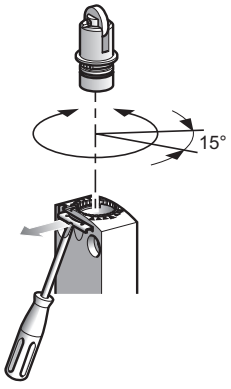
■ A worldwide detection first for improving productivity.
A complete offer for resolving the most commonly encountered detection problems:
- □ product selection simplified,
- □ product availability simplified,
- □ installation and setting-up simplified,
- □ maintenance simplified.

Heads

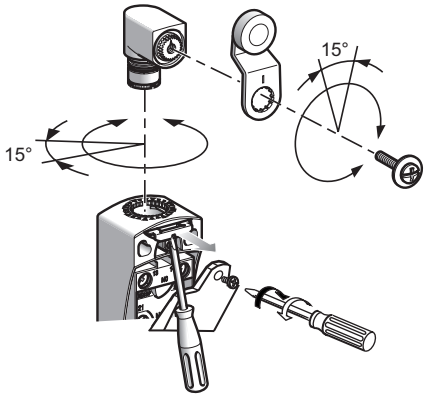
■ A single metal operating head type for the Miniature design XCMD and XCMV, and Compact design XCKD, XCKP and XCKT ranges.



■ Interchanging of heads achieved by simple operation of forked metal latch.
■ Adjustable in 3 planes:



All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.



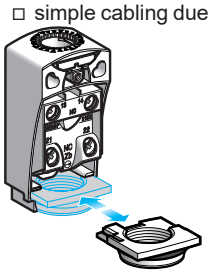
All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

Limit switches
XC range
Variable composition: **s**implicity through **i**nnovation

Principle (continued)

Cable entries

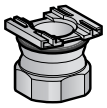
■ The cable entries for Compact design XCKD and XCKP switches enable:
□ simple cabling due to unrestricted access to contacts,



□ simple adaptation to the various worldwide markets:
- 6 models are available:



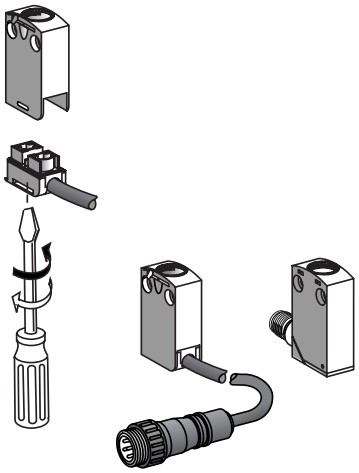
□ ISO M16 x 1.5
□ Pg 11



□ ISO M20 x 1.5
□ Pg 13.5
□ 1/2" NPT
□ PF 1/2 (G 1/2)

Each model is available in metal or plastic, respectively suited to Compact design XCKD and XCKP.

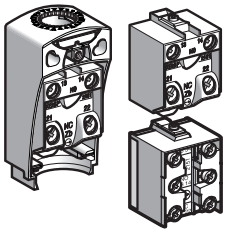
Connection components



■ The miniature XCMD range allows interchanging of these pre-cabled connection components:
□ a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts,
□ 6 alternative cable lengths are available as standard.

■ The miniature XCMD range also includes an integral or remote connector solution.

Contact block or bodies with contact



■ 2 and 3 snap action and slow break contact blocks, with positive opening operation, are interchangeable between the Compact design XCKD and XCKP and Classic XCKJ, XCKS, XCKM and XCKL ranges.



■ For the miniature design XCMD range, the contacts are an integral part of the body:
□ 2 and 3 snap action and slow break contacts, with positive opening operation, and interchangeable connection component,
□ 4 snap action contacts, with positive opening operation, with monolithic body and connection components.

Presentation

Electromechanical detection

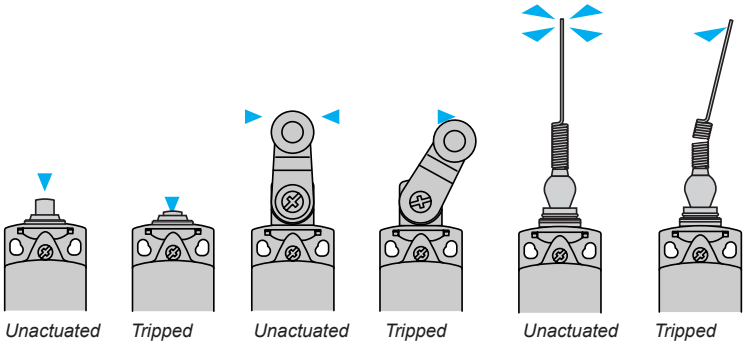
Limit switches are used in all automated installations and also in a wide variety of applications, due to the numerous advantages inherent to their technology.
They transmit data to the logic processing system regarding:
- presence/absence,
- passing,
- positioning,
- end of travel.

Simplicity of installation, advantages

- **From an electrical viewpoint**
- galvanic separation of circuits,
- models suitable for low power switching combined with good electrical durability,
- very good short-circuit withstand in coordination with appropriate fuses,
- total immunity to electromagnetic interference,
- high rated operational voltage.
- **From a mechanical viewpoint**
- NC contacts with positive opening operation,
- high resistance to the different ambient conditions encountered in industry (standard tests and specific tests under laboratory conditions),
- high repeat accuracy, up to 0.01 mm on the tripping points.

Detection movements

■ Linear movement (plunger) ■ Rotary movement (lever) ■ Multi-directional movement



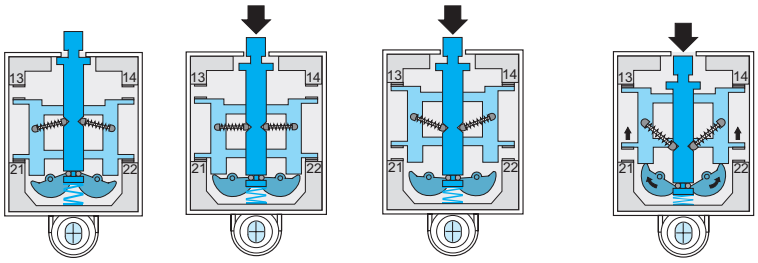
Terminology

Rated value of a quantity	■ This replaces the term “nominal value”. ■ It is the fixed value for a specific function.
Utilisation categories:	■ AC-15 replaces AC-11: control of an electromagnet on AC, test 10 Ie/Ie. ■ AC-12: control of a resistive load on AC or static load isolated by opto-coupler. ■ DC-13 replaces DC-11: control of an electromagnet on DC, test Ie/Ie.
Positive opening travel	■ Minimum travel from the initial movement of contact actuator to the position required to accomplish positive opening operation.
Positive opening force	■ The force required on the contact actuator to accomplish positive opening operation.
Switching capacity	■ Ithe is no longer a rated value but a conventional current used for heating tests. **Example:** for category A300 the corresponding operational current, Ie maximum, is 6 A-120 V or 3 A-240 V, the equivalent Ithe being 10 A.
Positive opening operation	■ A limit switch complies to this specification when all the closed contact elements of the switch can be changed, with certainty, to the open position (no flexible link between the moving contacts and the operator of the switch, to which an actuating force is applied). ■ All limit switches incorporating either a slow break contact block or a snap action NC + NO (form Zb), NC + NO + NO, NC + NC + NO, NC + NC + NO + NO contact block are positive opening operation, in complete conformity with standard IEC 60947-5-1 Appendix K.

Contact blocks

Snap action contacts

- Snap action contacts are characterised by different tripping and reset points (differential travel).
- The displacement speed of the moving contacts is not related to the speed of the operator.
- This feature ensures satisfactory electrical performance in applications involving low speed actuators.

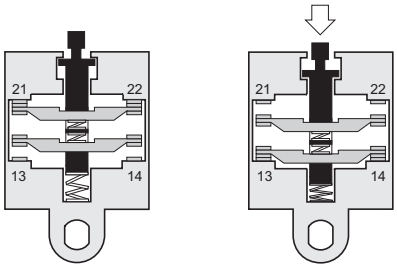


Unactuated state *Approach travel* *Contact change of state* *Positive opening*

Slow break contacts

- Slow break contacts are characterised by identical tripping and resetting points.
- The displacement speed of the moving contacts is equal, or proportional, to the speed of the operator (which must not be less than 0.1 m/s = 6 m/minute).

The opening distance is also dependent on the distance travelled by the operator.



Electrical durability for normal loads

- Normally, for inductive loads, the current value is less than 0.1 A (sealed), i.e. values of 3 to 40 VA sealed and 30 to 1000 VA inrush, depending on the voltage.
  For this type of application the electrical durability will exceed 10 million operating cycles.

Application example: XCKJ161 + LC1D12●●●● (7 VA sealed, 70 VA inrush).
Electrical durability = 10 million operating cycles.

Switching capacity

1 Normal industrial PLC input type 1 (PLC: industrial programmable logic controllers)
2 Normal industrial PLC input type 2
3 Switching capacity conforming to IEC 60947-5-5, utilisation category AC-15, DC-13

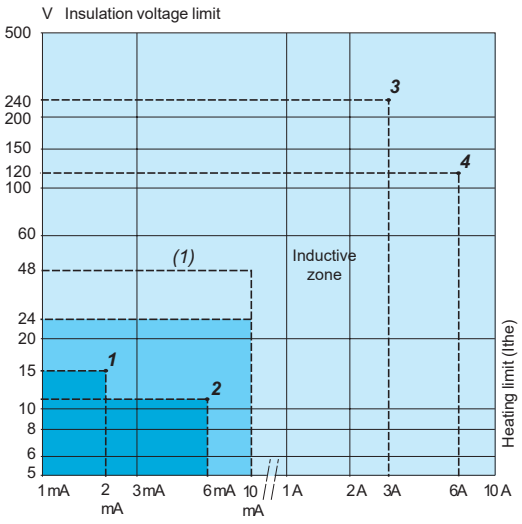
A300	240 V	3 A	B300	240 V	1.5 A
Q300	250 V	0.27 A	R300	250 V	0.13 A

4 Switching capacity conforming to IEC 60947-5-1, utilisation category AC-15, DC-13

A300	120 V	6 A	B300	120 V	3 A
Q300	125 V	0.55 A	R300	125 V	0.27 A

Electrical durability for small loads

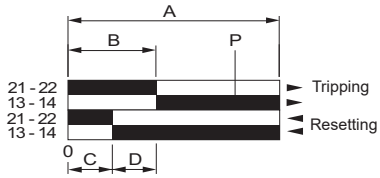
- The use of limit switches with programmable controllers is becoming more common.
- With small loads, limit switches offer the following levels of reliability:
  - failure rate of less than 1 for 100 million operating cycles using snap action contacts (contacts XE2SP),
  - failure rate of less than 1 for 20 million operating cycles using slow break contacts (contacts XE●NP and XE3SP).
  - failure rate of less than 1 for 5 million operating cycles using contacts XCMD.

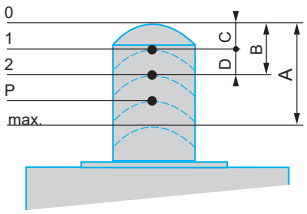


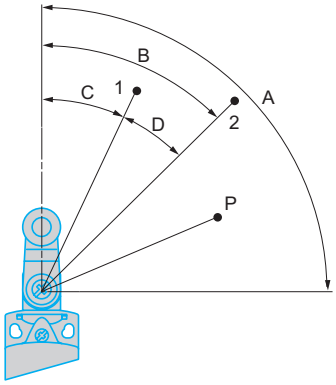
		Range of use
Standard contacts Continuous service (frequent switching)	XE2SP2151, P3151	
	XE2NP●●●●	
	Contacts of XCMD XE3●P●●●●	
Gold flashed contacts on resistive load	Occasional service Infrequent switching, ≤ 1 operating cycle/ day, and/or corrosive atmosphere	(1)

(1) Usable up to 48 V/10 mA.

Contact blocks (continued)







Functional diagrams of snap action contacts

■ **Example: NC + NO**

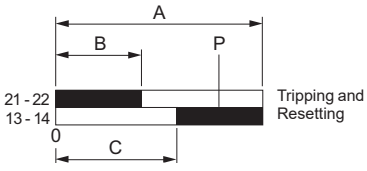
A - Maximum travel of operator in millimetres or degrees.
B - Tripping travel of contact.
C - Resetting travel of contact.
D - Differential travel = B - C.
P - Point from which positive opening is assured.

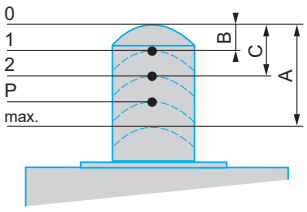
□ Linear movement (plunger)

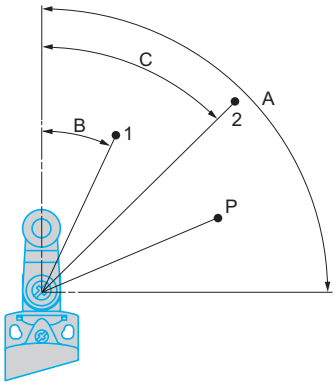
1 - Resetting point of contact.
2 - Tripping point of contact.
A - Maximum travel of operator in millimetres.
B - Tripping travel of contact.
C - Resetting travel of contact.
D - Differential travel = B - C.
P - Point from which positive opening is assured.

□ Rotary movement (lever)

1 - Resetting point of contact.
2 - Tripping point of contact.
A - Maximum travel of operator in degrees.
B - Tripping travel of contact.
C - Resetting travel of contact.
D - Differential travel = B - C.
P - Point from which positive opening is assured.







Functional diagrams of slow break contacts

■ **Example: NC + NO break before make**

A - Maximum travel of operator in millimetres or degrees.
B - Tripping and resetting travel of contact 21-22.
C - Tripping and resetting travel of contact 13-14.
P - Point from which positive opening is assured.

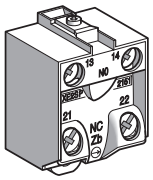
□ Linear movement (plunger)

1 - Tripping and resetting points of contact 21-22.
2 - Tripping and resetting points of contact 13-14.
A - Maximum travel of operator in millimetres.
B - Tripping and resetting travel of contact 21-22.
C - Tripping and resetting travel of contact 13-14.
P - Positive opening point.

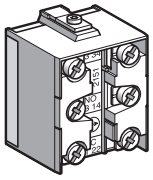
□ Rotary movement (lever)

1 - Tripping and resetting points of contact 21-22.
2 - Tripping and resetting points of contact 13-14.
A - Maximum travel of operator in degrees.
B - Tripping and resetting travel of contact 21-22.
C - Tripping and resetting travel of contact 13-14.
P - Positive opening point.

Contact blocks (continued)



XE2●P screw clamp terminal connections

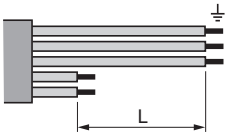


XE3●P screw clamp terminal connections

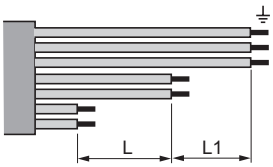
Mounting

Contact connections

- ■ Tightening torque:
  - □ minimum tightening torque ensuring the nominal characteristics of the contact: 0.8 N.m,
  - □ maximum tightening torque without damage to the terminals: 1.2 N.m for **XE2●P**, 1 N.m for **XE3●P**.
- ■ Connecting cable: cable preparation lengths:
  - □ for **XE2●P**, L = 22 mm,
  - □ for **XE2●P3●●●**, L = 45 mm,

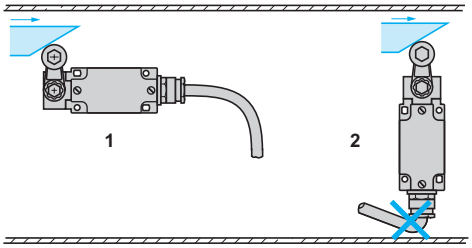


- □ for **XE3●P**, L = 14 mm, L1 = 11 mm.



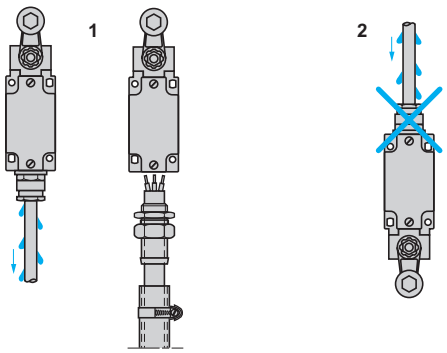
Sweep of connecting cable

1 *Recommended*
2 *To be avoided*



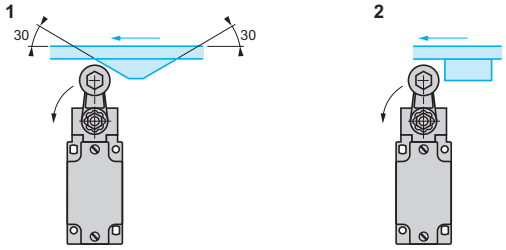
Position of cable gland

1 *Recommended*
2 *To be avoided*



Type of cam

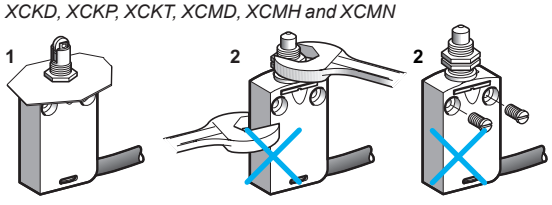
1 *Recommended*
2 *To be avoided*



Mounting and fixing limit switches by the head

1 *Recommended*
2 *Forbidden*

XCKD, XCKP, XCKT, XCMD, XCMH and XCMN



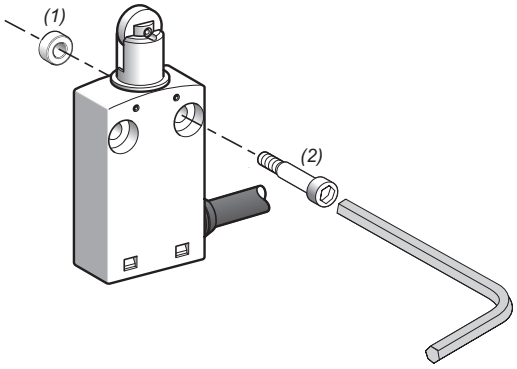
Setting-up

Tightening torque

- The minimum torque is that required to ensure correct operation of the switch.
- The maximum torque is the value which, if exceeded, will damage the switch.

Range	Item	Torque (N.m)		Torque (lb-in)	
		Min.	Max.	Min.	Max.
Compact design XCKD, XCKP, XCKT	Cover	0.8	1.2	*7.08*	*10.62*
	Fixing screw for lever on rotary head	1	1.5	*8.85*	*13.27*
Miniature design XCMD, XCMH, XCMN, XCMV	Fixing screw for the product	1	1.5	*8.85*	*13.27*
	Fixing screw for lever on rotary head	1	1.5	*8.85*	*13.27*
Compact design XCKN	Cover	0.8	1.2	*7.08*	*10.62*
	Fixing screw for lever on rotary head	1	1.5	*8.85*	*13.27*
Classic design XCKJ	Cover	1	1.5	*8.85*	*13.27*
	Fixing nut for lever on rotary head	1	1.5	*8.85*	*13.27*
Classic design XCKS	Cover	0.8	1.2	*7.08*	*10.62*
	Fixing nut for lever on rotary head ZCKD	1	1.5	*8.85*	*13.27*
	Fixing nut for lever on rotary head XCKS	0.8	1.2	*7.08*	*10.62*
	Fixing head on body	0.8	1.2	*7.08*	*10.62*
Classic design XCKM, XCKML, XCKL	Cover	0.8	1.2	*7.08*	*10.62*
	Fixing nut for lever on rotary head	1	1.5	*8.85*	*13.27*

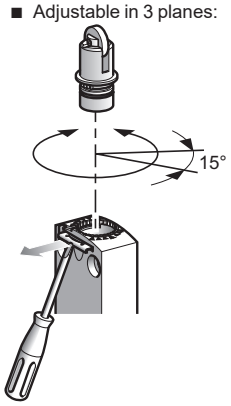
XCMH, XCMN



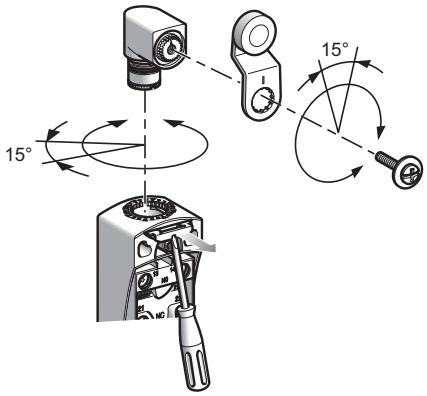
(1) 2 spacers supplied with the switch.
(2) 2 screws Ø 4mm (not included).

XCKD, XCKP, XCKT, XCMD, XCMV

- Adjustable in 3 planes:



All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

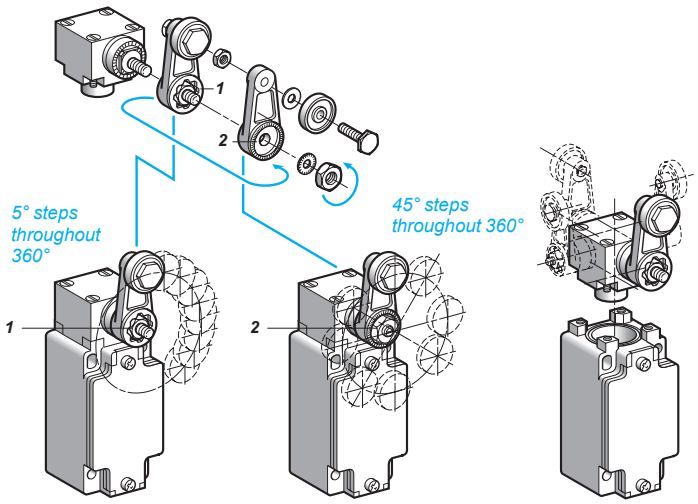


All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

XCKJ

- Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.

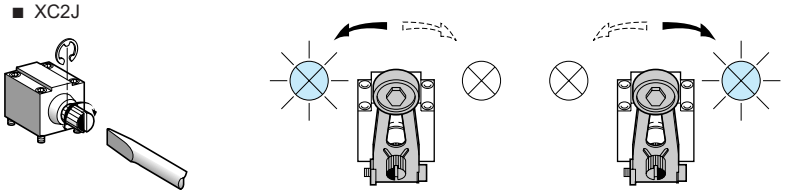
1 *Reversed* α = *5°*
2 *Forward* α = *45°*



Setting-up (continued)

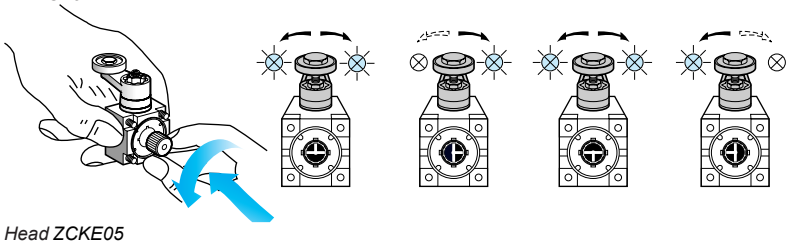
Direction of actuation programming

■ XC2J



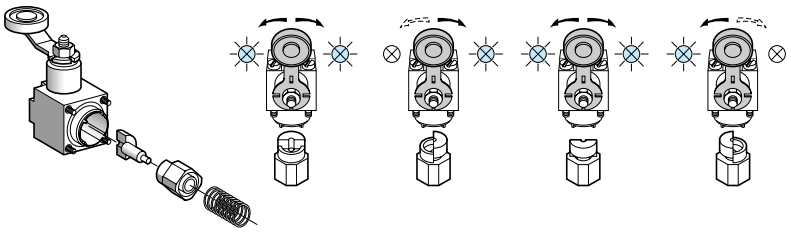
Head ZC2JE05

■ XCKJ



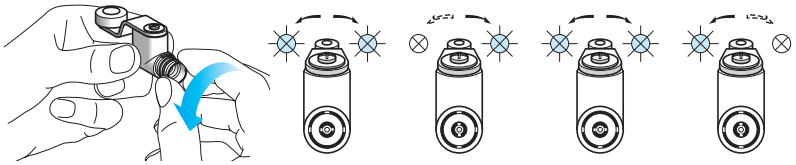
Head ZCKE05

■ XCKS



Head ZCKD05

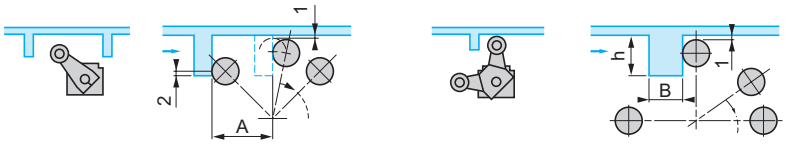
■ XCKD, XCKP, XCKT and XCMD



Head ZCE05

Specific cams for heads ZCKE09 and ZC2JE09

1 *0.5 mm min.*
2 *2 mm min.*



A = length of lever + 11 mm
ZCKE09*: 13 < h < 18 mm and B = 12 mm max.*
ZC2JE09*: 14 < h < 24 mm and B = 6 mm max.*

Reminder of the standards

The majority of Telemecanique Sensors products comply to national standards (for example French NF C standards, German DIN standards), European standards (for example CENELEC) or international standards (for example IEC). These standards rigidly stipulate the characteristic requirements of the designated products (for example IEC 60947 relating to low voltage switchgear and control gear).
These products, when correctly used, enable the production of control equipment assemblies, machine control equipment or installations conforming to their own specific standards (for example IEC 60204 for the electrical equipment of industrial machines).

IEC 60947-5-1

Insulation coordination (and dielectric strength)	■ The standard IEC 60664 defines 4 categories of prospective transient overvoltages. It is important for the user to select control circuit components which are able to withstand these overvoltages. To these ends, the manufacturer states the rated impulse withstand voltage (U imp) applicable to the product.
Terminal connections	■ The cabling capacity, mechanical robustness and durability of the terminals, as well as the ability to resist loosening, are verified by standardised tests. ■ Terminal reference marking conforms to standard IEC 60947-5-1 Appendix M .
Switching capacity	■ With maximum electrical load. A single designation (A300 for example) enables indication of the contact block characteristics related to its utilisation category.
Positive opening operation (IEC 60947-5-1 Appendix K)	■ For contacts used in safety applications (end of travel, emergency stop device, etc.) the assurance of positive opening is required (see IEC 60204, EN 60204) after each test, the opening of the contact being verified by testing with an impulse voltage (2500 V).
Electrical symbols for contacts	 ■ Form Za, the 2 contacts (NO + NC) are the same polarity.  ■ Form Zb, the 2 contacts (NO + NC) are electrically separate.
Symbol for positive opening	 ■ Simplified version  ■ Complete symbol

CENELEC EN 50047

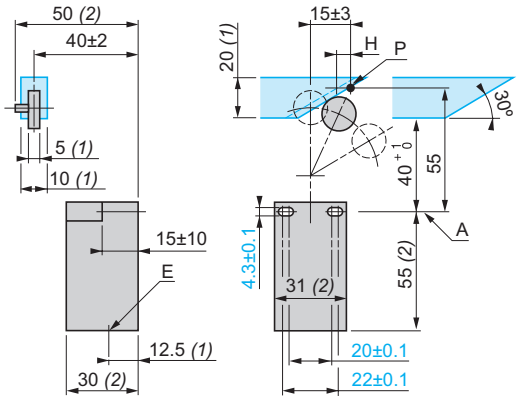
The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the first type of limit switch.

It defines 4 variants of devices (forms A, B, C, E).
Limit switches XCKP, XCKD and XCKT conform to standard EN 50047.

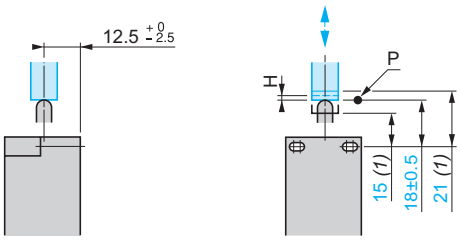
(1) Minimum value
(2) Maximum value

A: reference axis
H: differential travel
P: tripping point
E: cable entry

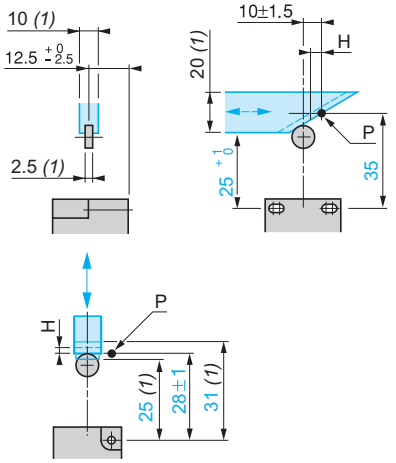
Form A, with roller lever



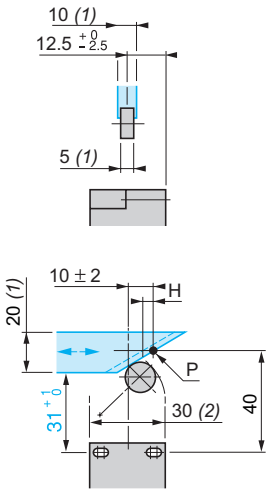
Form B, with end plunger (rounded)



Form C, with end roller plunger



Form E, with roller lever for 1 direction of actuation



Reminder of the standards (continued)

CENELEC EN 50041

The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the second type of limit switch.

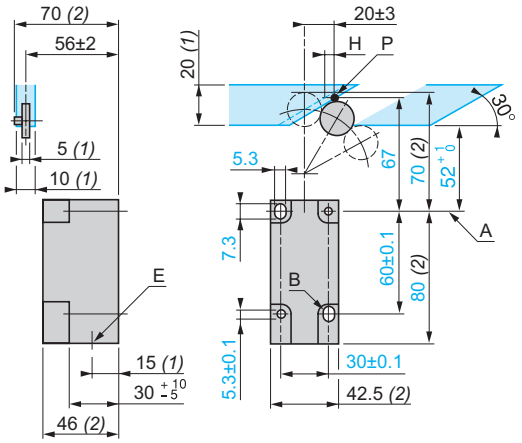
It defines 6 variants of devices (forms A, B, C, D, F, G). Limit switches XCKJ and XCKS conform to standard EN 50041.

(1) Minimum value
(2) Maximum value

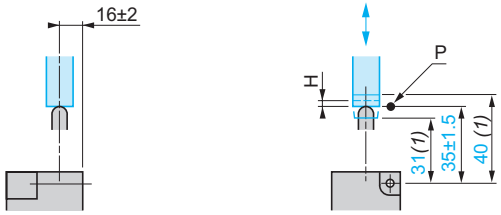
A: reference axis
B: optional elongated holes
H: differential travel
P: tripping point
E: cable entry

Za: tripping zone
Sa: tripping threshold

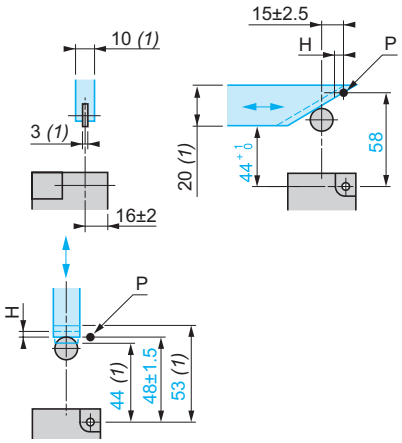
Form A, with roller lever



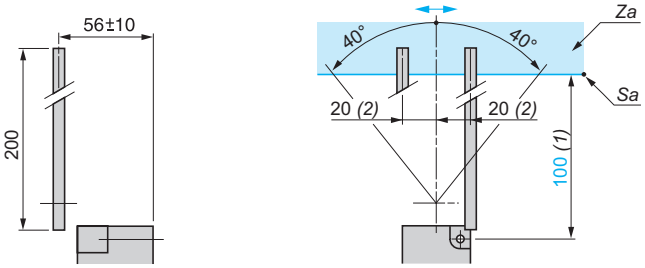
Form B, with end plunger (rounded)



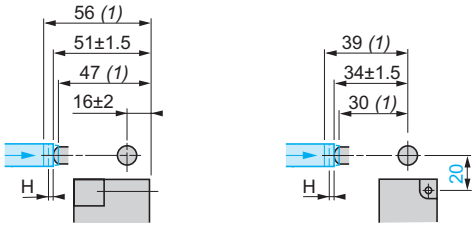
Form C, with end roller plunger



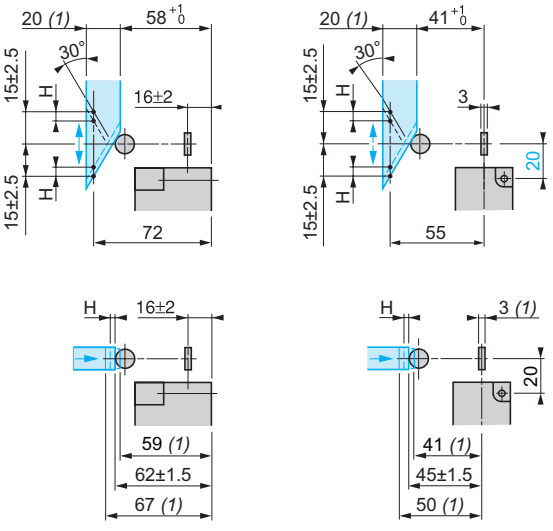
Form D, with rod lever



Form F, with side plunger (rounded)



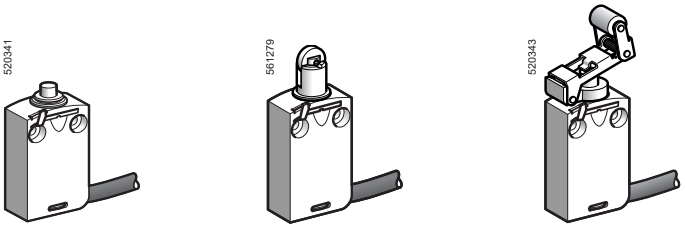
Form G, with side roller plunger



Limit switches
XC Standard range
Miniature design, metal, XCMD

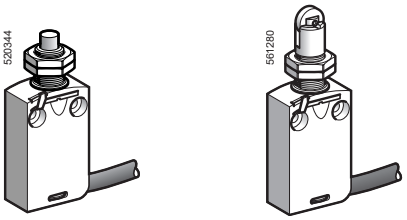
■ XCMD
pre-cabled

□ With head for linear movement (plunger). Fixing by the body



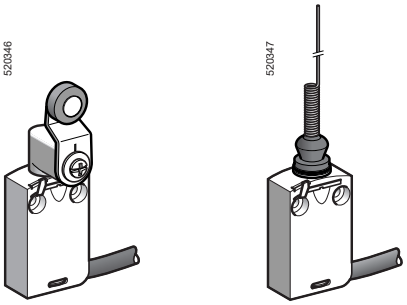
Complete switches: page 28. Variable composition: page 30

□ With head for linear movement (plunger). Fixing by the head



Complete switches: page 28. Variable composition: page 30

□ With head for rotary movement (lever) or multi-directional. Fixing by the body

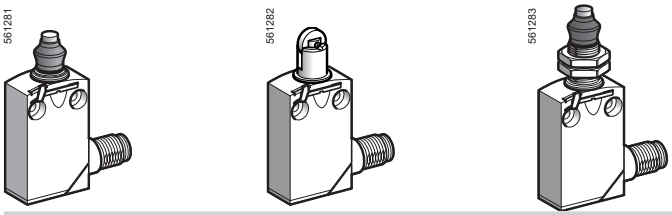


Complete switches: page 29. Variable composition: page 31

■ XCMD
with connector

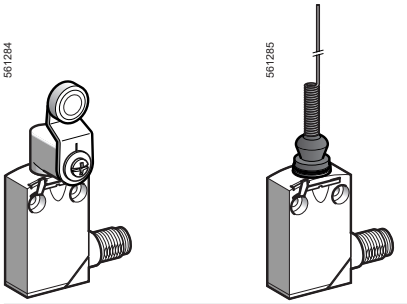
□ With head for linear movement (plunger)

Fixing by the body | **Fixing by the head**



Complete switches: page 36. Variable composition: page 38

□ With head for rotary movement (lever) or multi-directional. Fixing by the body



Complete switches: page 37. Variable composition: page 39

Limit switches
XC Standard range
Miniature design, metal, XCMD

Environment characteristics

Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA (except products with special cables), CCC
Protective treatment		Standard version: "TC"
Ambient air temperature	For operation	- 25…+ 70°C (- 40…+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40…+ 70°C
Vibration resistance		XCMD snap action: 5 gn. XCMD slow break: 25 gn (10…500 Hz) conforming to IEC 60068-2-6
Shock resistance		25 gn (18 ms) conforming to IEC 60068-2-27 except head ZCE08: 15 gn (18 ms)
Electric shock protection		Class I conforming to IEC 61140 and NF C 20-030
Degree of protection		**IP 66, IP 67 and IP 68** *(1)* **conforming to IEC 60529; IK 06 conforming to IEC 62262**
Materials		Bodies: Zamak, heads: Zamak
Repeat accuracy		0.05 mm on the tripping points, with 1 million operations for head with end plunger

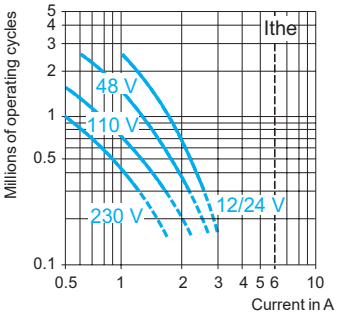
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Contact block characteristics

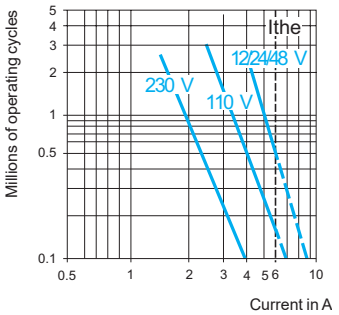
Rated operational characteristics	Switches with 2 contacts	**~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A)** **⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1**
	Switches with 3 and 4 contacts	**~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A)** **⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1**
	Pre-cabled switches	**Ithe = 6 A for 2 contacts, 4 A for 3 contacts, 3 A for 4 contacts**
	Switches with M12, 4-pin connector	Ui = 250 V, Ie = 3 A maximum, Ithe = 3 A
	Switches with M12, 5-pin connector	Ui = 60 V, Ie = 4 A maximum, Ithe = 4 A
	Switches with 7/8"-16UN, 5-pin connector	Ui = 250 V, Ie = 6 A maximum, Ithe = 6 A
Rated insulation voltage		Ui = 400 V degree of pollution 3 conforming to IEC 60947-5-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage		U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection		6 A cartridge fuse type gG (gI)
Minimum actuation speed (for head with end plunger)		Snap action contact: 0.01 m/minute, slow break contact: 6 m/minute
Electrical durability		■ Conforming to 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

XCMD snap action (NC + NO, NC + NC, NC + NC + NO, NC + NC + NO + NO contacts)



XCMD slow break (NC + NO, NC + NC + NO contacts)



DC supply ⎓

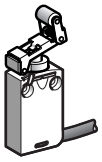
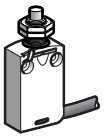
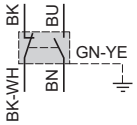
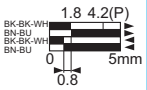
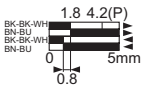
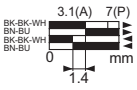
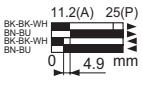
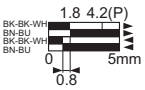
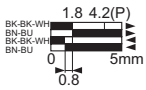
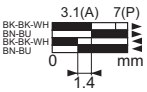
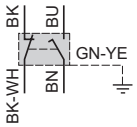
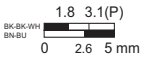
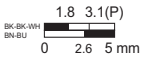
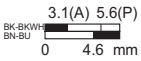
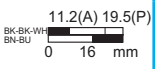
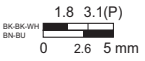
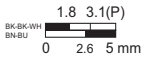
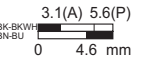
Power broken in W for 5 million operating cycles

Voltage	V	24	48	120
⎓	W	3	2	1

Power broken in W for 5 million operating cycles

Voltage	V	24	48	120
⎓	W	4	3	3

Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Pre-cabled

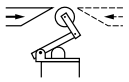
Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	M12 with steel roller plunger
References							
2-pole NC + NO snap action 	**XCMD2110L1** 	**XCMD2111L1** 	**XCMD2102L1** 	**XCMD2124L1** 	**XCMD21F0L1** 	**XCMD21G1L1** 	**XCMD21F2L1** 
2-pole NC + NO break before make, slow break 	**XCMD2510L1** 	**XCMD2511L1** 	**XCMD2502L1** 	**XCMD2524L1** 	**XCMD25F0L1** 	**XCMD25G1L1** 	**XCMD25F2L1** 
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205

Contact operation
- *closed*
- *open*

(A) = cam displacement
(P) = positive opening point

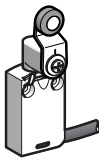
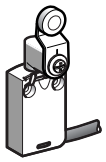
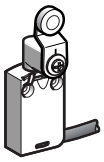
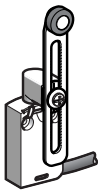
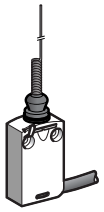
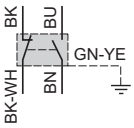
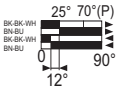
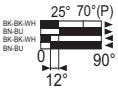
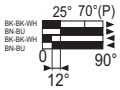
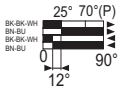
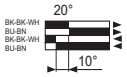
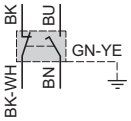
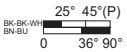
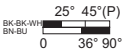
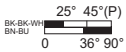
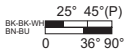
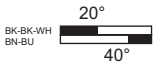
⊖ *NC contact with positive opening operation*

Complementary characteristics not shown under general characteristics (see page 27)

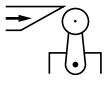
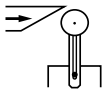
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1 m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		PvR cable, 5 x 0.75 mm², length 1 m				

(1) Nitrile for indoor use

Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Pre-cabled

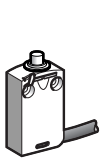
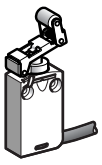
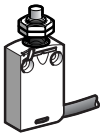
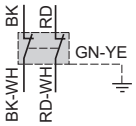
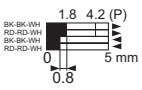
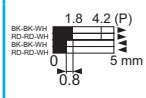
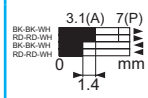
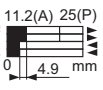
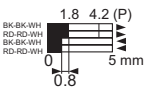
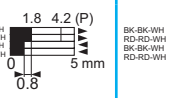
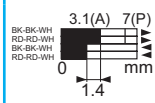
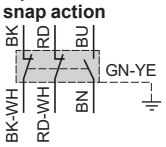
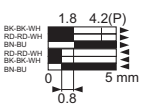
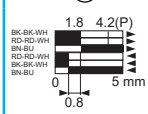
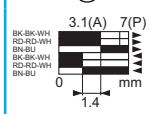
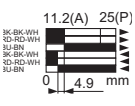
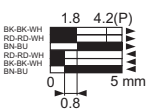
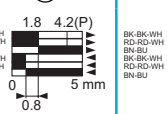
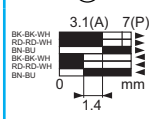
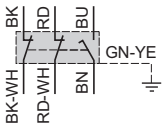
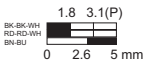
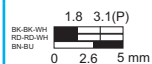
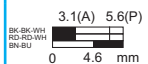
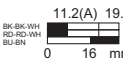
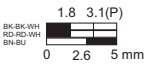
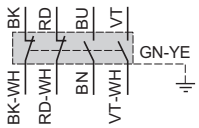
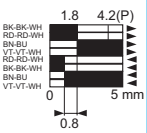
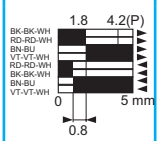
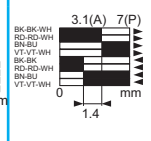
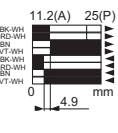
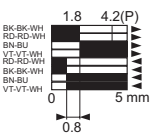
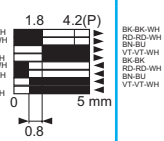
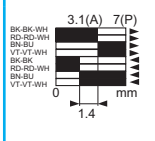
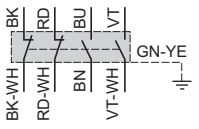
Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(1)*
References					
2-pole NC + NO snap action 	**XCMD2115L1** 	**XCMD2116L1** 	**XCMD2117L1** 	**XCMD2145L1** 	**XCMD2106L1** 
2-pole NC + NO break before make, slow break 	**XCMD2515L1** 	**XCMD2516L1** 	**XCMD2517L1** 	**XCMD2545L1** 	**XCMD2506L1** 
Weight (kg)	0.220	0.225	0.220	0.230	0.180
Contact operation	*closed* / *open*	*(A) = cam displacement* / *(P) = positive opening point*		*NC contact with positive opening operation*	

Complementary characteristics not shown under general characteristics (see page 27)

Switch actuation		By 30° cam		By any moving part
Type of actuation				
Maximum actuation speed		1.5 m/s		1 m/s
Mechanical durability		10 million operating cycles		5
Minimum force or torque	For tripping	0.1 N.m		
	For positive opening	0.5 N.m		–
Cabling		PvR cable, 5 x 0.75 mm², length 1 m		

(1) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range
Miniature design, metal, XCMD
Modular units
Pre-cabled

Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	M12 with steel roller plunger
References (combined with removable terminal block)							
2-pole NC + NC snap action 	**ZCMD29L1 + ZCE10** 	**ZCMD29L1 + ZCE11** 	**ZCMD29L1 + ZCE02** 	**ZCMD29L1 + ZCE24** 	**ZCMD29L1 + ZCEF0** 	**ZCMD29L1 + ZCEG1** 	**ZCMD29L1 + ZCEF2** 
3-pole NC + NC + NO snap action 	**ZCMD39L1 + ZCE10** 	**ZCMD39L1 + ZCE11** 	**ZCMD39L1 + ZCE02** 	**ZCMD39L1 + ZCE24** 	**ZCMD39L1 + ZCEF0** 	**ZCMD39L1 + ZCEG1** 	**ZCMD39L1 + ZCEF2** 
3-pole NC + NC + NO break before make, slow break 	**ZCMD29L1 + ZCE10** 	**ZCMD37L1 + ZCE11** 	**ZCMD37L1 + ZCE02** 	**ZCMD37L1 + ZCE24** 	**ZCMD37L1 + ZCEF0** 	**ZCMD37L1 + ZCEG1** 	**ZCMD37L1 + ZCEF2** 
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205
4-pole 2 NC + 2 NO snap action 	**ZCMD4DL1 + ZCE10** 	**ZCMD4DL1 + ZCE11** 	**ZCMD4DL1 + ZCE02** 	**ZCMD4DL1 + ZCE24** 	**ZCMD4DL1 + ZCEF0** 	**ZCMD4DL1+ ZCEG1** 	**ZCMD4DL1 + ZCEF2** 
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185
References (combined with fixed terminal block)							
4-pole 2 NC + 2 NO snap action 	**ZCMD41L1 + ZCE10**	**ZCMD41L1 + ZCE11**	**ZCMD41L1 + ZCE02**	**ZCMD41L1 + ZCE24**	**ZCMD41L1 + ZCEF0**	**ZCMD41L1 + ZCEG1**	**ZCMD41L1 + ZCEF2**
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185

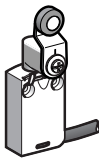
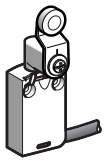
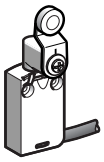
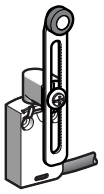
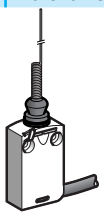
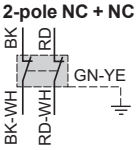
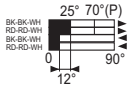
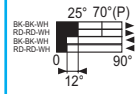
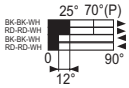
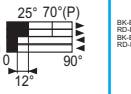
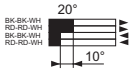
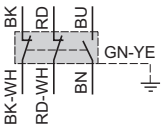
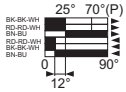
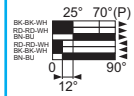
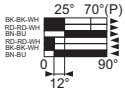
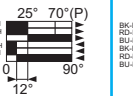
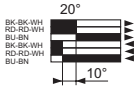
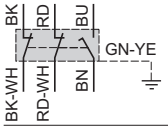
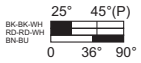
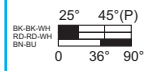
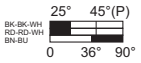
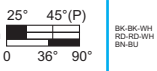
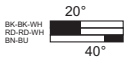
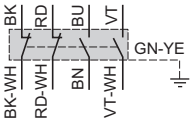
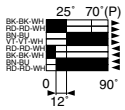
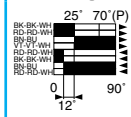
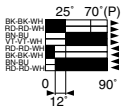
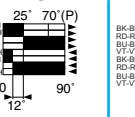
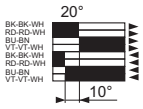
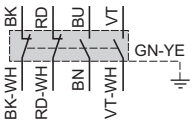
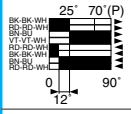
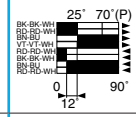
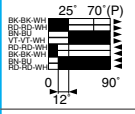
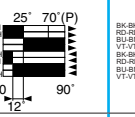
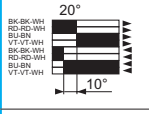
Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* — *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Complementary characteristics not shown under general characteristics (see page 27)

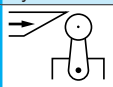
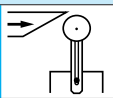
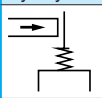
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		PvR cable, 5 x 0.75 mm² length 1 m for 2-pole contact versions, 7 x 0.5 mm² length 1 m for 3-pole contact versions, 9 x 0.34 mm² length 1 m for 4-pole contact versions. For other lengths, see page 48.				

(1) Nitrile for indoor use

Limit switches
XC Standard range
Miniature design, metal, XCMD
Modular units
Pre-cabled

Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(1)*
References (combined with removable terminal block)					
2-pole NC + NC snap action 	**ZCMD29L1 + ZCE01 + ZCY15** 	**ZCMD29L1 + ZCE01 + ZCY16** 	**ZCMD29L1 + ZCE01 + ZCY17** 	**ZCMD29L1 + ZCE01 + ZCY45** 	**ZCMD29L1 + ZCE06** 
3-pole NC + NC + NO snap action 	**ZCMD39L1 + ZCE01 + ZCY15** 	**ZCMD39L1 + ZCE01 + ZCY16** 	**ZCMD39L1 + ZCE01 + ZCY17** 	**ZCMD39L1 + ZCE01 + ZCY45** 	**ZCMD39L1 + ZCE06** 
3-pole NC + NC + NO break before make, slow break 	**ZCMD37L1 + ZCE01 + ZCY15** 	**ZCMD37L1 + ZCE01 + ZCY16** 	**ZCMD37L1 + ZCE01 + ZCY17** 	**ZCMD37L1 + ZCE01 + ZCY45** 	**ZCMD37L1 + ZCE06** 
Weight (kg)	0.220	0.225	0.220	0.230	0.180
4-pole 2 NC + 2 NO snap action 	**ZCMD4DL1 + ZCE01 + ZCY15** 	**ZCMD4DL1 + ZCE01 + ZCY16** 	**ZCMD4DL1 + ZCE01 + ZCY17** 	**ZCMD4DL1 + ZCE01 + ZCY45** 	**ZCMD4DL1 + ZCE06** 
Weight (kg)	0.200	0.205	0.200	0.210	0.160
References (combined with fixed terminal block)					
4-pole 2 NC + 2 NO snap action 	**ZCMD41L1 + ZCE01 + ZCY15** 	**ZCMD41L1 + ZCE01 + ZCY16** 	**ZCMD41L1 + ZCE01 + ZCY17** 	**ZCMD41L1 + ZCE01 + ZCY45** 	**ZCMD41L1 + ZCE06** 
Weight (kg)	0.200	0.205	0.200	0.210	0.160
Contact operation	■ *closed* □ *open*	*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Complementary characteristics not shown under general characteristics (see page 27)

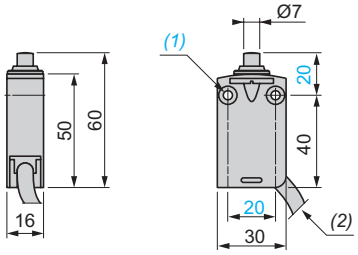
Switch actuation		By 30° cam	By any moving part
Type of actuation			 
Maximum actuation speed		1.5 m/s	1 m/s
Mechanical durability		10 million operating cycles	5
Minimum force or torque	For tripping	0.1 N.m	
	For positive opening	0.5 N.m	–
Cabling		PvR cable, 5 x 0.75 mm² length 1 m for 2-pole contact versions, 7 x 0.5 mm² length 1 m for 3-pole contact versions, 9 x 0.34 mm² length 1 m for 4-pole contact versions. For other lengths, see page 48.	

(1) Value taken with actuation by moving part at 100 mm from the fixing.

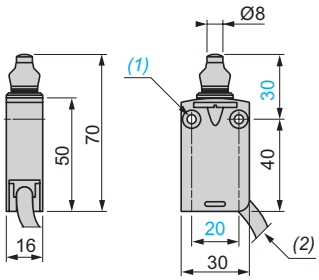
Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Pre-cabled

Dimensions

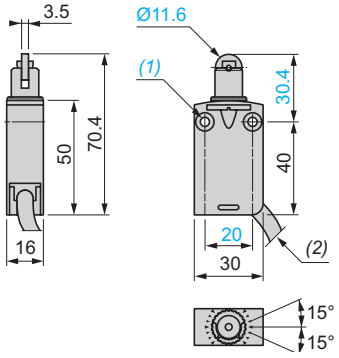
XCMD2●10L1



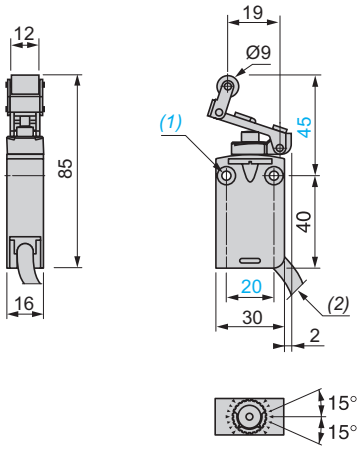
XCMD2●11L1



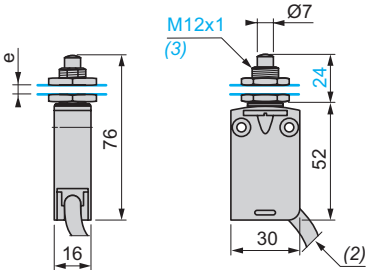
XCMD2●02L1



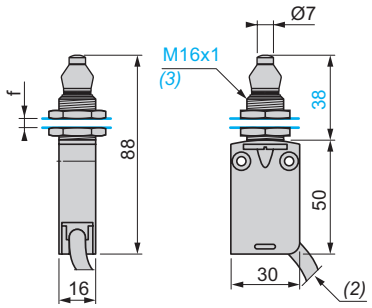
XCMD2●24L1



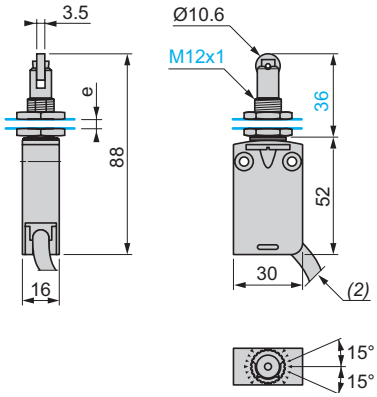
XCMD2●F0L1



XCMD2●G1L1



XCMD2●F2L1

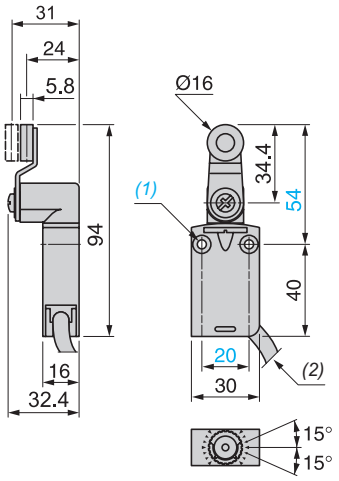


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
(3) Fixing nut thickness 3.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm
f: 8 mm max, panel cut-out Ø 16.5 mm

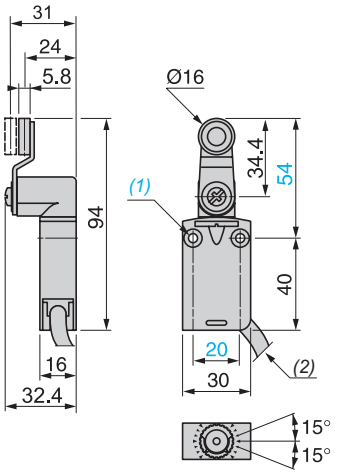
Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Pre-cabled

Dimensions *(continued)*

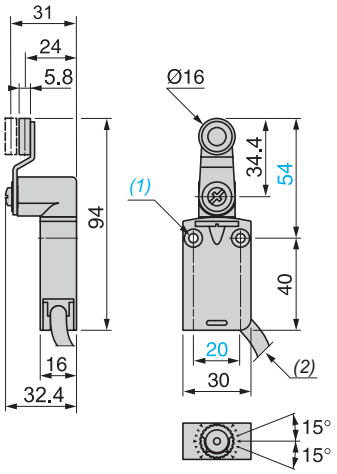
XCMD2●15L1



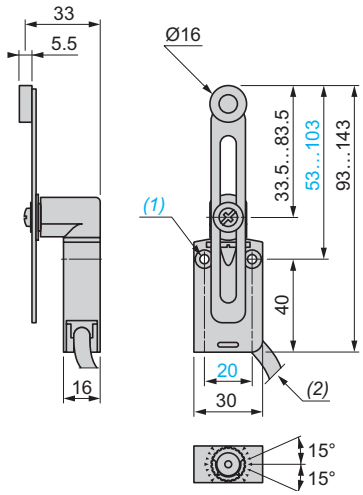
XCMD2●16L1



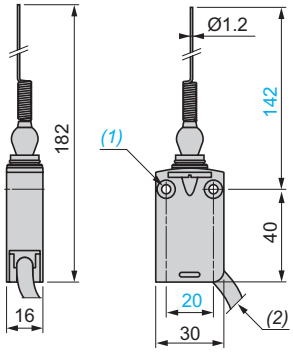
XCMD2●17L1



XCMD2●45L1

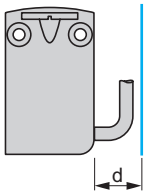


XCMD2●06L1



Mounting: distance required for connection

XCMD2●●●L1



d: 20 mm min.

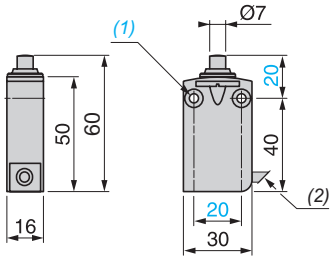
***Note**: For modular switches ZCMD4D, ZCMD4DL● and ZCMC4DL●: d: 35 mm min.*

(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm
f: 8 mm max, panel cut-out Ø 16.5 mm

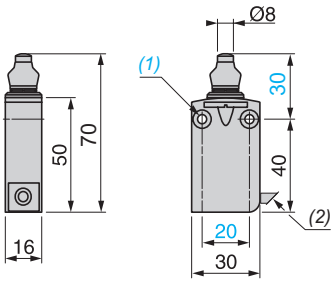
Limit switches
XC Standard range
Miniature design, metal, XCMD
Modular units
Pre-cabled

Dimensions

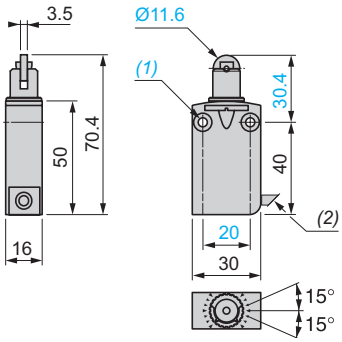
ZCMD●●L1 + ZCE10,
ZCMD4DL1 + ZCE10,
ZCMD41L1 + ZCE10



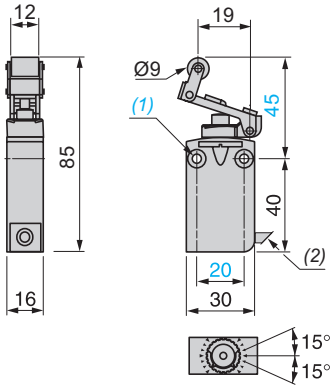
ZCMD●●L1 + ZCE11,
ZCMD4DL1 + ZCE11,
ZCMD41L1 + ZCE11



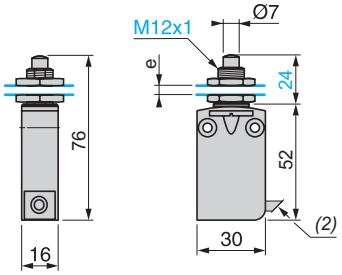
ZCMD●●L1 + ZCE02,
ZCMD4DL1 + ZCE02,
ZCMD41L1 + ZCE02



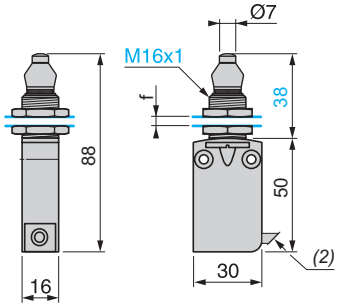
ZCMD●●L1 + ZCE24,
ZCMD4DL1 + ZCE24,
ZCMD41L1 + ZCE24



ZCMD●●L1 + ZCEF0,
ZCMD4DL1 + ZCEF0,
ZCMD41L1 + ZCEF0



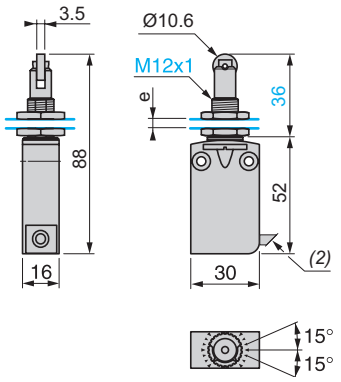
ZCMD●●L1 + ZCEG1,
ZCMD4DL1 + ZCEG1,
ZCMD41L1 + ZCEG1



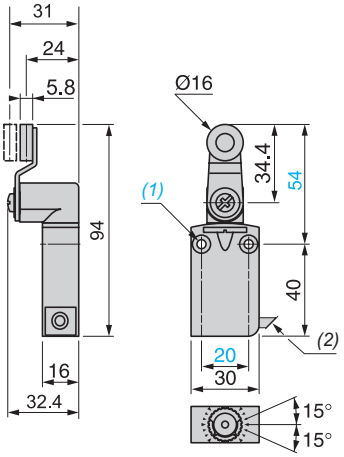
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions *(continued)*

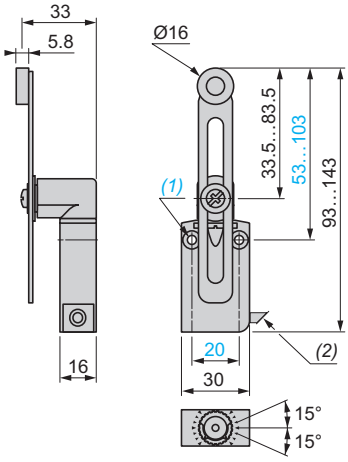
ZCMD●●L1 + ZCEF2,
ZCMD4DL1 + ZCEF2,
ZCMD41L1 + ZCEF2



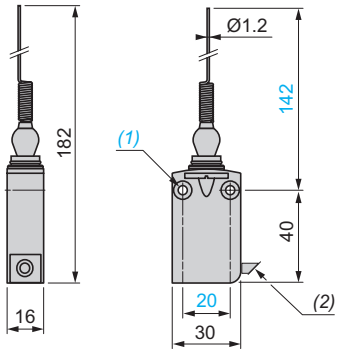
ZCMD●●L1 + ZCE01 + ZCY15/16/17 ,
ZCMD4DL1 + ZCE01 + ZCY15/16/17,
ZCMD41L1 + ZCE01 +
ZCY15/16/17



ZCMD●●L1 + ZCE01 + ZCY45,
ZCMD4DL1 + ZCE01 + ZCY45,
ZCMD41L1 + ZCE01 + ZCY45



ZCMD●●L1 + ZCE06,
ZCMD4DL1 + ZCE06,
ZCMD41L1 + ZCE06



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

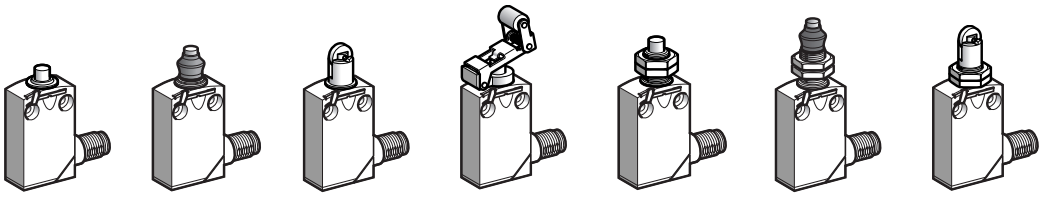
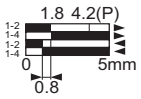
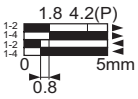
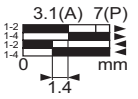
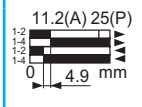
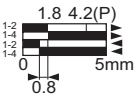
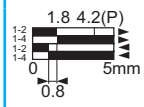
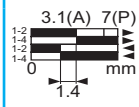
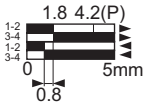
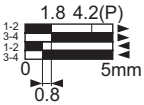
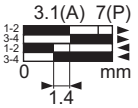
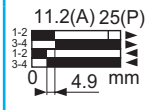
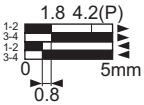
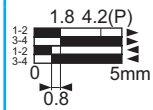
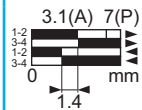
Limit switches

XC Standard range

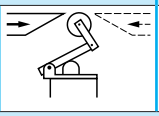
Miniature design miniature, metal, XCMD

Complete units

Connector

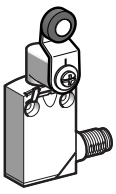
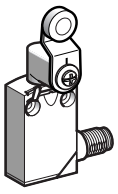
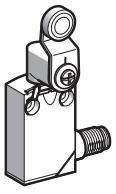
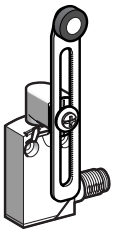
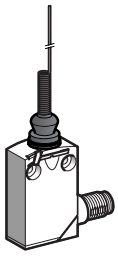
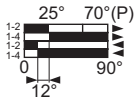
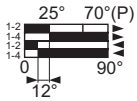
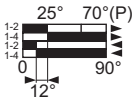
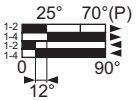
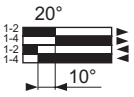
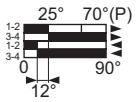
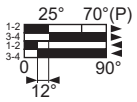
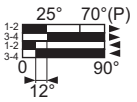
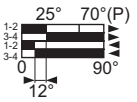
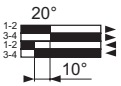
Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	*Metal end plunger with elastomer boot (1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	M12 with steel roller plunger
References							
Single-pole CO snap action + integral M12 4-pin connector	**XCMD2110M12**	**XCMD2111M12**	**XCMD2102M12**	**XCMD2124M12**	**XCMD21F0M12**	**XCMD21G1M12**	**XCMD21F2M12**
							
2-pole NC + NO snap action + integral M12 5-pin connector	**XCMD2110C12** ⊖	**XCMD2111C12** ⊖	**XCMD2102C12** ⊖	**XCMD2124C12** ⊖	**XCMD21F0C12** ⊖	**XCMD21G1C12** ⊖	**XCMD21F2C12** ⊖
							
Weight (kg)	0.085	0.085	0.090	0.105	0.100	0.125	0.110
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*		

Complementary characteristics not shown under general characteristics (see page 27)

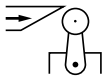
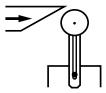
Switch actuation	On end	By 30° cam		On end	By 30° cam
Type of actuation					
Maximum actuation speed	0.5 m/s				0.1 m/s
Mechanical durability	10 million operating cycles				
Minimum force or torque For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Positive operation	Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the ⊖ symbol because they are single-pole CO.				

(1) Nitrile for indoor use.

Limit switches
XC Standard range
Miniature design miniature, metal, XCMD
Complete units
Connector

Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	*"Cat's whisker" (1)*
References					
 **Single-pole CO snap action With integral M12 4-pin connector**	**XCMD2115M12** 	**XCMD2116M12** 	**XCMD2117M12** 	**XCMD2145M12** 	**XCMD2106M12** 
 **2-pole NC + NO snap action With integral M12 5-pin connector**	**XCMD2115C12** ⊖ 	**XCMD2116C12** ⊖ 	**XCM D2117C12** ⊖ 	**XCMD2145C12** ⊖ 	**XCMD2106C12** 
Weight (kg)	0.125	0.130	0.125	0.135	0.085
Contact operation	■ *closed* □ *open*	*(A) = cam displacement (P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Complementary characteristics not shown under general characteristics (see page 27)

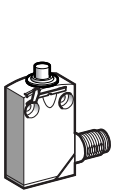
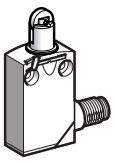
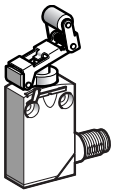
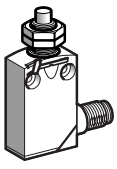
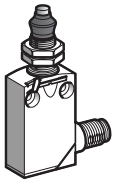
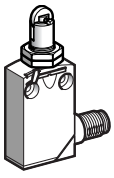
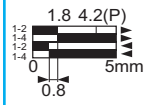
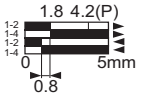
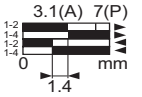
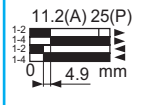
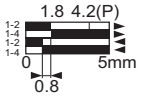
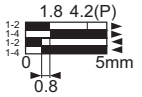
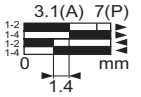
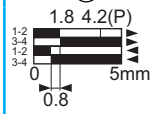
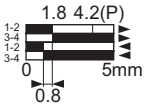
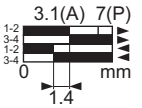
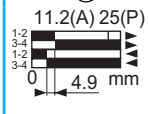
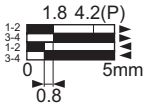
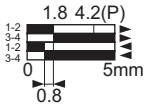
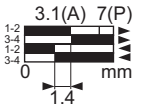
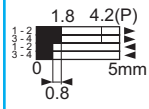
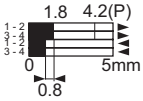
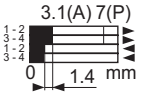
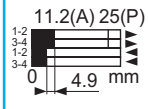
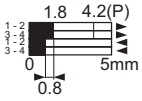
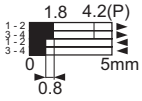
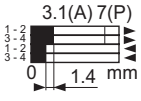
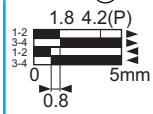
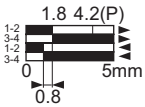
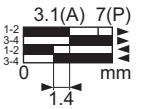
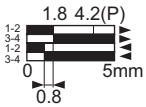
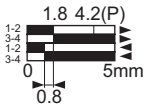
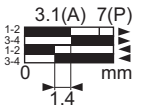
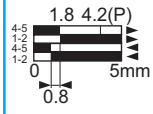
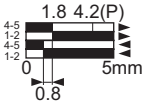
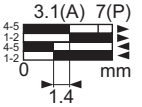
Switch actuation		By 30° cam			By any moving part
Type of actuation					
Maximum actuation speed		1.5 m/s			1 m/s
Mechanical durability		10 million operating cycles			5
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m			–
Positive operation		Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the ⊖ *symbol because they are single-pole CO.*			

(1) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches

XC Standard range

Miniature design miniature, metal, XCMD
Modular units
Connector

Type of head	Plunger (fixing by the body)				Plunger (fixing by the body)		
							
Type of operator	Metal end plunger	*Metal end plunger with elastomer boot (1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	M12 with steel roller plunger
References							
Single-pole CO snap action + integral M12 4-pin connector	**ZCMD21M12 + ZCE10** ⊖ 	**ZCMD21M12 + ZCE11** ⊖ 	**ZCMD21M12 + ZCE02** ⊖ 	**ZCMD21M12 + ZCE24** ⊖ 	**ZCMD21M12 + ZCEF0** ⊖ 	**ZCMD21M12 + ZCEG1** ⊖ 	**ZCMD21M12 + ZCEF2** ⊖ 
2-pole NC + NO snap action + integral M12 5-pin connector	**ZCMD21C12 + ZCE10** ⊖ 	**ZCMD21C12 + ZCE11** ⊖ 	**ZCMD21C12 + ZCE02** ⊖ 	**ZCMD21C12 + ZCE24** ⊖ 	**ZCMD21C12 + ZCEF0** ⊖ 	**ZCMD21C12 + ZCEG1** ⊖ 	**ZCMD21C12 + ZCEF2** ⊖ 
2-pole NC + NC snap action + integral M12 5-pin connector	**ZCMD29C12 + ZCE10** ⊖ 	**ZCMD29C12 + ZCE11** ⊖ 	**ZCMD29C12 + ZCE02** ⊖ 	**ZCMD29C12 + ZCE24** ⊖ 	**ZCMD29C12 + ZCEF0** ⊖ 	**ZCMD29C12 + ZCEG1** ⊖ 	**ZCMD29C12 + ZCEF2** ⊖ 
Weight (kg)	0.085	0.085	0.090	0.105	0.100	0.125	0.110
2-pole NC + NO snap action + M12 5-pin connector on 0.8 m flying lead 	**ZCMD21L08R12 + ZCE10** ⊖ 	**ZCMD21L08R12 + ZCE11** ⊖ 	**ZCMD21L08R12 + ZCE02** ⊖ 	**ZCMD21L08R12 + ZCE24** ⊖ 	**ZCMD21L08R12 + ZCEF0** ⊖ 	**ZCMD21L08R12 + ZCEG1** ⊖ 	**ZCMD21L08R12 + ZCEF2** ⊖ 
2-pole NC + NO snap action + 7/8"-16 UN 5-pin connector on 0.8 m flying lead 	**ZCMD21L08U78 + ZCE10** ⊖ 	**ZCMD21L08U78 + ZCE11** ⊖ 	**ZCMD21L08U78 + ZCE02** ⊖ 	**ZCMD21L08U78 + ZCE24** ⊖	**ZCMD21L08U78 + ZCEF0** ⊖	**ZCMD21L08U78 + ZCEG1** ⊖	**ZCMD21L08U78 + ZCEF2** ⊖
Weight (kg)	0.150	0.150	0.155	0.170	0.165	0.190	0.175

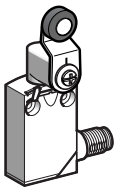
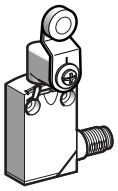
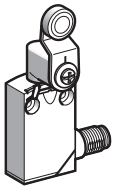
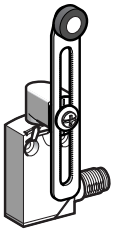
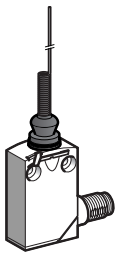
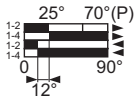
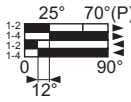
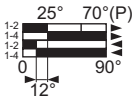
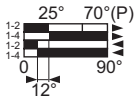
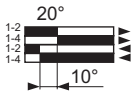
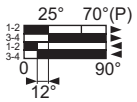
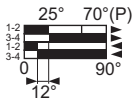
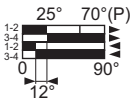
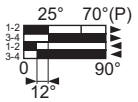
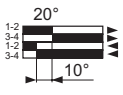
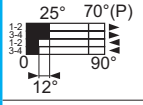
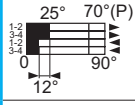
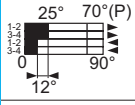
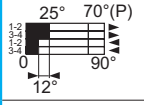
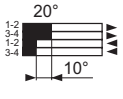
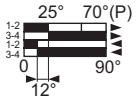
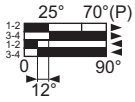
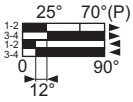
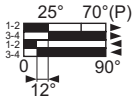
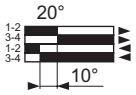
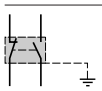
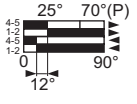
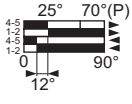
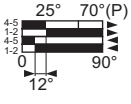
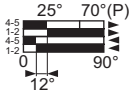
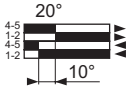
Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Complementary characteristics not shown under general characteristics (see page 27)

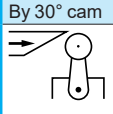
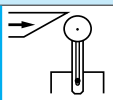
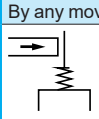
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1 m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Positive operation		Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the ⊖ symbol because they are single-pole CO.				

(1) Nitrile for indoor use.

Limit switches
XC Standard range
Miniature design miniature, metal, XCMD
Modular units
Connector

Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	*"Cat's whisker" (1)*
References					
 **Single-pole CO snap action With integral M12 4-pin connector**	**ZCMD21M12 + ZCE01 + ZCY15** ⊖ 	**ZCMD21M12 + ZCE01 + ZCY16** ⊖ 	**ZCMD21M12 + ZCE01 + ZCY17** ⊖ 	**ZCMD21M12 + ZCE01 + ZCY45** ⊖ 	**ZCMD21M12 + ZCE06** 
 **2-pole NC + NO snap action With integral M12 5-pin connector**	**ZCMD21C12 + ZCE01 + ZCY15** ⊖ 	**ZCMD21C12 + ZCE01 + ZCY16** ⊖ 	**ZCMD21C12 + ZCE01 + ZCY17** ⊖ 	**ZCMD21C12 + ZCE01 + ZCY45** ⊖ 	**ZCMD21C12 + ZCE06** 
 **2-pole NC + NC snap action With integral M12 5-pin connector**	**ZCMD29C12 + ZCE01 + ZCY15** ⊖ 	**ZCMD29C12 + ZCE01 + ZCY16** ⊖ 	**ZCMD29C12 + ZCE01 + ZCY17** ⊖ 	**ZCMD29C12 + ZCE01 + ZCY45** ⊖ 	**ZCMD29C12 + ZCE06** 
Weight (kg)	0.125	0.130	0.125	0.135	0.085
  **2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead**	**ZCMD21L08R12 + ZCE01 + ZCY15** ⊖ 	**ZCMD21L08R12 + ZCE01 + ZCY16** ⊖ 	**ZCMD21L08R12 + ZCE01 + ZCY17** ⊖ 	**ZCMD21L08R12 + ZCE01 + ZCY45** ⊖ 	**ZCMD21L08R12 + ZCE06** 
  **2-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m flying lead**	**ZCMD21L08U78 + ZCE01 + ZCY15** ⊖ 	**ZCMD21L08U78 + ZCE01 + ZCY16** ⊖ 	**ZCMD21L08U78 + ZCE01 + ZCY17** ⊖ 	**ZCMD21L08U78 + ZCE01 + ZCY45** ⊖ 	**ZCMD21L08U78 + ZCE06** 
Weight (kg)	0.200	0.205	0.200	0.210	0.160
Contact operation	■ *closed* □ *open*	*(A) = cam displacement (P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Complementary characteristics not shown under general characteristics (see page 27)

Switch actuation		By 30° cam		By any moving part
Type of actuation				
Maximum actuation speed		1.5 m/s		1 m/s
Mechanical durability		10 million operating cycles		5
Minimum force or torque	For tripping	0.1 N.m		
	For positive opening	0.5 N.m		–
Positive operation		Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the ⊖ symbol because they are single-pole CO.		

(1) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range
Miniature design, metal, XCMD
Connector cabling accessories

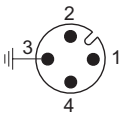
References of suitable pre-wired female connectors

Type of connector		M12 straight, 4-pin 4 A, 250 V	M12 straight, 5-pin 4 A, 24 V	M12 elbowed, 5-pin 4 A, 24 V	7/8"-16 UN straight, 5-pin 6 A, 250 V
With cable	L = 2 m	**XZCP1169L2**	**XZCP1164L2**	**XZCP1264L2**	**XZCP1771L2**
	L = 5 m	**XZCP1169L5**	**XZCP1164L5**	**XZCP1264L5**	**XZCP1771L5**
	L = 10 m	**XZCP1169L10**	**XZCP1164L10**	**XZCP1264L10**	**XZCP1771L10**
Weight (kg)		0.105	0.115	0.115	0.190

Connections

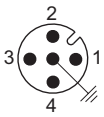
XCMD with connector

4-pin, M12



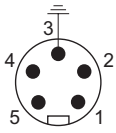
3 A - 250 V
1 = commOn
2 = NC
3 = ⏚
4 = NO

5-pin, M12



4 A - 60 V
XCMD21●● ou **ZCMD21●●**
1 - 2 = NC
3 - 4 = NO
5 = ⏚
XCMD29●● ou **ZCMD29●●**
1 - 2 = NC
3 - 4 = NC
5 = ⏚

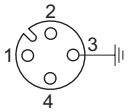
5-pin, 7/8"-16 UN



6 A - 250 V
1 - 2 = NC
4 - 5 = NO
3 = ⏚

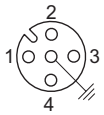
XZCP pre-wired female connectors

4-pin, M12



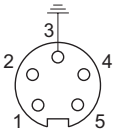
1 = brown
2 = blue
3 = yellow/green ⏚
4 = black

5-pin, M12



1 = brown
2 = white
3 = blue
4= black
⏚ = yellow/green

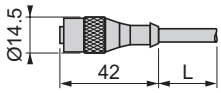
5-pin, 7/8"-16 UN



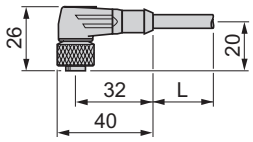
1 = black
2 = blue
3 = yellow/green ⏚
4 = brown
5 = white

Dimensions

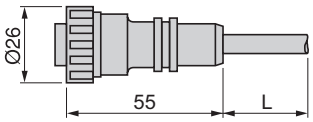
XZCP116●L●



XZCP1264L●



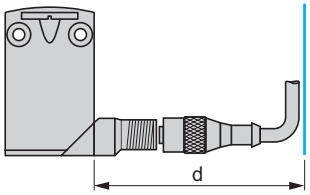
XZCP1771L●



L: cable length 2, 5 or 10 m.

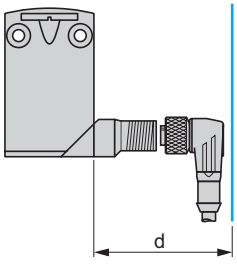
Distances required for plug-in connectors

M12 straight connector



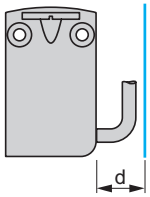
d: min. 65 mm, recommended 69 mm

M12 elbowed connector



d: min. 42 mm, recommended 45 mm

Connector on flying lead

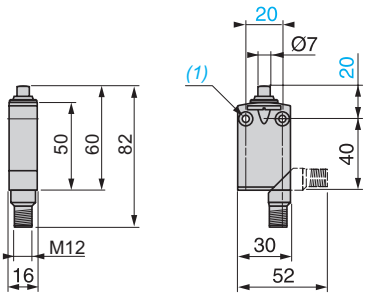


d: min. 20 mm

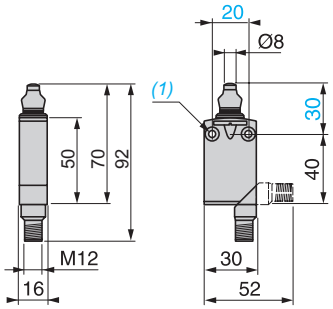
Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Connector

Dimensions

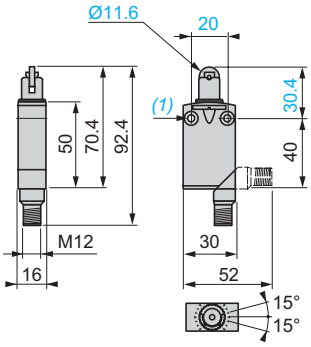
XCMD2110M12 and XCMD2110C12



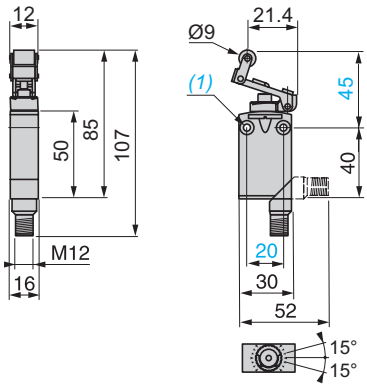
XCMD2111M12 and XCMD2111C12



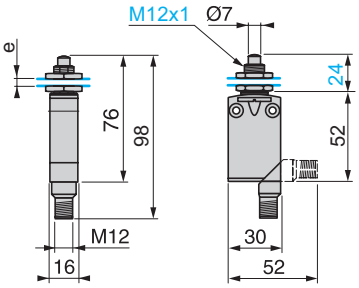
XCMD2102M12 and XCMD2102C12



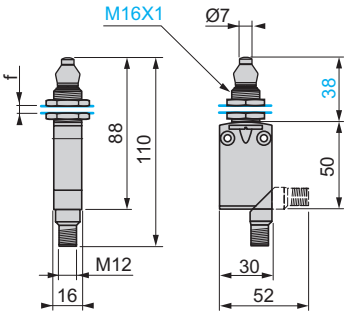
XCMD2124M12 and XCMD2124C12



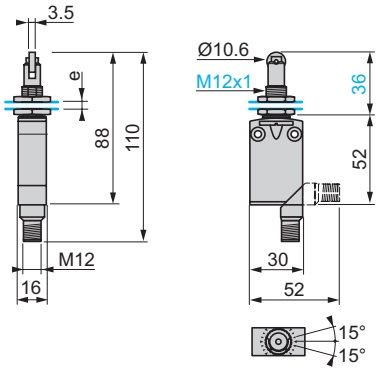
XCMD21F0M12 and XCMD21F0C12



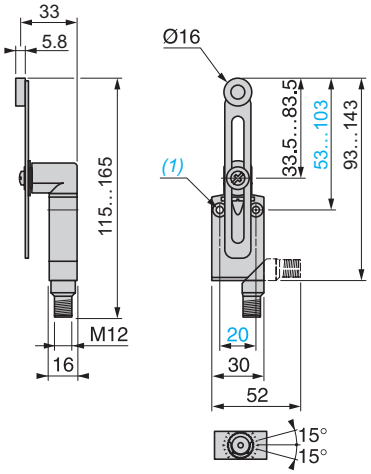
XCMD21G1M12 and XCMD21G1C12



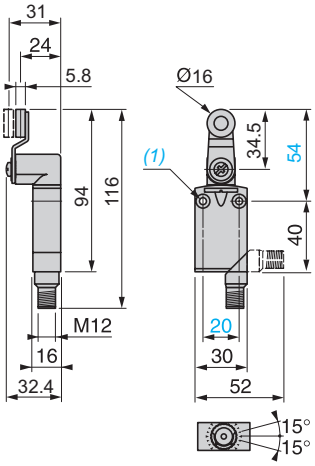
XCMD21F2M12 and XCMD21F2C12



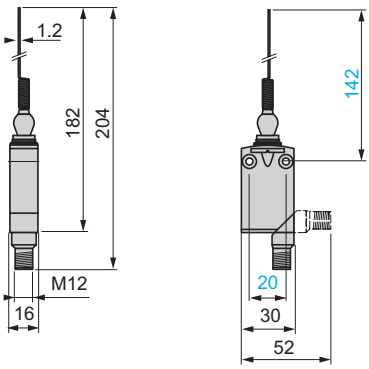
XCMD2145M12 and XCMD2145C12



XCMD2115M12 /116M12 /117M12
XCMD2115C12 /116C12 /117C12



XCMD2106M12 and XCMD2106C12

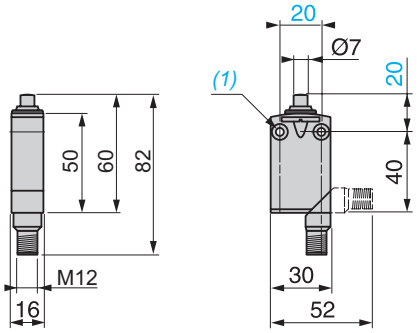


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

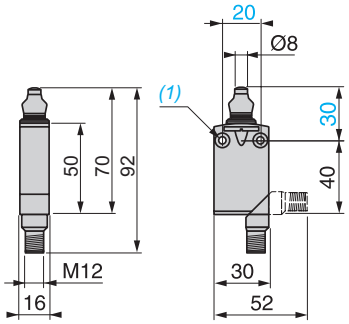
Limit switches
XC Standard range
Miniature design, metal, XCMD
Modular units
Connector

Dimensions *(continued)*

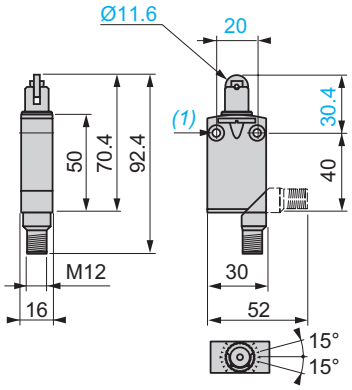
ZCMD21M12 + ZCE10
ZCMD2●C12 + ZCE10
ZCMD21L08●●● + ZCE10



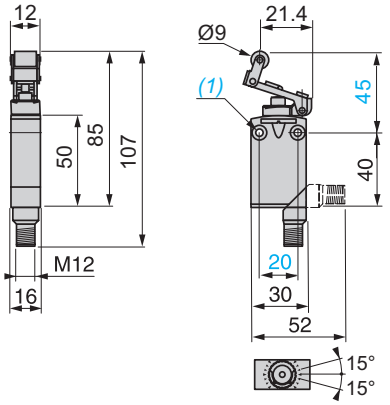
ZCMD21M12 + ZCE11
ZCMD2●C12 + ZCE11
ZCMD21L08●●● +ZCE11



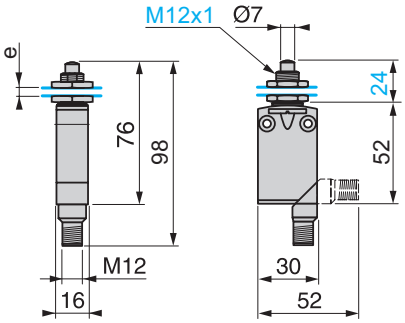
ZCMD21M12 + ZCE02
ZCMD2●C12 + ZCE02
ZCMD21L08●●● + ZCE02



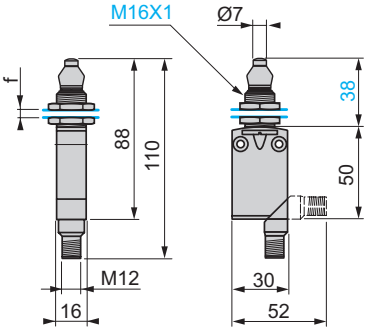
ZCMD21M12 + ZCE24
ZCMD2●C12 + ZCE24
ZCMD21L08●●● + ZCE24



ZCMD21M12 + ZCEF0
ZCMD2●C12 + ZCEF0
ZCMD21L08●●● + ZCEF0



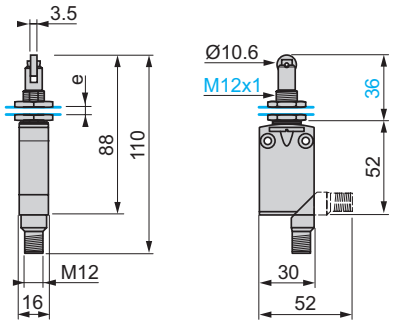
ZCMD21M12 + ZCEG1
ZCMD2●C12 + ZCEG1
ZCMD21L08●●● + ZCEG1



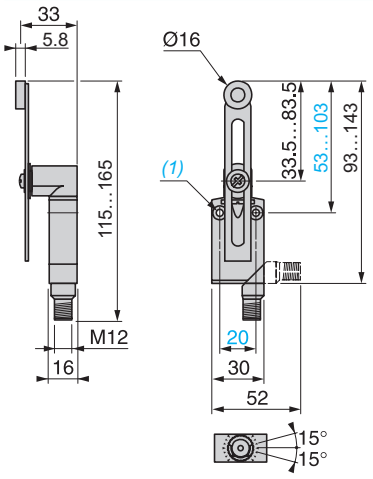
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions *(continued)*

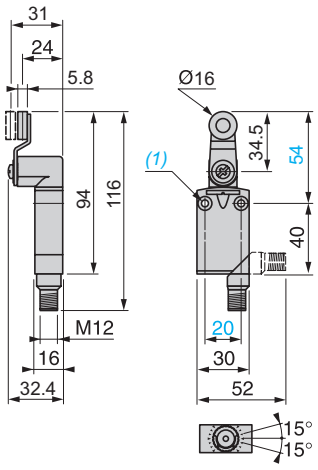
ZCMD21M12 + ZCEF2
ZCMD2●C12 + ZCEF2
ZCMD21L08●●● + ZCEF2



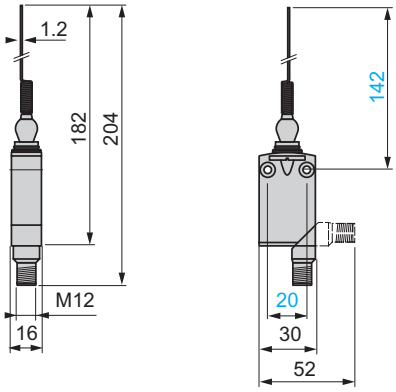
ZCMD21M12 + ZCE01 + ZCY45
ZCMD2●C12 + ZCE01 + ZCY45
ZCMD21L08●●● + ZCE01 + ZCY45



ZCMD21M12 + ZCE01 + ZCY1●
ZCMD2●C12 + ZCE01 + ZCY1●
ZCMD21L08●●● + ZCE01 + ZCY1●

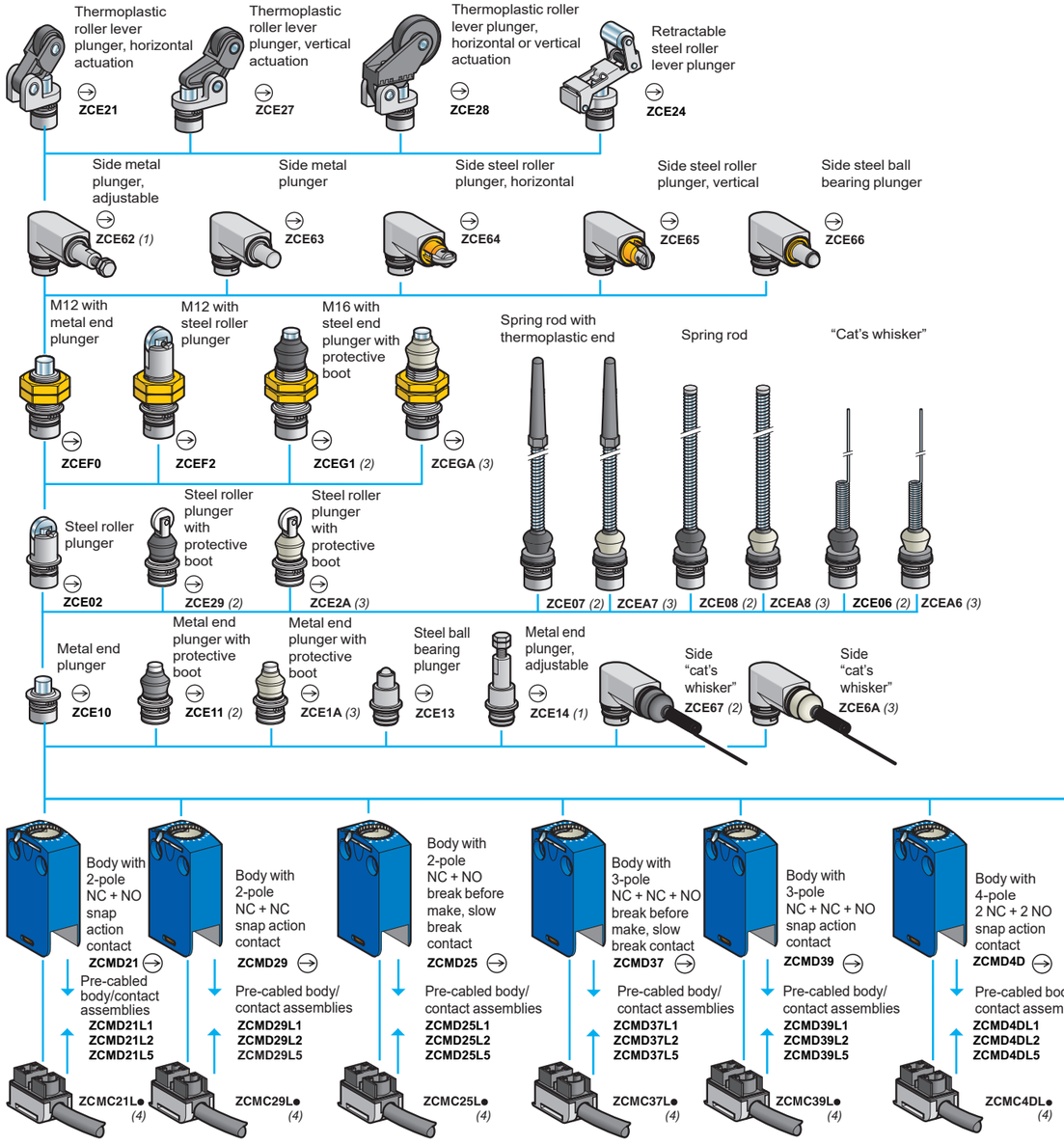


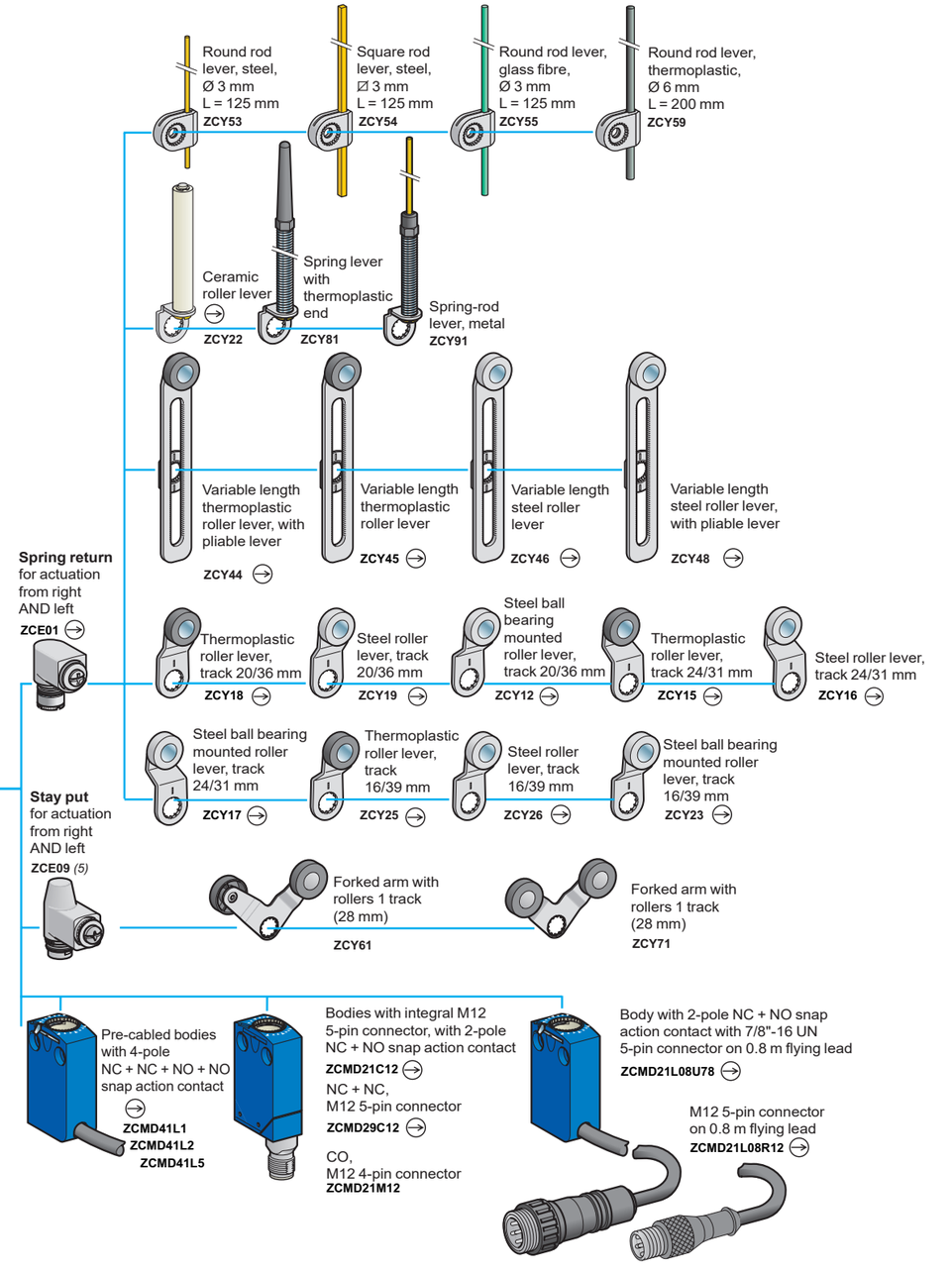
ZCMD21M12 + ZCE06
ZCMD2●C12 + ZCE06
ZCMD21L08●●● + ZCE06



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Miniature design, metal, XCMD
Variable composition

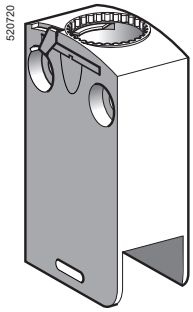




(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm.
(2) Nitrile boot for indoor use.
(3) Silicone boot for outdoor use.
(4) Connection components: replace the "●" in the reference with the required cable length in metres (1, 2, 3, 5, 7 or 10 m).
For example, ZCMC21L● becomes ZCMC21L7 for a 7 m cable.
***Note**: Only cable lengths of 1, 2 and 5 m are available for connection components ZCMC37L●, ZCMC39L● and ZCMC4DL●.*

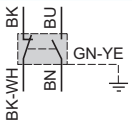
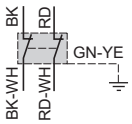
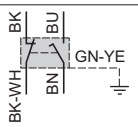
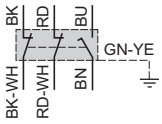
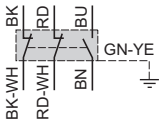
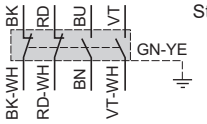
(5) Suitable with bodies: ZCMD21, ZCMD29, ZCMD39, ZCMD41, ZCMD4D, ZCMD21C12, ZCMD21M12, ZCMD29C12 or ZCMD21L08●●●.

Limit switches
XC Standard range
Miniature design, metal, XCMD
Body/contact assemblies



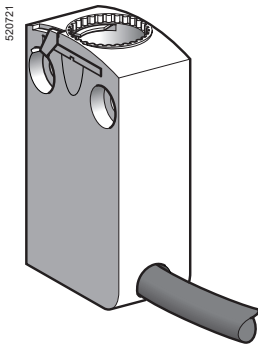
ZCMD6●
ZCMD7●
ZCMD4D

Body/contact assemblies

Type of contact	Positive operation (1)	Scheme	Type of contact	Reference	Weight kg
2-pole					
NC + NO snap action	⊖		Standard	**ZCMD21**	0.055
			Gold plated	**ZCMD61**	0.055
NC + NC snap action	⊖		Standard	**ZCMD29**	0.055
			Gold plated	**ZCMD69**	0.055
NC + NO break before make, slow break	⊖		Standard	**ZCMD25**	0.055
			Gold plated	**ZCMD65**	0.055
3-pole					
NC + NC + NO break before make, slow break	⊖		Standard	**ZCMD37**	0.055
			Gold plated	**ZCMD77**	0.055
NC + NC + NO snap action	⊖		Standard	**ZCMD39**	0.055
			Gold plated	**ZCMD79**	0.055
4-pole					
2 NC + 2 NO snap action	⊖		Standard	**ZCMD4D**	0.055

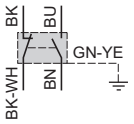
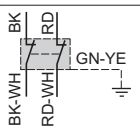
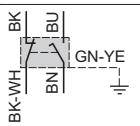
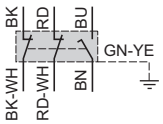
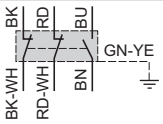
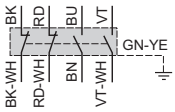
(1) ⊖ bodies with contacts assuring positive opening operation.

Limit switches
XC Standard range
Miniature design, metal, XCMD
Pre-cabled body/contact assemblies

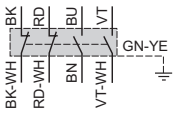


ZCMD●●L●

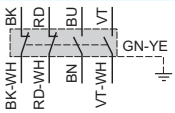
Body/contact assemblies with removable cable

Type of contact	Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
2-pole					
NC + NO snap action	⊖		1	**ZCMD21L1**	0.160
			2	**ZCMD21L2**	0.250
			5	**ZCMD21L5**	0.520
NC + NC snap action	⊖		1	**ZCMD29L1**	0.160
			2	**ZCMD29L2**	0.250
			5	**ZCMD29L2**	0.520
NC + NO break before make, slow break	⊖		1	**ZCMD25L1**	0.160
			2	**ZCMD25L2**	0.250
			5	**ZCMD25L5**	0.520
3-pole					
NC + NC + NO break before make, slow break	⊖		1	**ZCMD37L1**	0.160
			2	**ZCMD37L2**	0.250
			5	**ZCMD37L5**	0.520
NC + NC + NO snap action	⊖		1	**ZCMD39L1**	0.160
			2	**ZCMD39L2**	0.250
			5	**ZCMD39L5**	0.520
4-pole					
2 NC + 2 NO snap action	⊖		1	**ZCMD4DL1**	0.160
			2	**ZCMD4DL2**	0.250
			5	**ZCMD4DL5**	0.520

Pre-cabled bodies/contact assemblies (fixed cable)

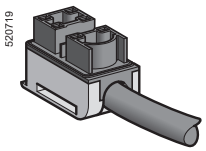
4-pole					
2 NC + 2 NO snap action	⊖		1	**ZCMD41L1**	0.160
			2	**ZCMD41L2**	0.250
			5	**ZCMD41L5**	0.520

Pre-cabled bodies with gold contacts (fixed cable)

4-pole					
2 NC + 2 NO snap action	⊖		1	**ZCMD81L1**	0.160
			2	**ZCMD81L2**	0.250
			5	**ZCMD81L5**	0.520

(1) ⊖ bodies with contacts assuring positive opening operation.

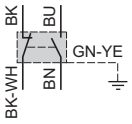
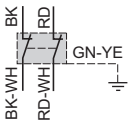
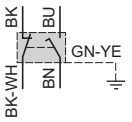
Limit switches
XC Standard range
Miniature design, metal, XCMD
Connection components



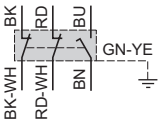
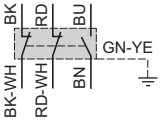
ZCMC2●L●●
ZCMC3●L●●

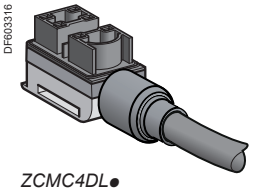
Pre-cabled connection components with PVC cable

2-pole

NC + NO snap action		1	**ZCMC21L1**	0.100
		2	**ZCMC21L2**	0.190
		3	**ZCMC21L3**	0.280
		5	**ZCMC21L5**	0.460
		7	**ZCMC21L7**	0.700
		10	**ZCMC21L10**	0.970
NC + NC snap action		1	**ZCMC29L1**	0.100
		2	**ZCMC29L2**	0.190
		3	**ZCMC29L3**	0.280
		5	**ZCMC29L5**	0.460
		7	**ZCMC29L7**	0.700
		10	**ZCMC29L10**	0.970
NC + NO break before make, slow break		1	**ZCMC25L1**	0.100
		2	**ZCMC25L2**	0.190
		3	**ZCMC25L3**	0.280
		5	**ZCMC25L5**	0.460
		7	**ZCMC25L7**	0.700
		10	**ZCMC25L10**	0.970

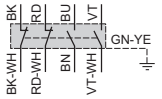
3-pole

NC + NC + NO break before make, slow break		1	**ZCMC37L1**	0.100
		2	**ZCMC37L2**	0.190
		5	**ZCMC37L5**	0.460
NC + NC + NO snap action		1	**ZCMC39L1**	0.100
		2	**ZCMC39L2**	0.190
		5	**ZCMC39L5**	0.460

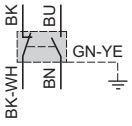


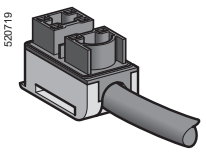
ZCMC4DL●

4-pole

2 NC + 2 NO snap action		1	**ZCMC4DL1**	0.100
		2	**ZCMC4DL2**	0.190
		5	**ZCMC4DL5**	0.460

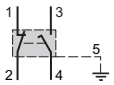
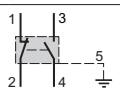
Pre-cabled connection components with CEI cable
(Connitato Elettrotecnico Italiano) *(1)*

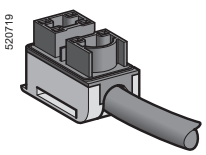
Type of contact	Scheme	Length of CEI cable in metres	Reference	Weight kg
2-pole				
NC + NO snap action		1	**ZCMC21E1**	0.100
		2	**ZCMC21E2**	0.190
		3	**ZCMC21E3**	0.280
		5	**ZCMC21E5**	0.460
		7	**ZCMC21E7**	0.700
		10	**ZCMC21E10**	0.970



ZCMC21E●

Pre-cabled connection components with halogen free cable *(2)*

Type of contact	Positive operation *(3)*	Scheme	Length of cable in metres	Reference	Weight kg
2-pole					
NC + NO break before make, slow break	⊖		0.6	**ZCMC25T06**	0.080
NC + NO snap action	⊖		1	**ZCMC21T1**	0.130
			2	**ZCMC21T2**	0.250
			5	**ZCMC21T5**	0.520

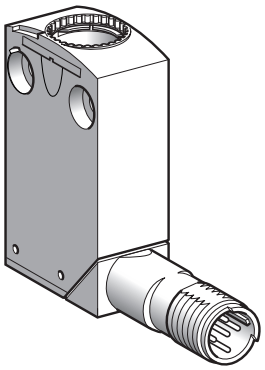


ZCMC25T06
ZCMC21T●

(1) Cable not UL or CSA certified.
(2) For other types of contacts and cable, please contact our Customer Care Centre.
(3) ⊖ bodies with contacts assuring positive opening operation.

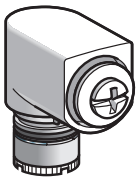
Limit switches
XC Standard range
Miniature design, metal, XCMD
Separate parts

562245



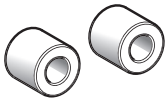
ZCMD61●●●

602838



ZCE05

566637



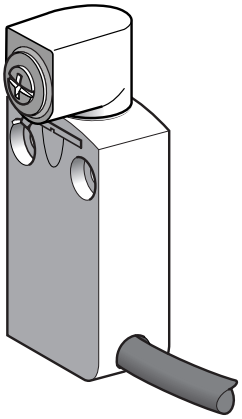
XCMZ06

566638



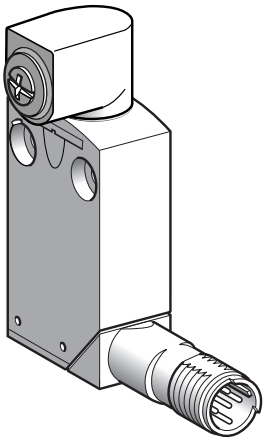
XCMZ07

562246



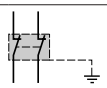
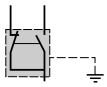
XCMD2●01L1

562247



XCMD2101●12

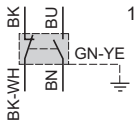
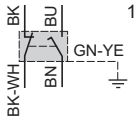
Bodies with gold contacts, connector

Type of contact	Positive operation (1)	Scheme	Connector	Reference	Weight kg
2-pole					
NC + NO snap action	–		M12 5-pin	**ZCMD61C12**	0.065
NC + NC snap action	–		M12 5-pin	**ZCMD69C12**	0.065
Single-pole					
CO snap action	–		M12 4-pin	**ZCMD61M12**	0.065

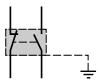
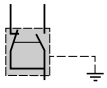
Accessories

Description	Positive operation (1)	Suitable levers for use with head	Reference	Weight kg
Rotary head, without lever, spring return, for actuation from right AND left or from right OR left	⊖	ZCY12, ZCY15, ZCY16, ZCY17, ZCY18, ZCY19, ZCY22, ZCY23, ZCY25, ZCY26, ZCY39, ZCY53, ZCY54, ZCY55, ZCY81	**ZCE05**	0.045
Spacer for mounting multi-track XCMD	–	–	**XCMZ06**	0.005
Spacer for angular positioning of heads with adjustable levers, for values other than -90°, 0° and 90°	–	–	**XCMZ07**	0.005

Pre-cabled body/contact assemblies, with rotary head (without operating lever)

Type of contact	Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
2-pole					
NC + NO snap action	⊖		1	**XCMD2101L1**	0.180
NC + NO break before make, slow break	⊖		1	**XCMD2501L1**	0.180

Body/contact assemblies with rotary head (without operating lever), connector

Type of contact	Positive operation (1)	Scheme	Connector	Reference	Weight kg
2-pole					
NC + NO snap action	⊖		M12 5-pin	**XCMD2101C12**	0.110
Single-pole					
CO snap action	–		M12 4-pin	**XCMD2101M12**	0.110

(1) ⊖ bodies with contacts or head assuring positive opening operation.

Limit switches
XC Standard range
Miniature design, metal, XCMV for mobile equipment

The range of XCMV limit switches is an offer dedicated to mobile equipment:
- special connectors
- a metal body for robustness
- compact dimensions (among the smallest on the market)
- IP 69 degree of protection, for high-pressure cleaning
- for outdoor use at -25 °…+70 °C

Complete units
with Deutsch DT04-4P connector

□ With head for linear (plunger) and rotary (lever) movement



Page 53

Complete units
with AMP Superseal 1.5 connector

□ With head for linear (plunger) and rotary (lever) movement



Page 54

Complete units
with M12 connector

□ With head for linear (plunger) and rotary (lever) movement



Page 55

Limit switches
XC Standard range
Miniature design, metal, XCMV for mobile equipment

Modular units
Body with Deutsch DT04-4P connector

□ **With head for linear (plunger) and rotary (lever) movement**



Pages 56 and 57

Modular units
Body with AMP Superseal 1.5 connector

□ **With head for linear (plunger) and rotary (lever) movement**



Pages 58 and 59

Modular units
Body with M12 connector

□ **With head for linear (plunger) and rotary (lever) movement**



Pages 60 and 61

Modular units
Pre-cabled body

□ **With head for linear (plunger) and rotary (lever) movement**



Pages 62 and 63

Limit switches
XC Standard range
Miniature design, metal, XCMV for mobile equipment

Environmental characteristics

Product certifications		CE, cURus
Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14, GB/T 14048.5
	Machine assemblies	EN/IEC 60204-1
Protective treatment		Standard version: "TC"
Ambient air temperature	For operation	- 25…+ 70 °C (- 40…+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40…+ 70 °C
Vibration resistance		± 1.76 mm (10…60 Hz), 25 gn (61…500 Hz) conforming to IEC 60068-2-6
Shock resistance		40 gn (11 ms) conforming to IEC 60068-2-27
Protection against electric shock		Class III conforming to IEC 61140, class 2 conforming to UL 508
Degree of protection	Switches with 4-pin M12 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC 60529 ; IK 04 conforming to EN 62262
	Switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC 60529 ; IK 06 conforming to EN 62262
	Pre-cabled swiches	IP 66 and IP 67 conforming to EN/IEC 60529
Materials		Body: Zamak, heads: Zamak, connectors: thermoplastic, cable: PvR
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger

Contact block characteristics

Rated operational characteristics	Switches with 4-pin M12 connector	∼ AC-14; Ue = 24 V, Ie = 3 A, Ith = 4 A ⎓ DC-13; Ue = 24 V, Ie = 1 A, conforming to IEC 60947-5-1, EN 60947-5-1
	Pre-cabled swiches or switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	∼ AC-14; Ue = 24 V, Ie = 3 A, Ith = 6 A ⎓ DC-13; Ue = 24 V, Ie = 1 A, conforming to IEC 60947-5-1, EN 60947-5-1
Rated insulation voltage		Ui = 36 V degree of pollution 3 conforming to IEC 60947-5-1 Ui = 36 V conforming to UL 508, CSA C22-2 no. 14
Rated impulse withstand voltage		U imp = 0.8 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection.		6 A cartridge fuse type gG (gl)
Minimum actuation speed (for head with end plunger)		Snap-action contact: 0.01 m/minute, slow-break contact: 6 m/minute

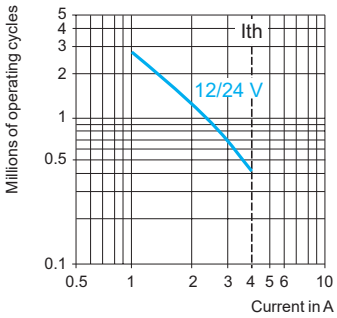
Electrical durability

- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-14 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

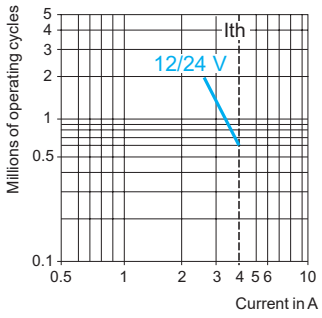
AC supply
∼ 50/60 Hz
inductive circuit

XCMV snap-action (NC+NO contact)

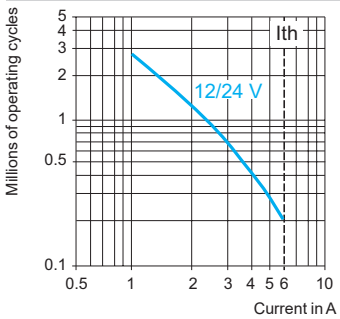
Switches with M12 connector

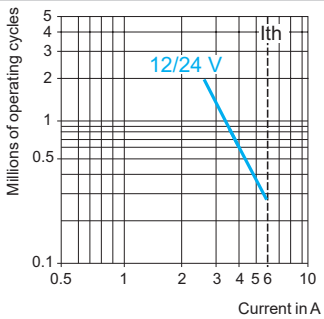


XCMV slow-break (NC+NO contact)



Pre-cabled switches or switches with Deutsch DT04-4P or AMP Superseal 1.5 connector



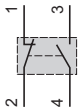
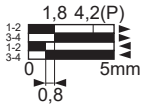
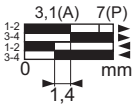
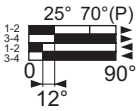
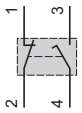
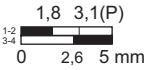
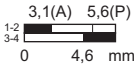
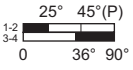


DC supply ⎓

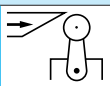
Power broken in W for 0.1 million operating cycles		
Voltage	**V**	**24**
	A	2

Power broken in W for 1.3 million operating cycles		
Voltage	**V**	**24**
	A	0.5

Limit switches
XC Standard range
Miniature design, metal, XCMV
Complete units for mobile equipment

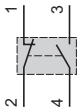
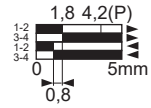
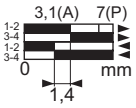
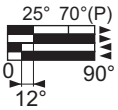
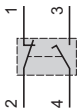
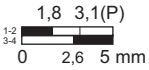
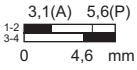
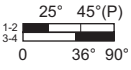
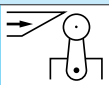
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)
			
Form conforming to EN 50047	B	C	A
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(1)*
Positive operation	⊖	⊖	⊖
References of complete units with male Deutsch DT04-4P connector			
2-pole NC + NO snap action 	**XCMV2110D44** 	**XCMV2102D44** 	**XCMV2115D44** 
2-pole NC + NO break before make, slow break 	**XCMV2510D44** 	**XCMV2502D44** 	**XCMV2515D44** 
Weight (kg)	0.090	0.090	0.130
Contact operation	*closed* / *open*		*(A) = cam displacement* *(P) = positive opening point*

Complementary characteristics not shown under general characteristics (see page 51)

Switch actuation		On end	By 30° cam	
Type of actuation				
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s
Mechanical durability (in millions of operating cycles)		10		
Minimum force or torque	For tripping	8.5 N	7 N	0.1 N.m
	For positive opening	42.5 N	35 N	0.5 N.m

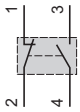
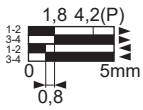
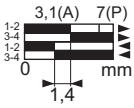
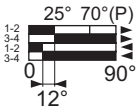
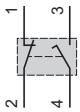
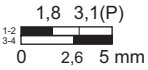
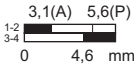
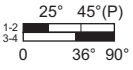
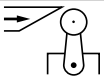
(1) Can be adjusted throughout 360° in 15° steps.

Limit switches
XC Standard range
Miniature design, metal, XCMV
Complete units for mobile equipment

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)
			
Form conforming to EN 50047	B	C	A
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(1)*
Positive operation	⊖	⊖	⊖
References of complete units with male AMP Superseal 1.5 connector			
2-pole NC + NO snap action 	**XCMD2110AM4** 	**XCMD2102AM4** 	**XCMD2115AM4** 
2-pole NC + NO break before make, slow break 	**XCMD2510AM4** 	**XCMD2502AM4** 	**XCMD2515AM4** 
Weight (kg)	0.090	0.090	0.130
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*
Characteristics			
Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s
Mechanical durability (in millions of operating cycles)	10		
Minimum force or torque For tripping	8.5 N	7 N	0.1 N.m
For positive opening	42.5 N	35 N	0.5 N.m

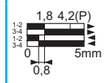
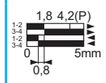
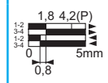
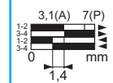
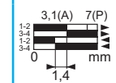
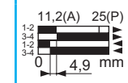
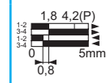
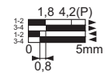
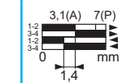
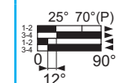
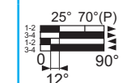
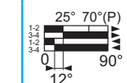
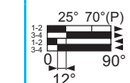
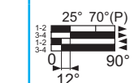
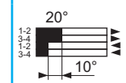
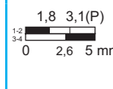
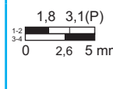
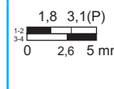
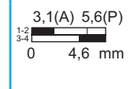
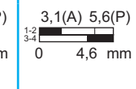
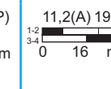
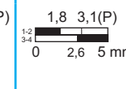
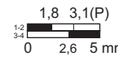
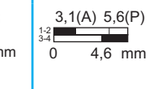
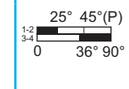
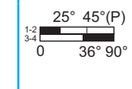
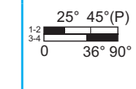
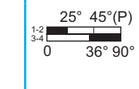
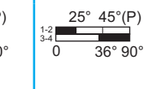
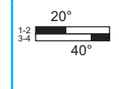
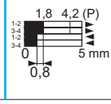
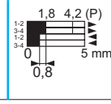
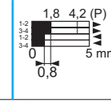
(1) Can be adjusted throughout 360° in 15° steps.

Limit switches
XC Standard range
Miniature design, metal, XCMV
Complete units for mobile equipment

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)
			
Form conforming to EN 50047	B	C	A
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(1)*
Positive operation	⊖	⊖	⊖
References of complete units with M12 connector			
2-pole NC + NO snap action 	**XCMV2110M12** 	**XCMV2102M12** 	**XCMV2115M12** 
2-pole NC + NO break before make, slow break 	**XCMV2510M12** 	**XCMV2502M12** 	**XCMV2515M12** 
Weight (kg)	0.090	0.090	0.130
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*
Complementary characteristics not shown under general characteristics (see page 51)			
Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s
Mechanical durability (in millions of operating cycles)	10		
Minimum force or torque For tripping	8.5 N	7 N	0.1 N.m
For positive opening	42.5 N	35 N	0.5 N.m

(1) Can be adjusted throughout 360° in 15° steps.

Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

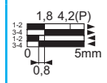
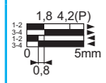
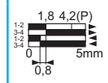
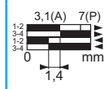
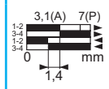
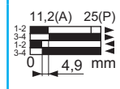
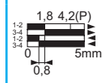
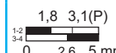
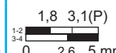
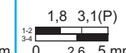
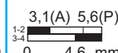
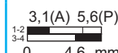
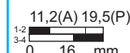
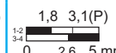
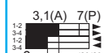
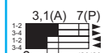
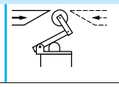
Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional
														
Type of operator	Metal end plunger	Metal end plunger - 40 °C *(1)*	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Steel roller plunger - 40 °C *(1)*	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C *(1)*	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(3)*
References of modular units (body with male Deutsch DT04-4P connector and removable terminal block)															
2-pole NC + NO snap action 	**ZCMV21D44 + ZCE10** 	**ZCMV21D44 + ZCE106** 	**ZCMV21D44 + ZCE11** 	**ZCMV21D44 + ZCE02** 	**ZCMV21D44 + ZCE026** 	**ZCMV21D44 + ZCE24** 	**ZCMV21D44 + ZCEF0** 	**ZCMV21D44 + ZCEG1** 	**ZCMV21D44 + ZCEF2** 	**ZCMV21D44 + ZCE01 + ZCY15** 	**ZCMV21D44 + ZCE016 + ZCY15** 	**ZCMV21D44 + ZCE01 + ZCY16** 	**ZCMV21D44 + ZCE01 + ZCY17** 	**ZCMV21D44 + ZCE01 + ZCY45** 	**ZCMV21D44 + ZCE06** 
2-pole NC + NO break before make, slow break 	**ZCMV25D44 + ZCE10** 	**ZCMV25D44 + ZCE106** 	**ZCMV25D44 + ZCE11** 	**ZCMV25D44 + ZCE02** 	**ZCMV25D44 + ZCE026** 	**ZCMV25D44 + ZCE24** 	**ZCMV25D44 + ZCEF0** 	**ZCMV25D44 + ZCEG1** 	**ZCMV25D44 + ZCEF2** 	**ZCMV25D44 + ZCE01 + ZCY15** 	**ZCMV25D44 + ZCE016 + ZCY15** 	**ZCMV25D44 + ZCE01 + ZCY16** 	**ZCMV25D44 + ZCE01 + ZCY17** 	**ZCMV25D44 + ZCE01 + ZCY45** 	**ZCMV25D44 + ZCE06** 
2-pole NC + NC snap action 	**ZCMV29D44 + ZCE10** 	**ZCMV29D44 + ZCE106** 	**ZCMV29D44 + ZCE11** 	**ZCMV29D44 + ZCE02**	**ZCMV29D44 + ZCE026**	**ZCMV29D44 + ZCE24**	**ZCMV29D44 + ZCEF0**	**ZCMV29D44 + ZCEG1**	**ZCMV29D44 + ZCEF2**	**ZCMV29D44 + ZCE01 + ZCY15**	**ZCMV29D44 + ZCE016 + ZCY15**	**ZCMV29D44 + ZCE01 + ZCY16**	**ZCMV29D44 + ZCE01 + ZCY17**	**ZCMV29D44 + ZCE01 + ZCY45**	**ZCMV29D44 + ZCE06**
Contact operation	*(A) = cam displacement* *(P) = positive opening point*				*NC contact with positive opening operation*			*closed* *open*	*(A) = cam displacement* *(P) = positive opening point*				*NC contact with positive opening operation*		

Complementary characteristics not shown under general characteristics (see page 51)

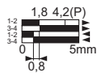
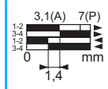
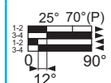
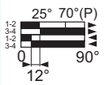
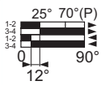
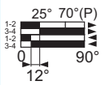
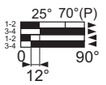
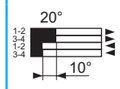
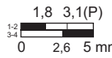
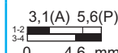
Switch actuation		On end	By 30° cam		On end	On end	By 30° cam			By any moving part
Type of actuation										
Maximum actuation speed		0.5 m/s				0.5 m/s	0.1 m/s	1.5 m/s	1.5 m/s	1 m/s
Mechanical durability		10 million operating cycles				10 million operating cycles			10 million	5 million
Nominal force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	8.5 N	7 N.m	0.1 N.m	0.1 N.m	0.1 N.m
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	42.5 N	35 N.m	0.5 N.m	0.5 N.m	–
Connection		Deutsch DT04-4P connector				Deutsch DT04-4P connector				

(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

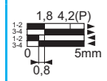
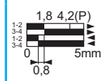
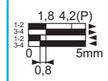
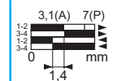
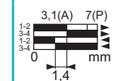
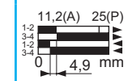
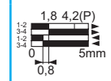
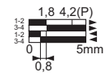
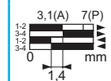
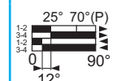
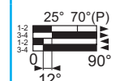
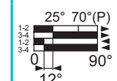
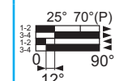
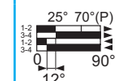
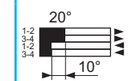
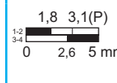
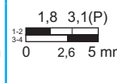
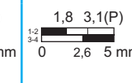
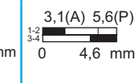
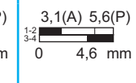
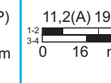
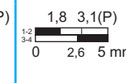
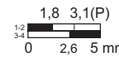
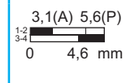
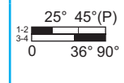
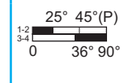
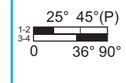
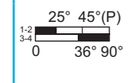
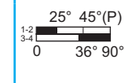
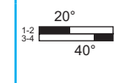
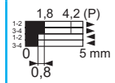
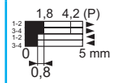
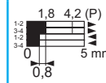
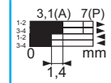
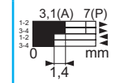
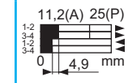
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)
							
Type of operator	Metal end plunger	Metal end plunger - 40 °C *(1)*	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Steel roller plunger - 40 °C *(1)*	Retractable steel roller lever plunger	M12 with metal end plunger
References of modular units (body with male AMP Superseal 1.5 connector and removable terminal block)							
2-pole "NC + NO" snap action 	**ZCMD21AM4 + ZCE10** 	**ZCMD21AM4 + ZCE106** 	**ZCMD21AM4 + ZCE11** 	**ZCMD21AM4 + ZCE02** 	**ZCMD21AM4 + ZCE026** 	**ZCMD21AM4 + ZCE24** 	**ZCMD21AM4 + ZCEF0** 
2-pole NC + NO break before make, slow break 	**ZCMD25AM4 + ZCE10** 	**ZCMD25AM4 + ZCE106** 	**ZCMD25AM4 + ZCE11** 	**ZCMD25AM4 + ZCE02** 	**ZCMD25AM4 + ZCE026** 	**ZCMD25AM4 + ZCE24** 	**ZCMD25AM4 + ZCEF0** 
2-pole NC + NC snap action 	**ZCMD29AM4 + ZCE10** 	**ZCMD29AM4 + ZCE106** 	**ZCMD29AM4 + ZCE11** 	**ZCMD29AM4 + ZCE02** 	**ZCMD29AM4 + ZCE026** 	**ZCMD29AM4 + ZCE24** 	**ZCMD29AM4 + ZCEF0** 
Contact operation	■ closed □ open		(A) = cam displacement (P) = positive opening point		⊖ NC contact with positive opening operation		
Complementary characteristics not shown under general characteristics (see page 51)							
Switch actuation	On end		By 30° cam				On end
Type of actuation							
Maximum actuation speed	0.5 m/s						
Mechanical durability	10 million operating cycles						
Nominal force or torque For tripping	8.5 N		7 N		2.5 N		8.5 N
Nominal force or torque For positive opening	42.5 N		35 N		12.5 N		42.5 N
Connection	Male AMP Superseal 1.5 connector						

(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

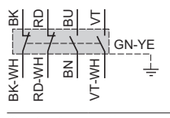
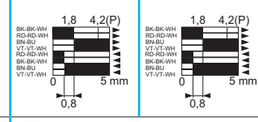
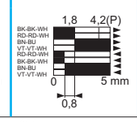
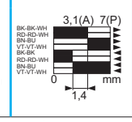
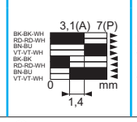
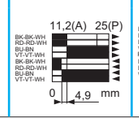
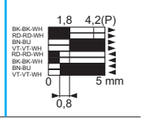
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
								
Type of operator	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C *(1)*	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(3)*
References of modular units (body with male AMP Superseal 1.5 connector and removable terminal block)								
2-pole "NC + NO" snap action	**ZCMD21AM4 + ZCEG1** 	**ZCMD21AM4 + ZCEF2** 	**ZCMD21AM4 + ZCE01 + ZCY15** 	**ZCMD21AM4 + ZCE016 + ZCY15** 	**ZCMD21AM4 + ZCE01 + ZCY16** 	**ZCMD21AM4 + ZCE01 + ZCY17** 	**ZCMD21AM4 + ZCE01 + ZCY45** 	**ZCMD21AM4 + ZCE06** 
2-pole NC + NO break before make, slow break	**ZCMD25AM4 + ZCEG1** 	**ZCMD25AM4 + ZCEF2** 	**ZCMD25AM4 + ZCE01 + ZCY15**	**ZCMD25AM4 + ZCE016 + ZCY15**	**ZCMD25AM4 + ZCE01 + ZCY16**	**ZCMD25AM4 + ZCE01 + ZCY17**	**ZCMD25AM4 + ZCE01 + ZCY45**	**ZCMD25AM4 + ZCE06**
2-pole NC + NC snap action	**ZCMD29AM4 + ZCEG1**	**ZCMD29AM4 + ZCEF2**	**ZCMD29AM4 + ZCE01 + ZCY15**	**ZCMD29AM4 + ZCE016 + ZCY15**	**ZCMD29AM4 + ZCE01 + ZCY16**	**ZCMD29AM4 + ZCE01 + ZCY17**	**ZCMD29AM4 + ZCE01 + ZCY45**	**ZCMD29AM4 + ZCE06**
Contact operation	■ closed □ open		(A) = cam displacement (P) = positive opening point			⊖ NC contact with positive opening operation		
Complementary characteristics not shown under general characteristics (see page 51)								
Switch actuation	On end	By 30° cam						By any moving part
Type of actuation								
Maximum actuation speed	0.5 m/s	0.1 m/s	1.5 m/s				1.5 m/s	1 m/s
Mechanical durability	10 million operating cycles						10 million	5 million
Nominal force or torque For tripping	8.5 N	7 N.m	0.1 N.m				0.1 N.m	0.1 N.m
Nominal force or torque For positive opening	42.5 N	35 N.m	0.5 N.m				0.5 N.m	–
Connection	Male AMP Superseal 1.5 connector							

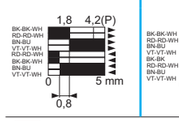
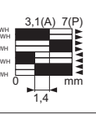
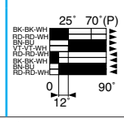
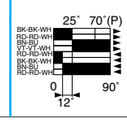
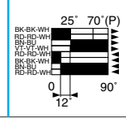
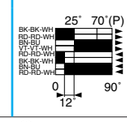
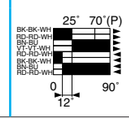
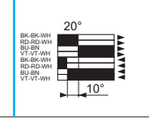
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional
														
Type of operator	Metal end plunger	Metal end plunger - 40 °C *(1)*	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Steel roller plunger - 40 °C *(1)*	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C *(1)*	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(3)*
References of modular units (body with male M12 connector and removable terminal block)															
2-pole "NC + NO" snap action 	**ZCMV21M12 + ZCE10** 	**ZCMV21M12 + ZCE106** 	**ZCMV21M12 + ZCE11** 	**ZCMV21M12 + ZCE02** 	**ZCMV21M12 + ZCE026** 	**ZCMV21M12 + ZCE24** 	**ZCMV21M12 + ZCEF0** 	**ZCMV21M12 + ZCEG1** 	**ZCMV21v + ZCEF2** 	**ZCMV21M12 + ZCE01 + ZCY15** 	**ZCMV21M12 + ZCE016 + ZCY15** 	**ZCMV21M12 + ZCE01 + ZCY16** 	**ZCMV21M12 + ZCE01 + ZCY17** 	**ZCMV21M12 + ZCE01 + ZCY45** 	**ZCMV21M12 + ZCE06** 
2-pole NC + NO break before make, slow break 	**ZCMV25M12 + ZCE10** 	**ZCMV25M12 + ZCE106** 	**ZCMV25M12 + ZCE11** 	**ZCMV25M12 + ZCE02** 	**ZCMV25M12 + ZCE026** 	**ZCMV25M12 + ZCE24** 	**ZCMV25M12 + ZCEF0** 	**ZCMV25M12 + ZCEG1** 	**ZCMV25M12 + ZCEF2** 	**ZCMV25M12 + ZCE01 + ZCY15** 	**ZCMV25M12 + ZCE016 + ZCY15** 	**ZCMV25M12 + ZCE01 + ZCY16** 	**ZCMV25M12 + ZCE01 + ZCY17** 	**ZCMV25M12 + ZCE01 + ZCY45** 	**ZCMV25M12 + ZCE06** 
2-pole NC + NC snap action 	**ZCMV29M12 + ZCE10** 	**ZCMV29M12 + ZCE106** 	**ZCMV29M12 + ZCE11** 	**ZCMV29M12 + ZCE02** 	**ZCMV29M12 + ZCE026** 	**ZCMV29M12 + ZCE24** 	**ZCMV29M12 + ZCEF0**	**ZCMV29M12 + ZCEG1**	**ZCMV29M12 + ZCEF2**	**ZCMV29M12 + ZCE01 + ZCY15**	**ZCMV29M12 + ZCE016 + ZCY15**	**ZCMV29M12 + ZCE01 + ZCY16**	**ZCMV29M12 + ZCE01 + ZCY17**	**ZCMV29M12 + ZCE01 + ZCY45**	**ZCMV29M12 + ZCE06**
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*			■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*			⊖ *NC contact with positive opening operation*		
Complementary characteristics not shown under general characteristics (see page 51)															
Switch actuation	On end			By 30° cam			On end	On end	By 30° cam						By any moving part
Type of actuation															
Maximum actuation speed	0.5 m/s							0.5 m/s	0.1 m/s	1.5 m/s				1.5 m/s	1 m/s
Mechanical durability	10 million operating cycles							10 million operating cycles						10 million	5 million
Nominal force or torque For tripping	8.5 N			7 N		2.5 N	8.5 N	8.5 N	7 N.m	0.1 N.m				0.1 N.m	0.1 N.m
Nominal force or torque For positive opening	42.5 N			35 N		12.5 N	42.5 N	42.5 N	35 N.m	0.5 N.m				0.5 N.m	–
Connection	M12 connector							M12 connector							

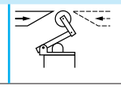
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)
							
Type of operator	Metal end plunger	Metal end plunger - 40 °C *(1)*	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Steel roller plunger - 40 °C *(1)*	Retractable steel roller lever plunger	M12 with metal end plunger
References of modular units (pre-cabled body and removable terminal block)							
4-pole 2 NC + 2 NO snap action	**ZCMV41L03 + ZCE10**	**ZCMV41L03 + ZCE106**	**ZCMV41L03 + ZCE11**	**ZCMV41L03 + ZCE02**	**ZCMV41L03 + ZCE026**	**ZCMV41L03 + ZCE24**	**ZCMV41L03 + ZCEF0**
							
Contact operation	closed / open	(A) = cam displacement (P) = positive opening point			NC contact with positive opening operation		

Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
								
Type of operator	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C *(1)*	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(3)*
References of modular units (pre-cabled body and removable terminal block)								
4-pole 2 NC + 2 NO snap action	**ZCMV41L03 + ZCEG1**	**ZCMV41L03 + ZCEF2**	**ZCMV41L03 + ZCE01 + ZCY15**	**ZCMV41L03 + ZCE016 + ZCY15**	**ZCMV41L03 + ZCE01 + ZCY16**	**ZCMV41L03 + ZCE01 + ZCY17**	**ZCMV41L03 + ZCE01 + ZCY45**	**ZCMV41L03 + ZCE06**
								
Contact operation	closed / open		(A) = cam displacement (P) = positive opening point			NC contact with positive opening operation		

Complementary characteristics not shown under general characteristics (see page 52)

Switch actuation		On end	By 30° cam		On end
Type of actuation					
Maximum actuation speed		0.5 m/s			
Mechanical durability		10 million operating cycles			
Nominal force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N
Connection		PvR cable, length 30 cm			

On end	By 30° cam			By any moving part
				
0.5 m/s	0.1 m/s	1.5 m/s	1.5 m/s	1 m/s
10 million operating cycles			10 million	5 million
8.5 N	7 N.m	0.1 N.m	0.1 N.m	0.1 N.m
42.5 N	35 N.m	0.5 N.m	0.5 N.m	–
PvR cable, length 30 cm				

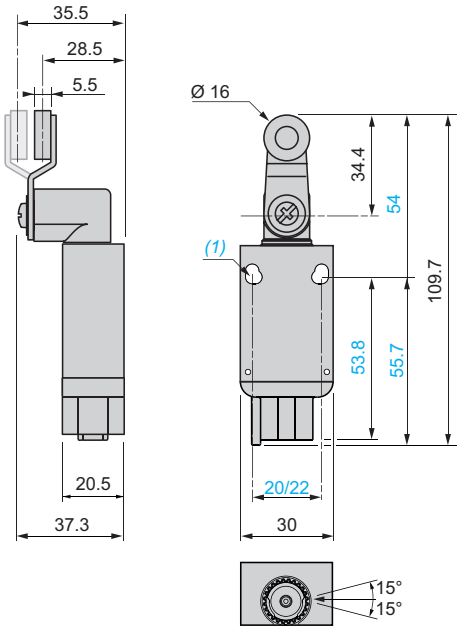
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range
Miniature design, metal, XCMV
Complete units for mobile equipment

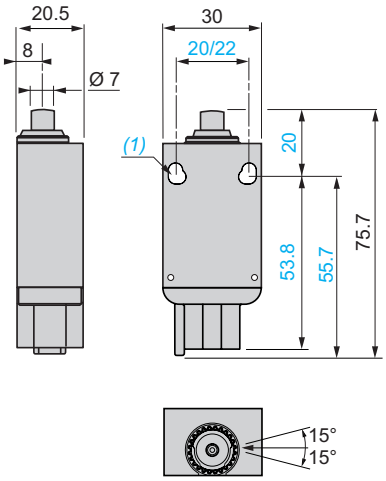
Dimensions

Switches with Deutsch DT04-4P connector

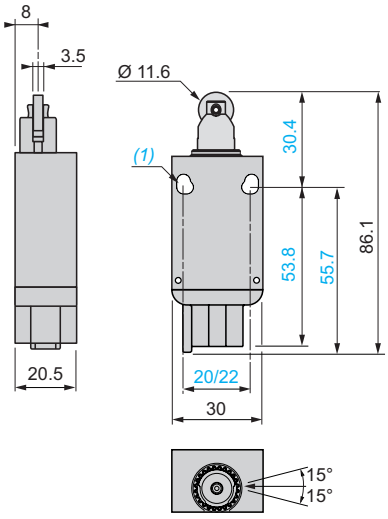
XCMV2115D44, XCMV2515D44



XCMV2110D44, XCMV2510D44

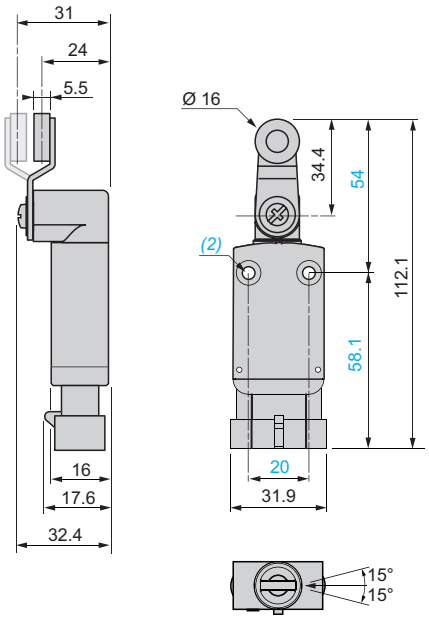


XCMV2102D44, XCMV2502D44

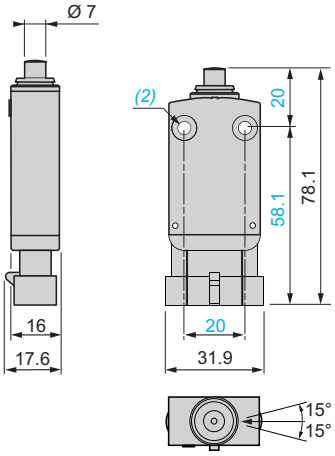


Switches with AMP Superseal 1.5 connector

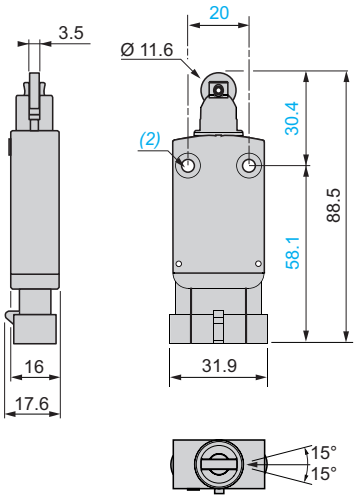
XCMD2115AM4, XCMD2515AM4



XCMD2110AM4, XCMD2510AM4



XCMD2102AM4, XCMD2502AM4

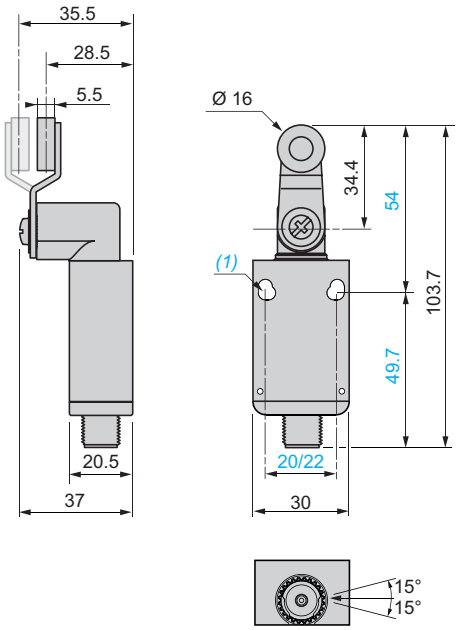


(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
(2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

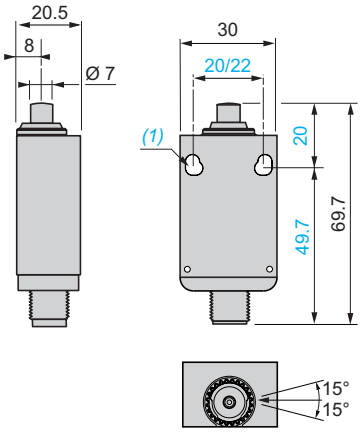
Dimensions *(continued)*

Switches with M12 connector

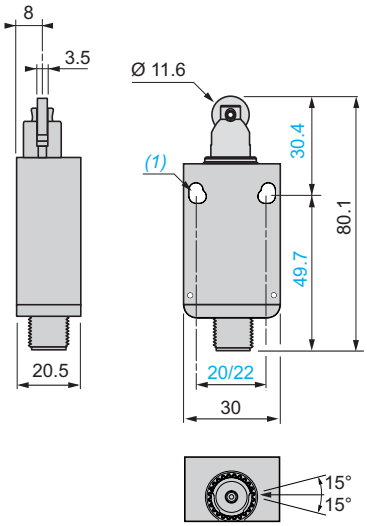
XCMV2115M12, **XCMV2515M12**



XCMV2110M12, **XCMV2510M12**



XCMV2102M12, **XCMV2502M12**

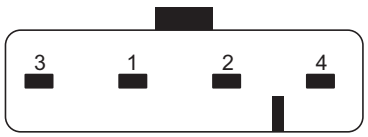


(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.

Connections

Male AMP Superseal 1.5 connector

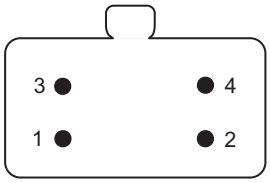
XCMV2●●●AM4



1 - 2 = NC
3 - 4 = NO

Male Deutsch DT04-4P connector

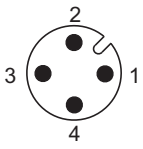
XCMV2●●●D44



1 - 2 = NC
3 - 4 = NO

Male M12 connector

XCMV2●●●M12

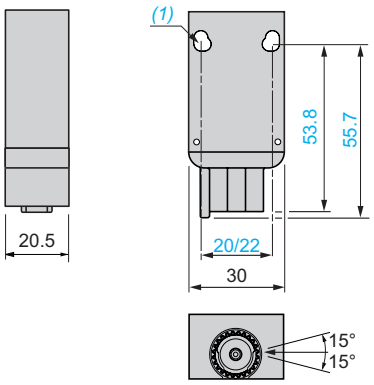


1 - 2 = NC
3 - 4 = NO

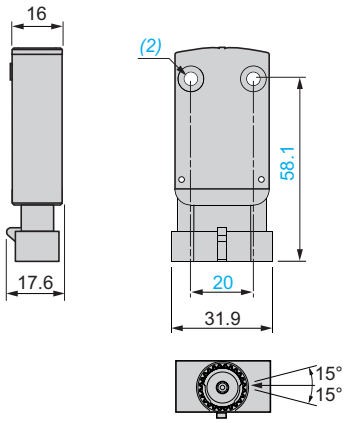
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Dimensions of bodies

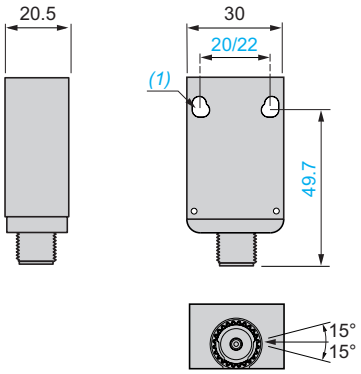
ZCMV2●D44



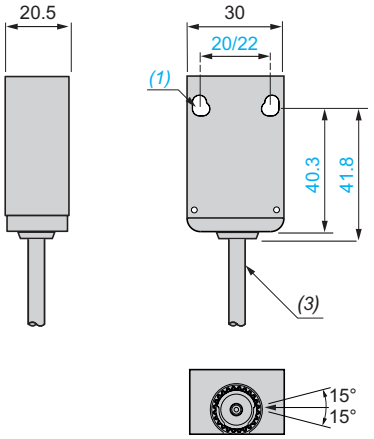
ZCMD2●AM4



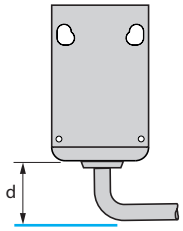
ZCMV2●M12



ZCMV41L03



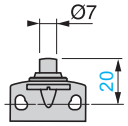
Mounting: distance required for connection



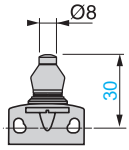
d: min. 20 mm

Dimensions of heads

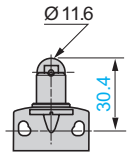
ZCE106, ZCE10



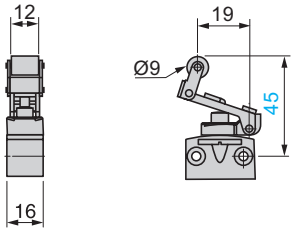
ZCE11



ZCE02, ZCE026



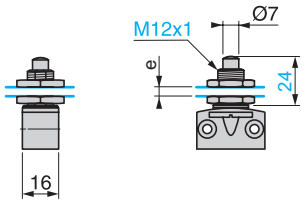
ZCE24



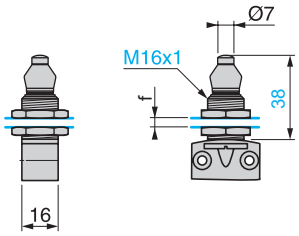
(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
(2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(3) External diameter of cable 6.4 mm.

Dimensions of heads *(continued)*

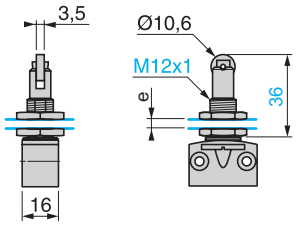
ZCEF0



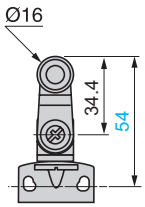
ZCEG1



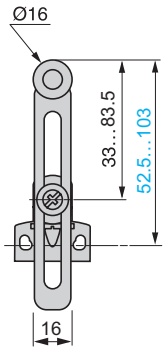
ZCEF2



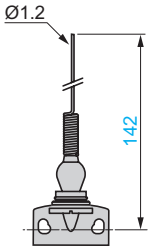
ZCE01 + ZCY15, ZCE01 + ZCY16 or ZCE01 + ZCY17



ZCE01 + ZCY45



ZCE06



e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

Complete units
pre-cabled

□ With head for linear movement (plunger), lateral or axial cable output



Pages 70 et 71

□ With head for rotary movement (lever), lateral or axial cable output



Page 71

□ With head for multi-directional movement, lateral cable output



Page 72

Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

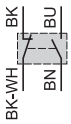
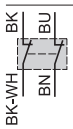
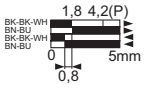
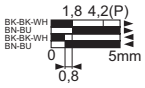
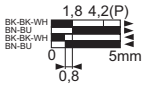
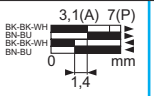
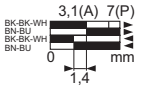
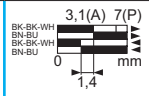
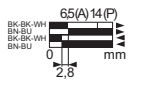
Environment characteristics

Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, cULus, UKCA
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25…+ 70 °C
	For storage	- 40…+ 70 °C
Vibration resistance	Conforming to IEC 60068-2-6	5 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	25 gn (18 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20-030
Degree of protection		**IP 66, IP67 conforming to IEC 60529** **IK 04 conforming to IEC 50102**
Materials	Bodies	Plastic
	Heads	Zamak

Contact block characteristics

Rated operational characteristics	~ AC-15 ; C300 (Ue = 240 V, Ie = 0.75 A) ; Ith = 3 A
	⎓ DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix C, EN 60947-5-1
Rated insulation voltage	Ui = 300 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Short-circuit protection	6 A cartridge fuse type gG (gI)

Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

Type of head	Plunger (fixing by the body)						
							
Type of operator	Metal end plunger		Metal end plunger with silicone boot *(1)*	Steel roller plunger for lateral cam approach		Steel roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction
Cable output	Lateral	Axial	Lateral	Lateral	Axial	Lateral	Lateral
References							
 **2-pole NC + NO snap action**	**XCMH2110L1** ⊖ **XCMH2110L2** ⊖ **XCMH2110L3** ⊖	**XCMH2110LA1** ▲ ⊖	**XCMH211AL05** ⊖ **XCMH211AL1** ⊖	**XCMH2102L1** ⊖ **XCMH2102L2** ⊖ **XCMH2102L3** ⊖ **XCMH2102L5** ⊖ **XCMH2102L6** ⊖ **XCMH2102L7** ⊖ **XCMH2102L8** ⊖ **XCMH2102L9** ⊖	**XCMH2102LA1** ▲ ⊖	**XCMH2103L1** ⊖ **XCMH2103L2** ⊖ **XCMH2103L3** ⊖ **XCMH2103L5** ⊖ **XCMH2103L8** ⊖	**XCMH2121L1** ⊖ **XCMH2121L2** ⊖ **XCMH2121L5** ⊖
 **2-pole NC + NC snap action**	**XCMH2910L1** ⊖ **XCMH2910L2** ⊖ **XCMH2910L3** ⊖	–	–	**XCMH2902L1** ⊖ **XCMH2902L5** ⊖	–	**XCMH2903L1** ⊖	–
							
Weight (kg) 0.5 m cable (L05)	–	–	0.055	–	–	–	–
1 m cable (L1)	0.064	0.064	0.069	0.070	0.070	0.070	0.077
2 m cable (L2)	0.092	–	–	0.099	–	0.099	0.106
3 m cable (L3)	0.120	–	–	0.127	–	0.127	–
5 m cable (L5)	–	–	–	0.184	–	0.184	0.191
6 m cable (L6)	–	–	–	0.212	–	–	–
7 m cable (L7)	–	–	–	0.240	–	–	–
8 m cable (L8)	–	–	–	0.269	–	0.269	–
9 m cable (L9)	–	–	–	0.297	–	–	–
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*		

Complementary characteristics not shown under general characteristics (see page 69)

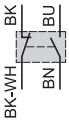
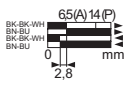
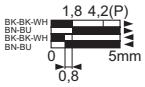
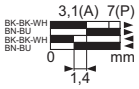
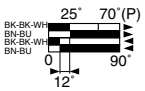
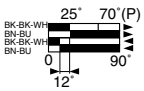
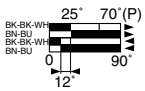
Switch actuation	On end		By 30° cam	
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s	0.5 m/s	0.5 m/s
Mechanical durability	5 million operating cycles			
Minimum force or torque For tripping	8.5 N.m	0.1 N.m	7 N.m	2.5 N.m
For positive opening	42.5 N.m	0.5 N.m	35 N.m	12.5 N.m
Cabling	PvR cable, 4 x 0.34 mm²			

(1) Silicone boot for outdoor use.
▲ Available 2nd semester 2023.

Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

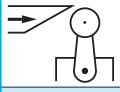
Type of head	Plunger (fixing by the body)	Plunger (fixing by the head)		Rotary (fixing by the body)		
						
Type of operator	Thermoplastic roller lever plunger, horizontal actuation in 1 direction Head oriented at 270°	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	Thermoplastic roller lever		Thermoplastic roller lever Head oriented at 180°
Cable output	Lateral	Lateral	Lateral	Lateral	Axial	Lateral

References

 **2-pole NC + NO snap action**	**XCMH2121L1R0** ⊖	**XCMH21F0L1** ⊖	**XCMH21F2L1** ⊖	**XCMH2115L1** ⊖	**XCMH2115LA1** ▲ ⊖	**XCMH2115L1L0** ⊖
		XCMH21F0L2 ⊖	**XCMH21F2L2** ⊖	**XCMH2115L2** ⊖		**XCMH2115L2L0** ⊖
				XCMH2115L3 ⊖		**XCMH2115L3L0** ⊖
				XCMH2115L8 ⊖		
						
Weight (kg) 1 m cable (L1)	0.077	0.081	0.091	0.106	0.106	0.106
2 m cable (L2)	–	0.110	0.120	0.134	–	0.134
3 m cable (L3)	–	–	–	0.163	–	0.163
8 m cable (L8)	–	–	–	0.304	–	–

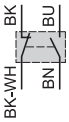
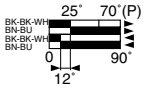
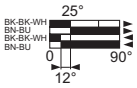
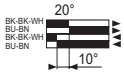
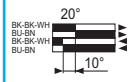
Contact operation ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Complementary characteristics not shown under general characteristics (see page 69)

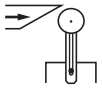
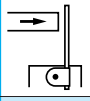
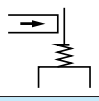
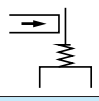
Switch actuation		By 30° cam	On end	By 30° cam°		
Type of actuation						
Maximum actuation speed		0.5 m/s	0.5 m/s	0.1 m/s	0.1 m/s	1.5 m/s
Mechanical durability		5 million operating cycles				
Minimum force or torque	For tripping	2.5 N.m	8.5 N.m	7 N.m	0.1 N.m	0.1 N.m
	For positive opening	12.5 N.m	42.5 N.m	35 N.m	0.5 N.m	0.5 N.m
Cabling		PvR cable, 4 x 0.34 mm²				

▲ *Available 2nd semester 2023.*

Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

Type of head		Rotary (fixing by the body)		Multi-directional	
					
Type of operator		Variable length thermoplastic roller lever	Round thermoplastic rod lever, Ø 6 mm *(1)*	Spring lever with thermoplastic end *(1)*	"Cat's whisker" *(1)*
Cable output		Lateral	Lateral	Lateral	Lateral
References					
	**2-pole NC + NO snap action**	**XCMH2145L1** ⊖	**XCMH2159L1**	**XCMH2107L1**	**XCMH2106L1**
		XCMH2145L2 ⊖	**XCMH2159L2**	**XCMH2107L2**	**XCMH2106L2**
				XCMH2107L3	
					
Weight (kg)	1 m cable (L1)	0.115	0.070	0.079	0.068
	2 m cable (L2)	0.144	0.099	0.107	0.096
	3 m cable (L3)	–	–	0.136	–
Contact operation	▬ *closed* ▭ *open*	*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Complementary characteristics not shown under general characteristics (see page 69)

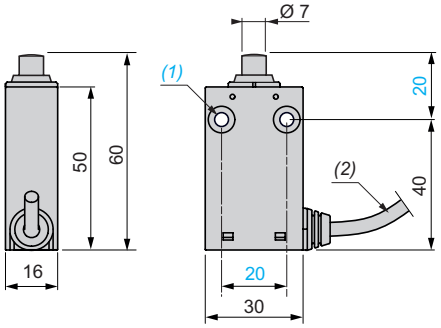
Switch actuation		By 30° cam	By any moving part		
Type of actuation					
Maximum actuation speed		1.5 m/s	1 m/s	1 m/s (any direction)	
Mechanical durability		5 million operating cycles			
Minimum force or torque	For tripping	0.1 N.m	0.1 N.m	0.1 N.m	0.1 N.m
	For positive opening	0.5 N.m	–	–	–
Cabling		PvR cable, 4 x 0.34 mm^2			

(1) Value taken with actuation by moving part at 100 mm from the fixing.

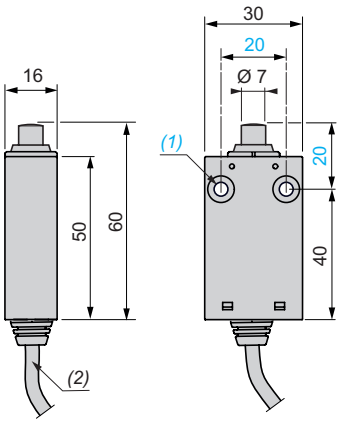
Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

Dimensions

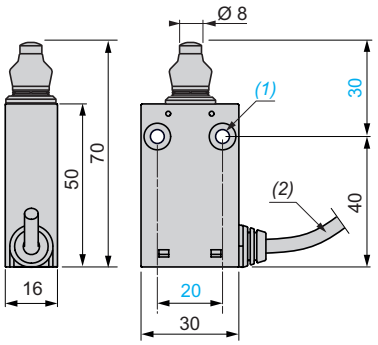
XCMH2110L1, XCMH2110L2, XCMH2110L3, XCMH2910L1, XCMH2910L2 and **XCMH2910L3**



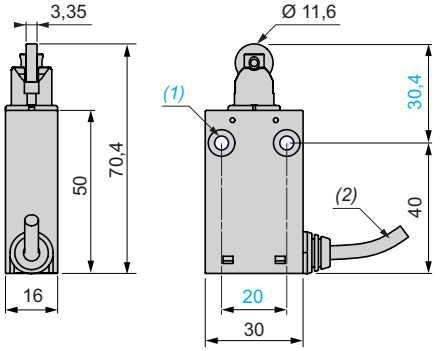
XCMH2110LA1



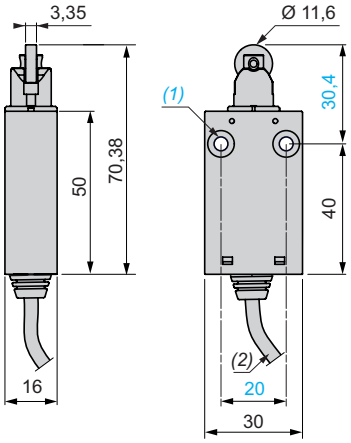
XCMH211AL05 and **XCMH211AL1**



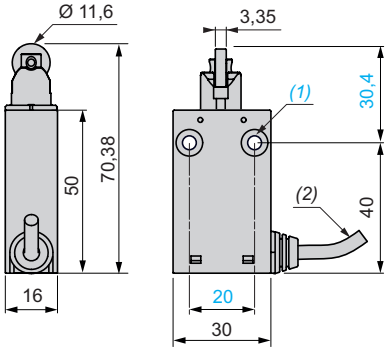
XCMH2102L1, XCMH2102L2, XCMH2102L3, XCMH2102L5, XCMH2102L6, XCMH2102L7, XCMH2102L8, XCMH2102L9, XCMH2902L1 and **XCMH2902L5**



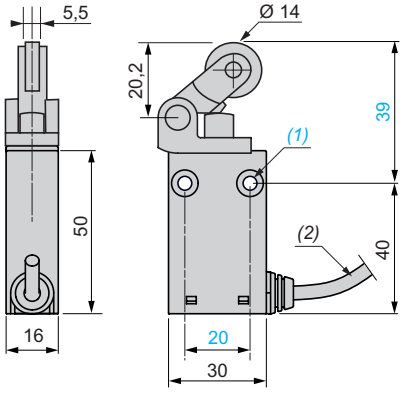
XCMH2102LA1



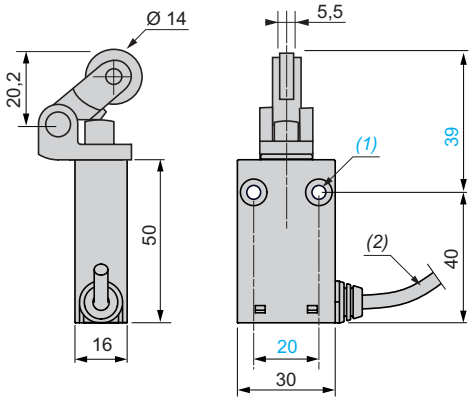
XCMH2103L1, XCMH2103L2, XCMH2103L3, XCMH2103L5 and **XCMH2103L8**



XCMH2121L1, XCMH2121L2 and **XCMH2121L5**



XCMH2121L1R0

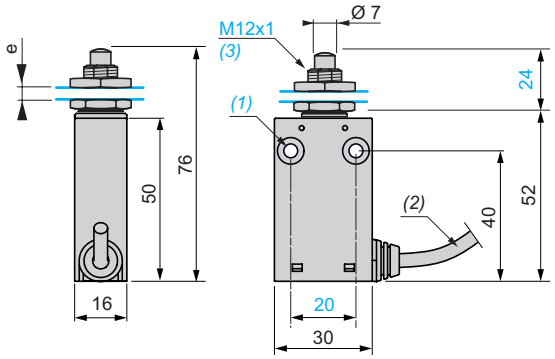


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

(2) External diameter 4.2 mm.

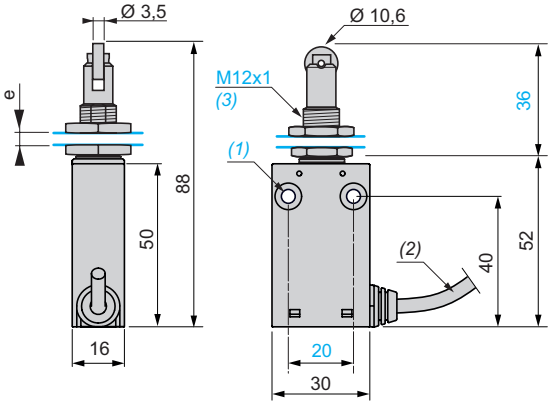
Dimensions *(continued)*

XCMH21F0L1 and **XCMH21F0L2**



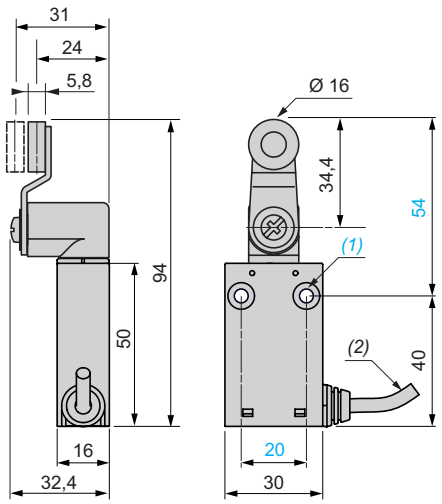
e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

XCMH21F2L1 and **XCMH21F2L2**

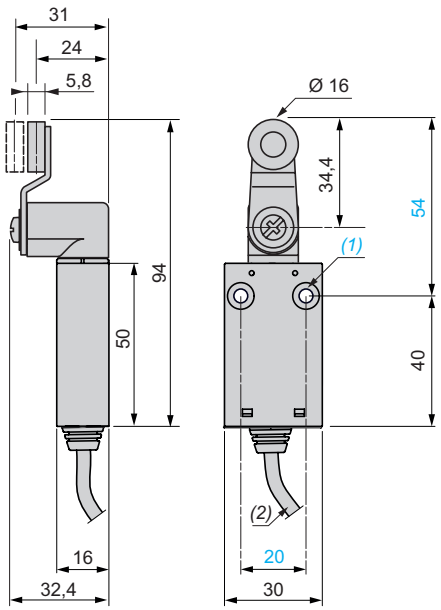


e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

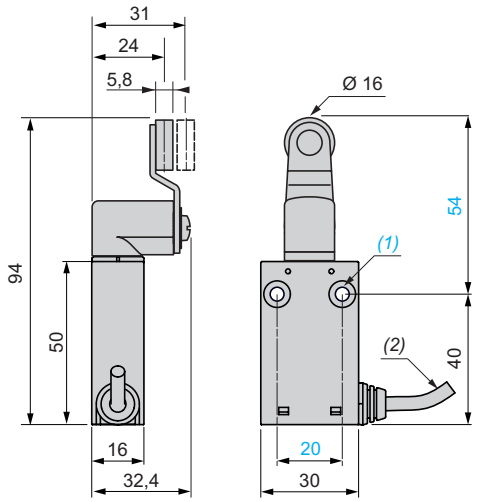
XCMH2115L1, **XCMH2115L2**, **XCMH2115L5** and **XCMH2115L8**



XCMH2115LA1



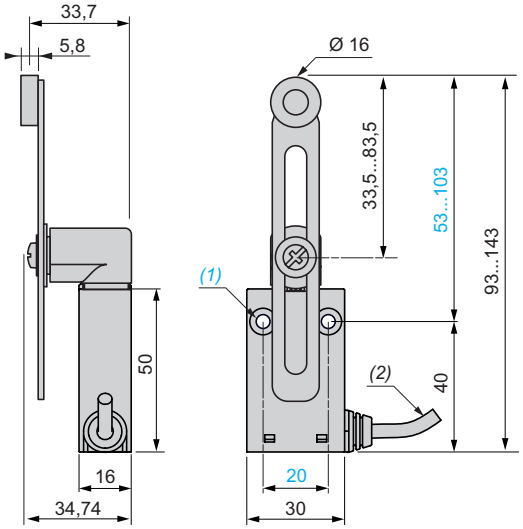
XCMH2115L1L0, **XCMH2115L2L0** and **XCMH2115L3L0**



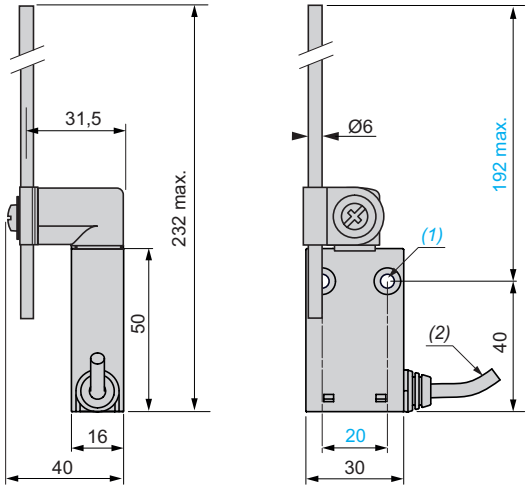
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(2) External diameter 4.2 mm.
(3) Fixing nut thickness 3.5 mm.

Dimensions *(continued)*

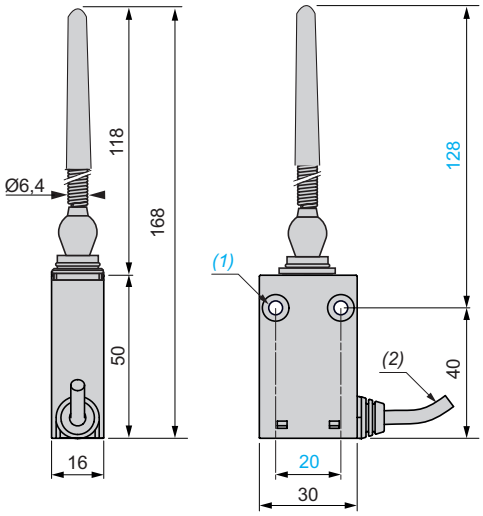
XCMH2145L1 and **XCMH2145L2**



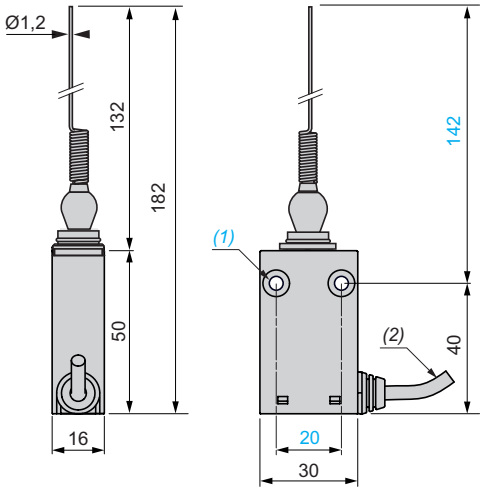
XCMH2159L1 and **XCMH2159L2**



XCMH2107L1, XCMH2107L2 and **XCMH2107L3**

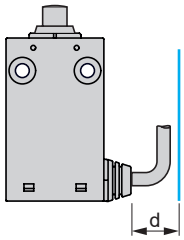


XCMH2106L1 and **XCMH2106L2**

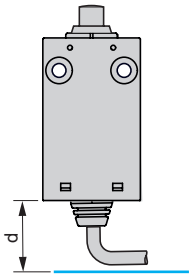


Mounting: distance required for connection

Limit switches with cable lateral output



Limit switches with cable axial output



d: min. 15 mm.

(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

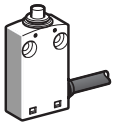
(2) External diameter 4.2 mm.

Limit switches
XC Basic range
Miniature design, plastic, XCMN

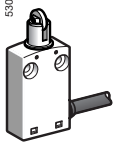
■ **XCMN**
pre-cabled

□ **With head for linear movement (plunger). Fixing by the body**

520366



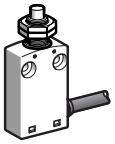
530750



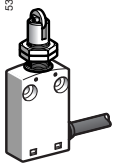
Page 78

□ **With head for linear movement (plunger). Fixing by the head**

530751



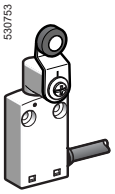
530752



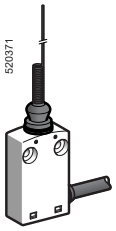
Page 78

□ **With head for rotary movement (lever) or multi-directional**

530753



520371



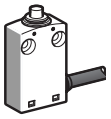
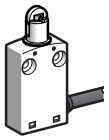
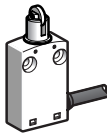
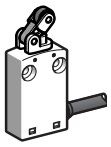
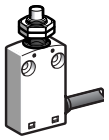
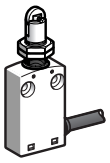
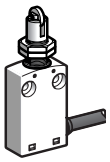
Page 79

Limit switches
XC Basic range
Miniature design, plastic, XCMN

Environment characteristics		
Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25…+ 70°C
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	5 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	25 gn (18 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		**IP 65 conforming to IEC 60529; IK 04 conforming to IEC 62262**
Materials	Bodies	Plastic
	Heads	Zamak

Contact block characteristics	
Rated operational characteristics	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A
	⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Short-circuit protection	6 A cartridge fuse type gG (gl)

Limit switches
XC Basic range
Miniature design, plastic, XCMN
Pre-cabled

Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Steel roller plunger for lateral cam approach	Steel roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	M12 with steel roller plunger for traverse cam approach
References							
2-pole NC + NO snap action	**XCMN2110L1**	**XCMN2102L1**	**XCMN2103L1**	**XCMN2121L1**	**XCMN21F0L1**	**XCMN21F2L1**	**XCMN21F3L1**
Weight (kg)	0.080	0.080	0.080	0.090	0.065	0.095	0.095

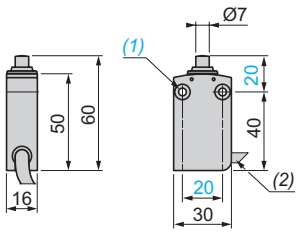
Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Characteristics

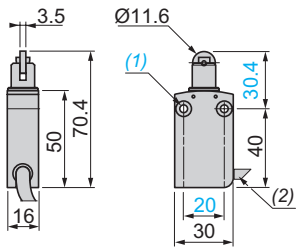
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s	0.1 m/s	0.5 m/s		0.1 m/s
Mechanical durability		5 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		PvR cable, 4 x 0.75 mm², length 1 metre				

Dimensions

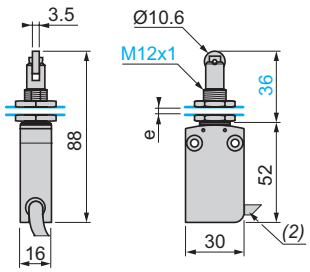
XCMN2110L1



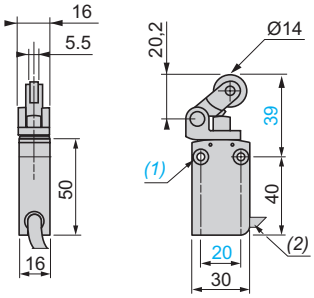
XCMN2102L1, XCMN2103L1



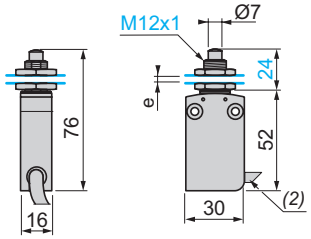
XCMN21F2L1, XCMN21F3L1



XCMN2121L1

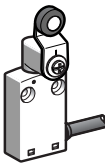
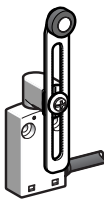
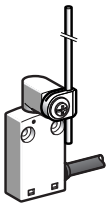
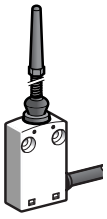
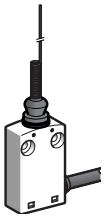


XCMN21F0L1

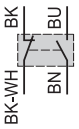
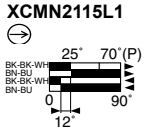
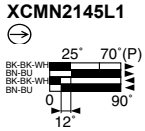
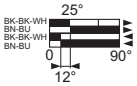
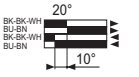
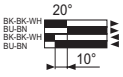


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(2) External diameter 7.5 mm.
e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

Limit switches
XC Basic range
Miniature design, plastic, XCMN
Pre-cabled

Type of head	Rotary (fixing by the body)			Multi-directional	
					
Type of operator	Thermoplastic roller lever	Variable length thermoplastic roller lever	Round thermoplastic rod lever, Ø 6 mm *(1)*	Spring lever with thermoplastic end *(1)*	"Cat's whisker" *(1)*

References

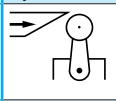
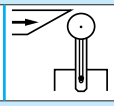
2-pole NC + NO snap action	XCMN2115L1	XCMN2145L1	XCMN2159L1	XCMN2107L1	XCMN2106L1
					
Weight (kg)	0.100	0.105	0.080	0.085	0.080

Contact operation

- ■ *closed*
- □ *open*
- *(A) = cam displacement*
- *(P) = positive opening point*
- ⊖ *NC contact with positive opening operation*

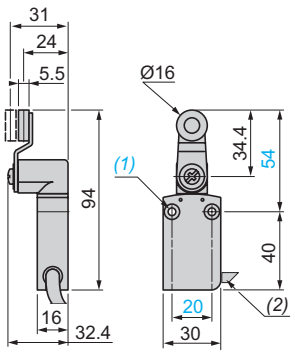
(1) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics

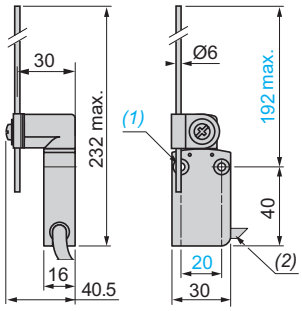
Switch actuation		By 30° cam		By any moving part	
Type of actuation						
Maximum actuation speed		1.5 m/s		1 m/s	1 m/s (any direction)	
Mechanical durability		5 million operating cycles				
Minimum force or torque	For tripping	0.1 N.m				
	For positive opening	0.5 N.m		–	–	–
Cabling		PvR cable, 4 x 0.75 mm², length 1 metre				

Dimensions

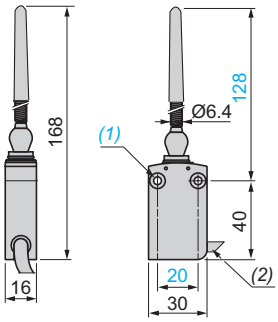
XCMN2115L1



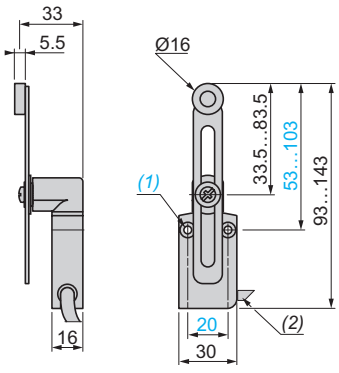
XCMN2159L1



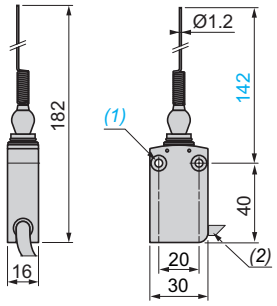
XCMN2107L1



XCMN2145L1



XCMN2106L1



(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(2) External diameter 7.5 mm.

Limit switches
XC Standard range
Compact design, plastic, XCKP and XCKT
Compact design, metal, XCKD

■ XCKP, XCKD
with 1 cable entry
Conforming to CENELEC EN 50047

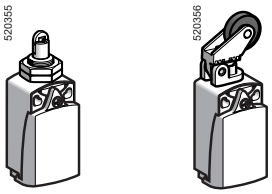
□ With head for linear movement (plunger). Fixing by the head or by the body

XCKD



Pages 88 and 92

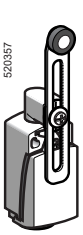
XCKP



Pages 82 and 86

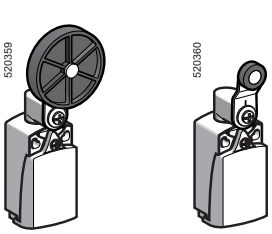
□ With head for rotary movement (lever) or multi-directional. Fixing by the body

XCKD



Pages 89 and 93

XCKP

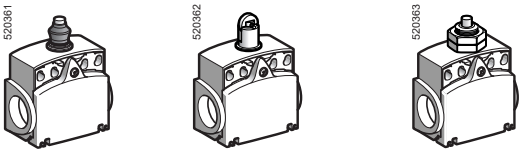


Pages 83 and 87

■ XCKT
with 2 cable entries
Tripping/resetting points and fixing centres conform to CENELEC EN 50047

□ With head for linear movement (plunger). Fixing by the head or by the body

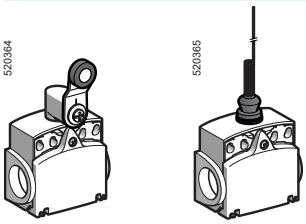
XCKT



Page 94

□ With head for rotary movement (lever) or multi-directional. Fixing by the body

XCKT



Page 94

Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25…+ 70°C (- 40…+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz) except product with head ZCE24: 20 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except head ZCE08: 15 gn (11 ms) and ZCE24: 30 gn (18 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20-030 for **XCKP** and **XCKT**
		Class I conforming to IEC 61140 and NF C 20-030 for **XCKD**
Degree of protection		**IP 66 and IP 67 conforming to IEC 60529; IK 04 conforming to IEC 62262 for XCKP and XCKT, IK 06 conforming to IEC 62262 for XCKD**
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry or connector	Depending on model	Either tapped entry for n° 11 or n° 13 cable gland, tapped ISO M16 x 1.5 or ISO M20 x 1.5, tapped 1/2" NPT or PF 1/2 (G1/2) or M12 connector
Materials		**XCKD** Zamak bodies and heads, **XCKP and XCKT** plastic bodies, Zamak heads

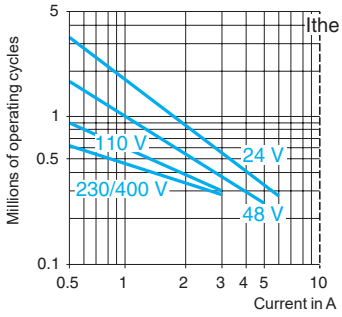
Limit switches
XC Standard range
Compact design, plastic, XCKP and XCKT
Compact design, metal, XCKD

Contact block characteristics

Rated operational characteristics	XE2●P	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP●151 and XE2SP2141	Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm²
	XE2NP21●1 and XE2NP31●1	Clamping capacity, min: 1 x 0.5 mm², max: 2 x 2.5 mm²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²
Minimum actuation speed (for head with end plunger)		**XE2SP●151**, **XE2SP2141** and **XE3SP**: 0.01 m/minute
		XE2NP21●1, **XE2NP31●1** and **XE3NP**: 6 m/minute
Electrical durability		■ Conforming to IEC 60947-5-1 Appendix C ■ Utilisation categories AC-15 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5

XE2SP●151, XE2SP2141

AC supply
50/60 Hz ∼
⎓ inductive circuit

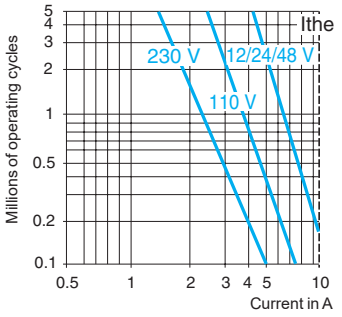


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

XE2NP21●1, XE2NP31●1



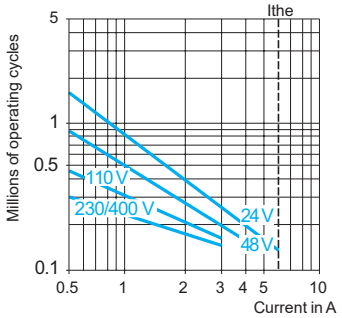
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

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

XE3SP●●●●

AC supply
50/60 Hz ∼
⎓ inductive circuit

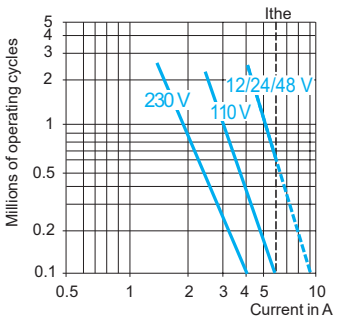


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

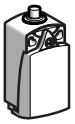
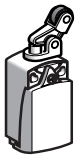
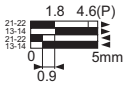
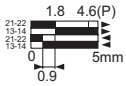
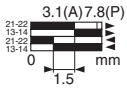
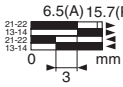
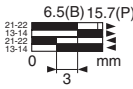
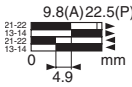
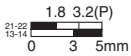
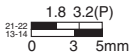
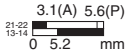
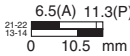
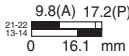
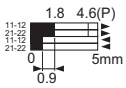
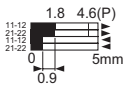
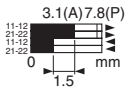
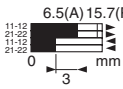
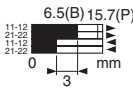
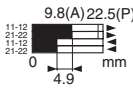
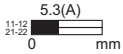
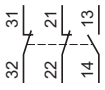
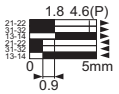
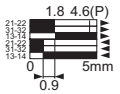
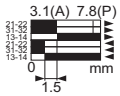
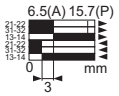
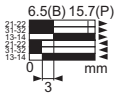
XE3NP●●●●



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	4	3	2

Limit switches
XC Standard range
Compact design, plastic, XCKP
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)					
	Form B *(1)*		Form C *(1)*	Form E *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction
References of complete switches with 1 ISO M16 x 1.5 cable entry *(2)*						
 **2-pole NC + NO snap action (XE2SP2151)**	**XCKP2110P16** ⊖ 	**XCKP2111P16** ⊖ 	**XCKP2102P16** ⊖ 	**XCKP2121P16** ⊖ 	**XCKP2127P16** ⊖ 	**XCKP2128P16** ⊖ 
 **2-pole NC + NO break before make, slow break (XE2NP2151)**	**XCKP2510P16** ⊖ 	**XCKP2511P16** ⊖ 	**XCKP2502P16** ⊖ 	**XCKP2521P16** ⊖ 	**XCKP2527P16** ⊖ 	**XCKP2528P16** ⊖ 
 **2-pole NC + NC snap action (XE2SP2141)**	**ZCP29 + ZCPEP16 + ZCE10** ⊖ 	**ZCP29 + ZCPEP16 + ZCE11** ⊖ 	**ZCP29 + ZCPEP16 + ZCE02** ⊖ 	**ZCP29 + ZCPEP16 + ZCE21** ⊖ 	**ZCP29 + ZCPEP16 + ZCE27** ⊖ 	**ZCP29 + ZCPEP16 + ZCE28** ⊖ 
 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCP27 + ZCPEP16 + ZCE10** ⊖ 	**ZCP27 + ZCPEP16 + ZCE11** ⊖ 	**ZCP27 + ZCPEP16 + ZCE02** ⊖ 	**ZCP27 + ZCPEP16 + ZCE21** ⊖ 	**ZCP27 + ZCPEP16 + ZCE27** ⊖ 	**ZCP27 + ZCPEP16 + ZCE28** ⊖ 
 **3-pole NC + NC + NO snap action (XE3SP2141)**	**ZCP39 + ZCPEP16 + ZCE10** ⊖ 	**ZCP39 + ZCPEP16 + ZCE11** ⊖ 	**ZCP39 + ZCPEP16 + ZCE02** ⊖ 	**ZCP39 + ZCPEP16 + ZCE21** ⊖ 	**ZCP39 + ZCPEP16 + ZCE27** ⊖ 	**ZCP39 + ZCPEP16 + ZCE28** ⊖
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	**ZCP37 + ZCPEP16 + ZCE10** ⊖	**ZCP37 + ZCPEP16 + ZCE11** ⊖	**ZCP37 + ZCPEP16 + ZCE02** ⊖	**ZCP37 + ZCPEP16 + ZCE21** ⊖	**ZCP37 + ZCPEP16 + ZCE27** ⊖	**ZCP37 + ZCPEP16 + ZCE28** ⊖
Weight (kg)	0.090	0.090	0.095	0.105	0.100	0.105

References of complete switches with 1 entry for n° 11 cable gland

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by G11. Example: XCKP2110P16 becomes XCKP2110G11 or ZCPEP16 becomes ZCPEG11.

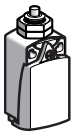
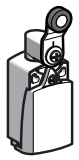
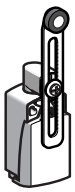
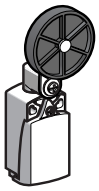
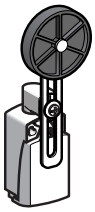
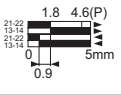
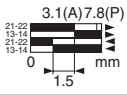
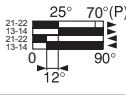
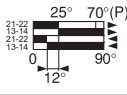
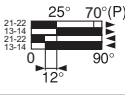
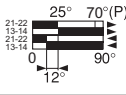
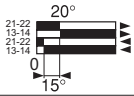
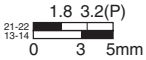
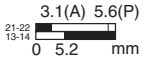
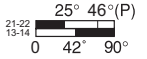
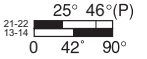
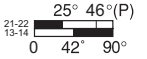
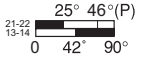
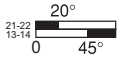
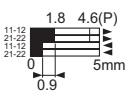
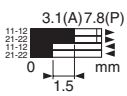
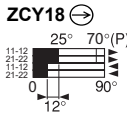
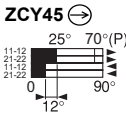
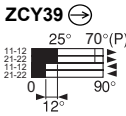
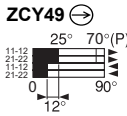
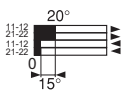
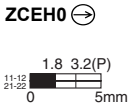
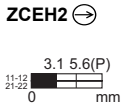
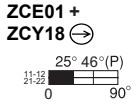
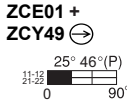
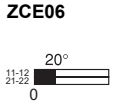
Contact operation ■ *closed* □ *open* — *(A) (B) = cam displacement (P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Characteristics

Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s		1 m/s		
Mechanical durability (in millions of operating cycles)	15	10	15		
Minimum force or torque For tripping	15 N	12 N	6 N		
For positive opening	45 N	36 N	18 N		
Cable entry *(3)*	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

(1) Form conforming to EN 50047, see page 24.
(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Limit switches
XC Standard range
Compact design, plastic, XCKP
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" *(2)*
References of complete switches with 1 ISO M16 x 1.5 cable entry *(3)*							
 **2-pole NC + NO snap action (XE2SP2151)**	**XCKP21H0P16** 	**XCKP21H2P16** 	**XCKP2118P16** 	**XCKP2145P16** 	**XCKP2139P16** 	**XCKP2149P16** 	**XCKP2106P16** 
 **2-pole NC + NO break before make, slow break (XE2NP2151)**	**XCKP25H0P16** 	**XCKP25H2P16** 	**XCKP2518P16** 	**XCKP2545P16** 	**XCKP2539P16** 	**XCKP2549P16** 	**XCKP2506P16** 
 **2-pole NC + NC snap action (XE2SP2141)**	**ZCP29 + ZCPEP16 + ZCEH0** 	**ZCP29 + ZCPEP16 + ZCEH2** 	**ZCP29 + ZCPEP16 + ZCE01 + ZCY18** 	**ZCP29 + ZCPEP16 + ZCE01 + ZCY45** 	**ZCP29 + ZCPEP16 + ZCE01 + ZCY39** 	**ZCP29 + ZCPEP16 + ZCE01 + ZCY49** 	**ZCP29 + ZCPEP16 + ZCE06** 
 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCP27 + ZCPEP16 + ZCEH0** 	**ZCP27 + ZCPEP16 + ZCEH2** 	**ZCP27 + ZCPEP16 + ZCE01 + ZCY18** 	**ZCP27 + ZCPEP16 + ZCE01 + ZCY45** 	**ZCP27 + ZCPEP16 + ZCE01 + ZCY39** 	**ZCP27 + ZCPEP16 + ZCE01 + ZCY49** 	**ZCP27 + ZCPEP16 + ZCE06** 
 **3-pole NC + NC + NO snap action (XE3SP2141)**	**ZCP39 + ZCPEP16 + ZCEH0**	**ZCP39 + ZCPEP16 + ZCEH2**	**ZCP39 + ZCPEP16 + ZCE01 + ZCY18**	**ZCP39 + ZCPEP16 + ZCE01 + ZCY45**	**ZCP39 + ZCPEP16 + ZCE01 + ZCY39**	**ZCP39 + ZCPEP16 + ZCE01 + ZCY49**	**ZCP39 + ZCPEP16 + ZCE06**
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	**ZCP37+ ZCPEP16 + ZCEH0**	**ZCP37 + ZCPEP16 + ZCEH2**	**ZCP37 + ZCPEP16 + ZCE01 + ZCY18**	**ZCP37 + ZCPEP16 + ZCE01 + ZCY45**	**ZCP37 + ZCPEP16 + ZCE01 + ZCY39**	**ZCP37 + ZCPEP16 + ZCE01 + ZCY49**	**ZCP37 + ZCPEP16 + ZCE06**
Weight (kg)	0.130	0.130	0.135	0.145	0.145	0.155	0.085

References of complete switches with 1 entry for n° 11 cable gland

*For an entry tapped for a n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKP21H0P16 becomes **XCKP21H0G11** or ZCPEP16 becomes **ZCPEG11**.*

Contact operation ■ *closed* □ *open* — *(A) = cam displacement* — *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

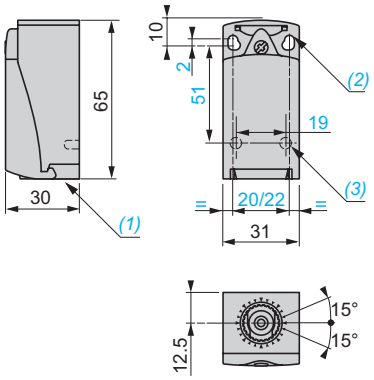
Characteristics

Switch actuation	On end	By 30° cam				By any moving part
Type of actuation						
Maximum actuation speed	0.5 m/s		1.5 m/s			1 m/s (any direct.)
Mechanical durability	10 million operating cycles					5 million
Minimum force or torque For tripping	15 N	10 N	0.1 N.m			0.13 N.m
Minimum force or torque For positive opening	45 N	36 N	0.25 N.m			–
Cable entry	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm					

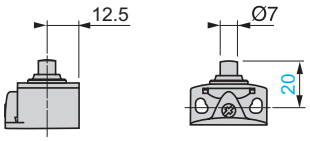
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Limit switches
XC Standard range
Compact design, plastic, XCKP
Complete switches with 1 cable entry

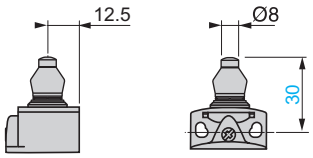
ZCP2● + ZCPEP16/ZCP3● + ZCPEP16



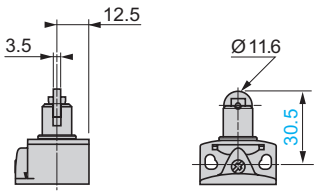
ZCE10



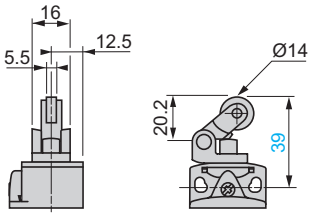
ZCE11



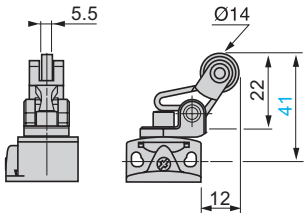
ZCE02



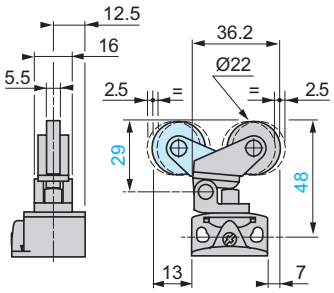
ZCE21



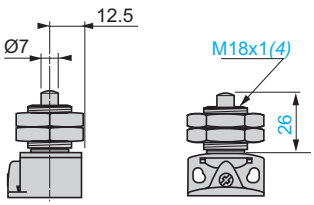
ZCE27



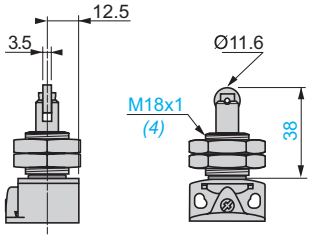
ZCE28



ZCEH0



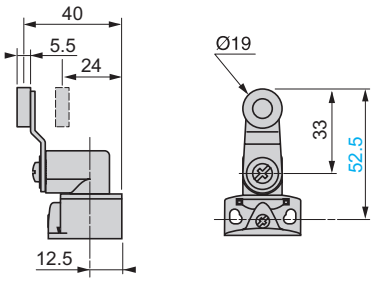
ZCEH2



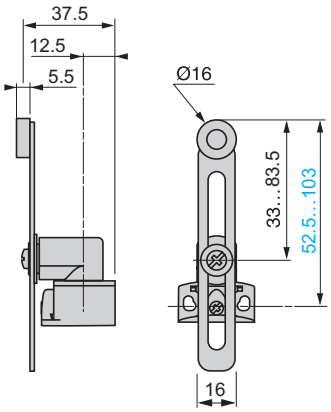
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, plastic, XCKP
Complete switches with 1 cable entry

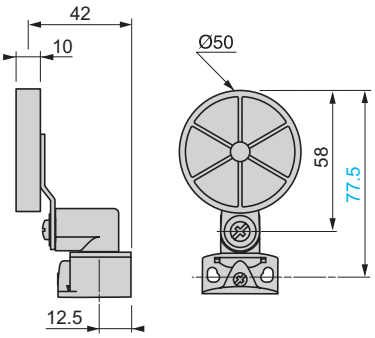
ZCE01 + ZCY18



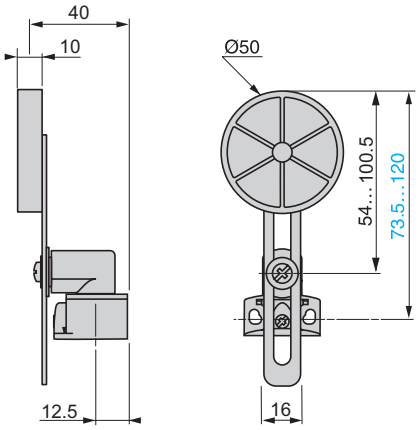
ZCE01 + ZCY45



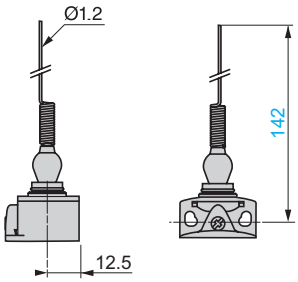
ZCE01 + ZCY39



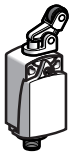
ZCE01 + ZCY49



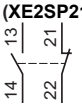
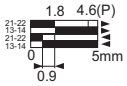
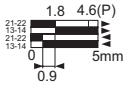
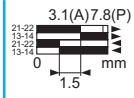
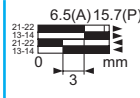
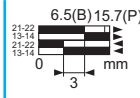
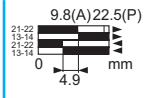
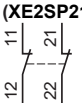
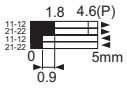
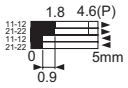
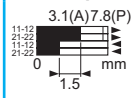
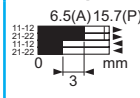
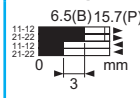
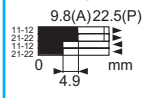
ZCE06



Limit switches
XC Standard range
Compact design, plastic, XCKP
M12 connector

Type of head	Plunger (fixing by the body)					
	Form B *(1)*		Form C *(1)*	Form E *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction

References

2-pole NC + NO snap action (XE2SP2151) 	**XCKP2110M12** 	**XCKP2111M12** 	**XCKP2102M12** 	**XCKP2121M12** 	**XCKP2127M12** 	**XCKP2128M12** 
2-pole NC + NC snap action (XE2SP2141) 	**ZCP29M12 + ZCE10** 	**ZCP29M12 + ZCE11** 	**ZCP29M12 + ZCE02** 	**ZCP29M12 + ZCE21** 	**ZCP29M12 + ZCE27** 	**ZCP29M12 + ZCE28** 
Weight (kg)	0.100	0.100	0.100	0.110	0.110	0.110

Contact operation

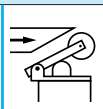
■ *closed*
□ *open*

(A) (B) = cam displacement
(P) = positive opening point

⊖ *NC contact with positive opening operation*

(1) Form conforming to EN 50047, see page 24.
(2) Nitrile for indoor use.

Characteristics

Switch actuation	On end		By 30° cam			
Type of actuation						
Maximum actuation speed	0.5 m/s			1 m/s		
Mechanical durability (in millions of operating cycles)	15		10	15		
Minimum force or torque	For tripping	15 N	12 N	6 N		
	For positive opening	45 N	36 N	18 N		
Connection	M12 connector, Ui = 250 V, Ie = 3 A maximum, Ith = 3 A					

Connections

M12 connector

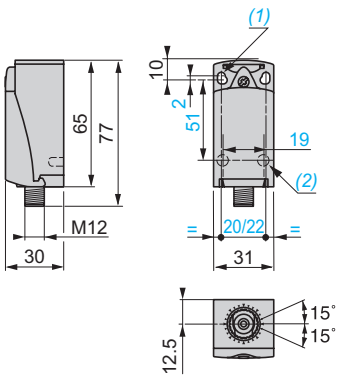


XE2SP2151
1-2: NC
3-4: NO

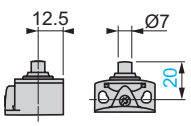
XE2SP2141
1-2: NC
3-4: NC

Dimensions

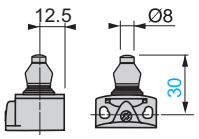
ZCP2●M12



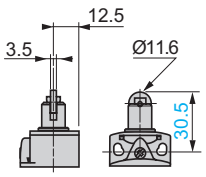
ZCE10



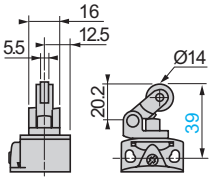
ZCE11



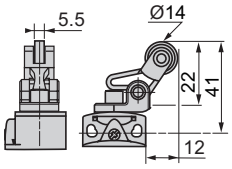
ZCE02



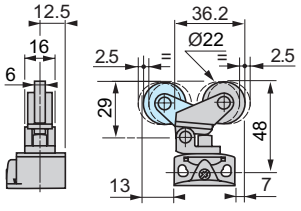
ZCE21



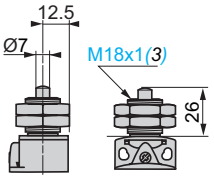
ZCE27



ZCE28

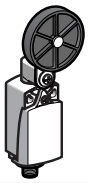
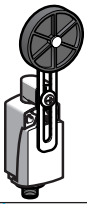


ZCEH0

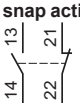
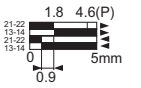
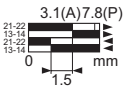
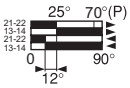
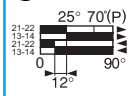
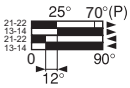
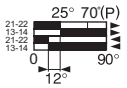
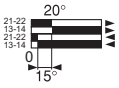
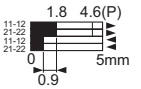
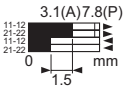
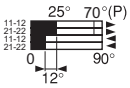
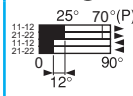
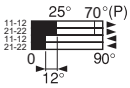
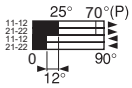
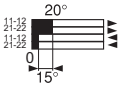


(1) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(2) 2 x Ø 3 holes for support studs, depth 4 mm.
(3) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, plastic, XCKP
M12 connector

Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" *(2)*

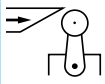
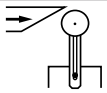
References

2-pole NC + NO snap action (XE2SP2151) 	**XCKP21H0M12** 	**XCKP21H2M12** 	**XCKP2118M12** 	**XCKP2145M12** 	**XCKP2139M12** 	**XCKP2149M12** 	**XCKP2106M12** 
2-pole NC + NC snap action (XE2SP2141) 	**ZCP29M12 + ZCEH0** 	**ZCP29M12 + ZCEH2** 	**ZCP29M12 + ZCE01 + ZCY18** 	**ZCP29M12 + ZCE01 + ZCY45** 	**ZCP29M12 + ZCE01 + ZCY39** 	**ZCP29M12 + ZCE01 + ZCY49** 	**ZCP29M12 + ZCE06** 
Weight (kg)	0.140	0.140	0.140	0.150	0.155	0.160	0.090

Contact operation
- ■ *closed*
- □ *open*
- *(A) = cam displacement*
- *(P) = positive opening point*
- ⊖ *NC contact with positive opening operation*

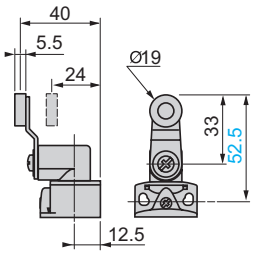
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics

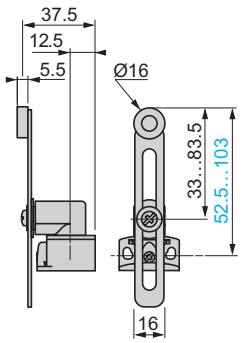
Switch actuation	On end	By 30° cam				By any moving part
Type of actuation						
Maximum actuation speed	0.5 m/s		1.5 m/s			1 m/s (any direct.)
Mechanical durability (in millions of operating cycles)	10					5
Minimum force or torque For tripping	15 N	10 N	0.1 N.m			0.13 N.m
Minimum force or torque For positive opening	45 N	36 N	0.25 N.m			–
Connection	M12 connector, Ui = 250 V, Ie = 3 A maximum, Ith = 3 A					

Dimensions

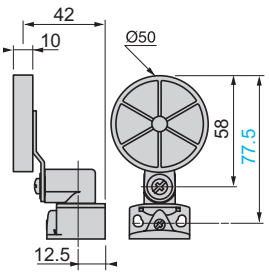
ZCE01 + ZCY18



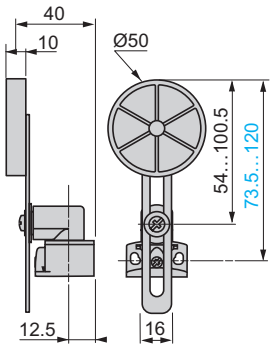
ZCE01 + ZCY45



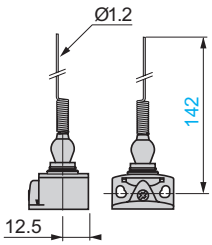
ZCE01 + ZCY39



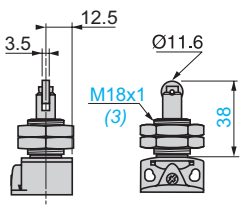
ZCE01 + ZCY49



ZCE06

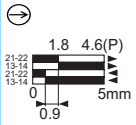
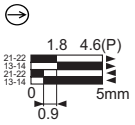
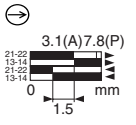
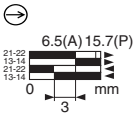
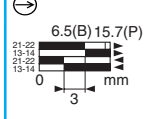
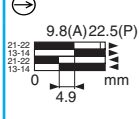
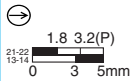
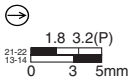
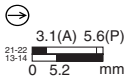
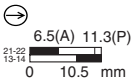
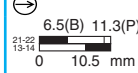
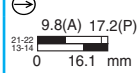
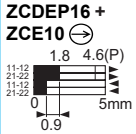
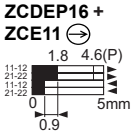
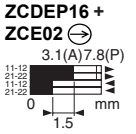
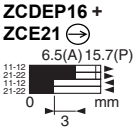
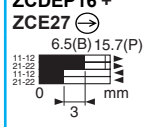
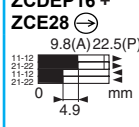
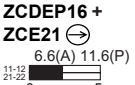
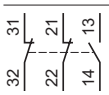
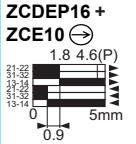
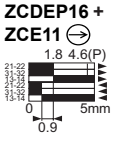
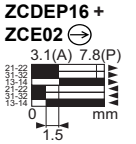
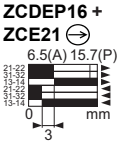
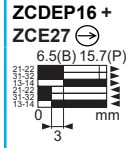


ZCEH2



(3) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, metal, XCKD
Complete switches with 1 cable entry

Type of head	**Plunger (fixing by the body)**					
	Form B *(1)*		**Form C** *(1)*	**Form E** *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction
References of complete switches with 1 ISO M16 x 1.5 cable entry *(3)*						
 **2-pole NC + NO snap action (XE2S P2151)**	**XCKD2110P16** 	**XCKD2111P16** 	**XCKD2102P16** 	**XCKD2121P16** 	**XCKD2127P16** 	**XCKD2128P16** 
 **2-pole NC + NO break before make, slow break (XE2N P2151)**	**XCKD2510P16** 	**XCKD2511P16** 	**XCKD2502P16** 	**XCKD2521P16** 	**XCKD2527P16** 	**XCKD2528P16** 
 **2-pole NC + NC snap action (XE2S P2141)**	**ZCD29 + ZCDEP16 + ZCE10** 	**ZCD29 + ZCDEP16 + ZCE11** 	**ZCD29 + ZCDEP16 + ZCE02** 	**ZCD29 + ZCDEP16 + ZCE21** 	**ZCD29 + ZCDEP16 + ZCE27** 	**ZCD29 + ZCDEP16 + ZCE28** 
 **2-pole NC + NC simultaneous, slow break (XE2N P2141)**	**ZCD27 + ZCDEP16 + ZCE10** 	**ZCD27 + ZCDEP16 + ZCE11** 	**ZCD27 + ZCDEP16 + ZCE02** 	**ZCD27 + ZCDEP16 + ZCE21** 	**ZCD27 + ZCDEP16 + ZCE27** 	**ZCD27 + ZCDEP16 + ZCE28** 
 **3-pole NC + NC + NO snap action (XE3S P2141)**	**ZCD39 + ZCDEP16 + ZCE10** 	**ZCD39 + ZCDEP16 + ZCE11** 	**ZCD39 + ZCDEP16 + ZCE02** 	**ZCD39 + ZCDEP16 + ZCE21** 	**ZCD39 + ZCDEP16 + ZCE27** 	**ZCD39 + ZCDEP16 + ZCE28**
3-pole NC + NC + NO break before make, slow break (XE3N P2141)	**ZCD37 + ZCDEP16 + ZCE10**	**ZCD37 + ZCDEP16 + ZCE11**	**ZCD37 + ZCDEP16 + ZCE02**	**ZCD37 + ZCDEP16 + ZCE21**	**ZCD37 + ZCDEP16 + ZCE27**	**ZCD37 + ZCDEP16 + ZCE28**
Weight (kg)	0.180	0.180	0.185	0.195	0.190	0.195

References of complete switches with 1 entry for n° 11 cable gland

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKD2110P16 becomes ***XCKD2110G11*** or ZCDEP16 becomes ***ZCDEG11***.

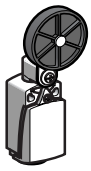
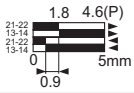
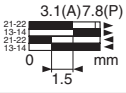
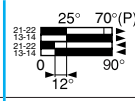
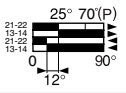
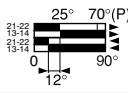
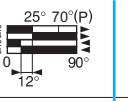
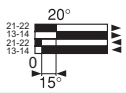
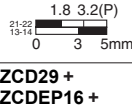
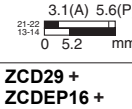
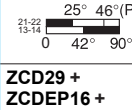
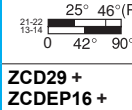
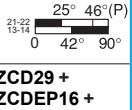
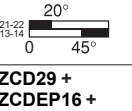
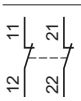
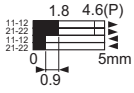
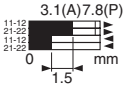
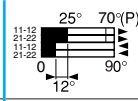
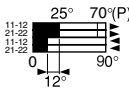
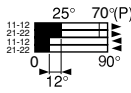
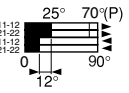
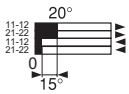
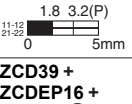
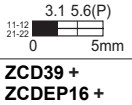
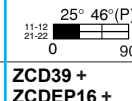
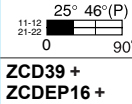
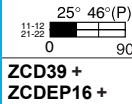
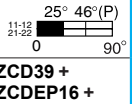
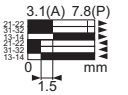
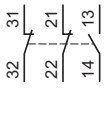
Contact operation ■ *closed* □ *open* — *(A) (B) = cam displacement (P) = positive opening point* — ⊖ *NC contact with positive opening operation*

Characteristics

Switch actuation		On end	By 30° cam			
Type of actuation						
Maximum actuation speed		0.5 m/s		1 m/s		
Mechanical durability (in millions of operating cycles)		15	10	15		
Minimum force or torque	For tripping	15 N	12 N	6 N		
	For positive opening	45 N	36 N	18 N		
Cable entry		1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

(1) Form conforming to EN 50047, see page 24.
(2) Nitrile for indoor use.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Limit switches
XC Standard range
Compact design, metal, XCKD
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" *(2)*
References of complete switches with 1 ISO M16 x 1.5 cable entry *(3)*							
 **2-pole NC + NO snap action (XE2S P2151)**	**XCKD21H0P16** ⊖ 	**XCKD21H2P16** ⊖ 	**XCKD2118P16** ⊖ 	**XCKD2145P16** ⊖ 	**XCKD2139P16** ⊖ 	**XCKD2149P16** ⊖ 	**XCKD2106P16** 
 **2-pole NC + NO break before make, slow break (XE2N P2151)**	**XCKD25H0P16** ⊖ 	**XCKD25H2P16** ⊖ 	**XCKD2518P16** ⊖ 	**XCKD2545P16** ⊖ 	**XCKD2539P16** ⊖ 	**XCKD2549P16** ⊖ 	**XCKD2506P16** 
 **2-pole NC + NC snap action (XE2S P2141)**	**ZCD29 + ZCDEP16 + ZCEH0** ⊖ 	**ZCD29 + ZCDEP16 + ZCEH2** ⊖ 	**ZCD29 + ZCDEP16 + ZCE01 + ZCY18** ⊖ 	**ZCD29 + ZCDEP16 + ZCE01 + ZCY45** ⊖ 	**ZCD29 + ZCDEP16 + ZCE01 + ZCY39** ⊖ 	**ZCD29 + ZCDEP16 + ZCE01 + ZCY49** ⊖ 	**ZCD29 + ZCDEP16 + ZCE06** 
 **2-pole NC + NC simultaneous, slow break (XE2N P2141)**	**ZCD27 + ZCDEP16 + ZCEH0** ⊖ 	**ZCD27 + ZCDEP16 + ZCEH2** ⊖ 	**ZCD27 + ZCDEP16 + ZCE01 + ZCY18** ⊖ 	**ZCD27 + ZCDEP16 + ZCE01 + ZCY45** ⊖ 	**ZCD27 + ZCDEP16 + ZCE01 + ZCY39** ⊖ 	**ZCD27 + ZCDEP16 + ZCE01 + ZCY49** ⊖ 	**ZCD27 + ZCDEP16 + ZCE06** 
 **3-pole NC + NC + NO snap action (XE3S P2141)**	**ZCD39 + ZCDEP16 + ZCEH0** ⊖	**ZCD39 + ZCDEP16 + ZCEH2** ⊖	**ZCD39 + ZCDEP16 + ZCE01 + ZCY18** ⊖	**ZCD39 + ZCDEP16 + ZCE01 + ZCY45** ⊖	**ZCD39 + ZCDEP16 + ZCE01 + ZCY39** ⊖	**ZCD39 + ZCDEP16 + ZCE01 + ZCY49** ⊖	**ZCD39 + ZCDEP16 + ZCE06**
3-pole NC + NC + NO break before make, slow break (XE3N P2141)	**ZCD37+ ZCDEP16 + ZCEH0** ⊖	**ZCD37 + ZCDEP16 + ZCEH2** ⊖	**ZCD37 + ZCDEP16 + ZCE01 + ZCY18** ⊖	**ZCD37 + ZCDEP16 + ZCE01 + ZCY45** ⊖	**ZCD37 + ZCDEP16 + ZCE01 + ZCY39** ⊖	**ZCD37 + ZCDEP16 + ZCE01 + ZCY49** ⊖	**ZCD37 + ZCDEP16 + ZCE06**
Weight (kg)	0.220	0.220	0.225	0.235	0.235	0.245	0.175

References of complete switches with 1 entry for n° 11 cable gland

*For an entry tapped for a n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKD21H0P1 6 becomes **XCKD21H0G11** or ZCDEP16 becomes **ZCDEG11**.*

Contact operation ■ *closed* □ *open* — *(A) = cam displacement* — *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

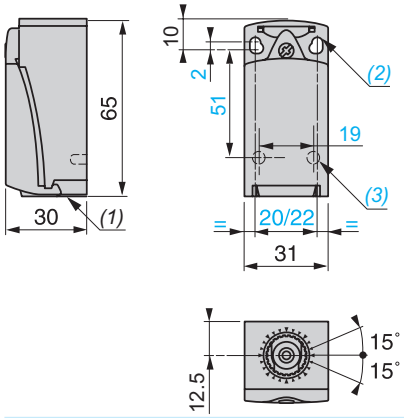
Characteristics

Switch actuation	On end	By 30° cam			By any moving part
Type of actuation					
Maximum actuation speed	0.5 m/s		1.5 m/s		1 m/s (any direct.)
Mechanical durability	10 million operating cycles				5 million
Minimum force or torque For tripping	15 N	10 N	0.1 N.m		0.13 N.m
For positive opening	45 N	36 N	0.25 N.m		–
Cable entry	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

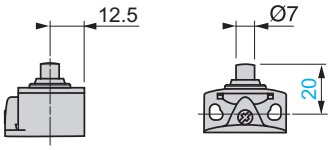
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Limit switches
XC Standard range
Compact design, metal, XCKD
Complete switches with 1 cable entry

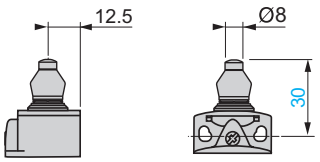
ZCD2● + ZCDEP16/ZCD3● + ZCDEP16



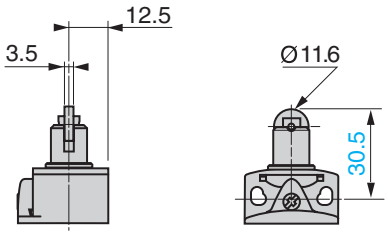
ZCE10



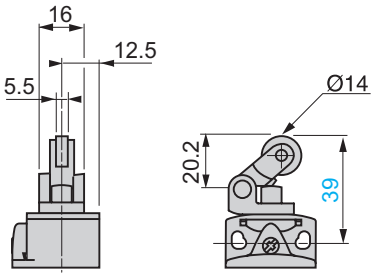
ZCE11



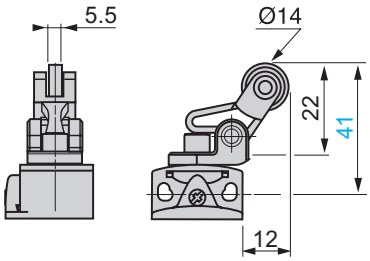
ZCE02



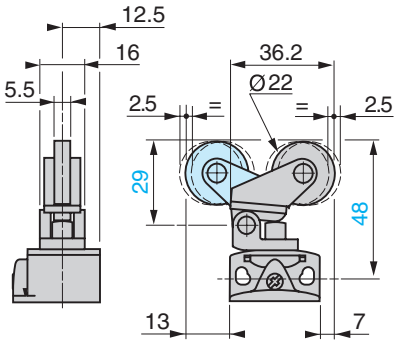
ZCE21



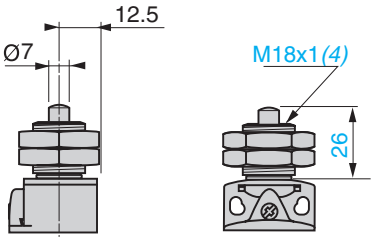
ZCE27



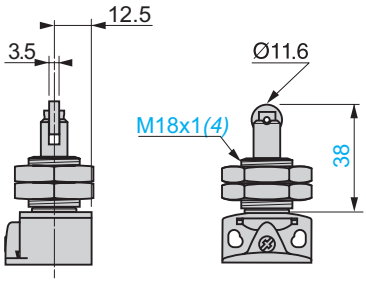
ZCE28



ZCEH0



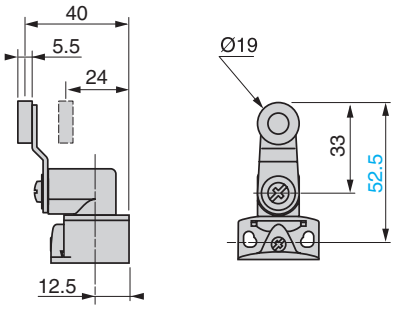
ZCEH2



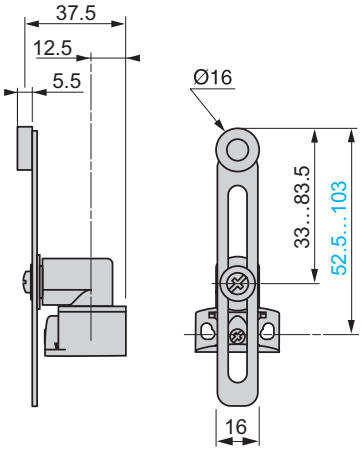
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, metal, XCKD
Complete switches with 1 cable entry

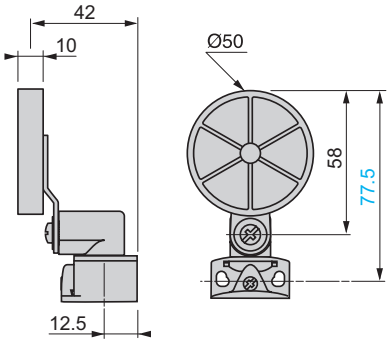
ZCE01 + ZCY18



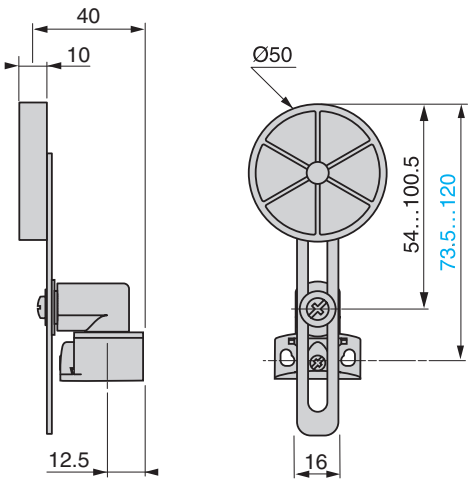
ZCE01 + ZCY45



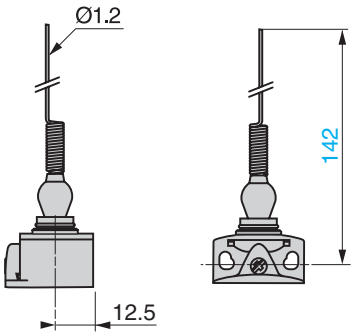
ZCE01 + ZCY39



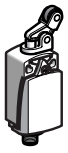
ZCE01 + ZCY49



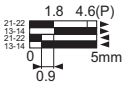
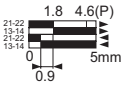
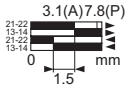
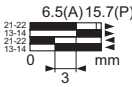
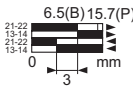
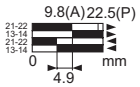
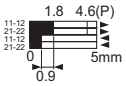
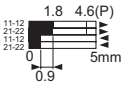
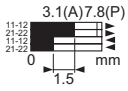
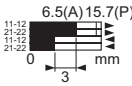
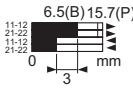
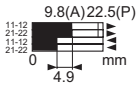
ZCE06



Limit switches
XC Standard range
Compact design, metal, XCKD
M12 connector

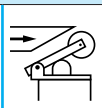
Type of head	Plunger (fixing by the body)					
	Form B *(1)*		Form C *(1)*	Form E *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction

References

2-pole NC + NO snap action (XE2S P2151) 	**XCKD2110M12** 	**XCKD2111M12** 	**XCKD2102M12** 	**XCKD2121M12** 	**XCKD2127M12** 	**XCKD2128M12** 
2-pole NC + NC snap action (XE2S P2141) 	**ZCD29M12 + ZCE10** 	**ZCD29M12 + ZCE11** 	**ZCD29M12 + ZCE02** 	**ZCD29M12 + ZCE21** 	**ZCD29M12 + ZCE27** 	**ZCD29M12 + ZCE28** 
Weight (kg)	0.190	0.190	0.195	0.205	0.200	0.205
Contact operation	■ *closed* □ *open*		*(A) (B) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

(1) Form conforming to EN 50047, see page 24.
(2) Nitrile for indoor use.

Characteristics

Switch actuation	On end	By 30° cam		
Type of actuation					
Maximum actuation speed	0.5 m/s		1 m/s	
Mechanical durability (in millions of operating cycles)	15	10	15	
Minimum force or torque For tripping	15 N	12 N	6 N	
Minimum force or torque For positive opening	45 N	36 N	18 N	
Connection	M12 connector, Ui = 60 V, Ie = 4 A maximum, Ith = 4 A			

Connections

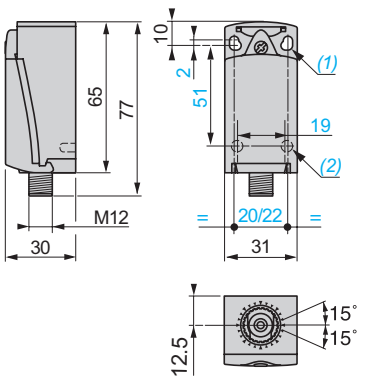
M12 connector



	XE2S P2151	XE2S P2141
1	1-2: NC	1-2: NC
2	3-4: NO	3-4: NO
3	5: ⏚	5: ⏚
4		
5		

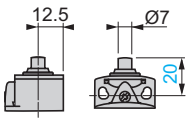
Dimensions

ZCD2●M12

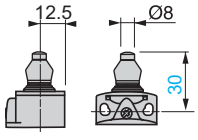


(1) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(2) 2 x Ø 3 holes for support studs, depth 4 mm.
(3) Fixing nut thickness 3.5 mm.

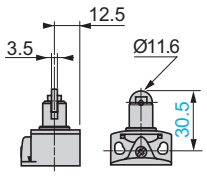
ZCE10



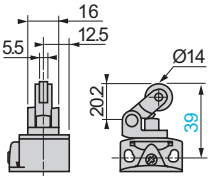
ZCE11



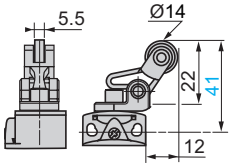
ZCE02



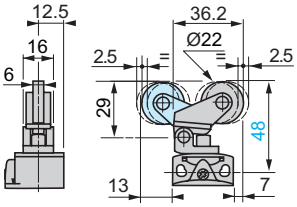
ZCE21



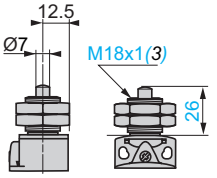
ZCE27



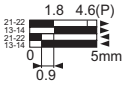
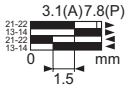
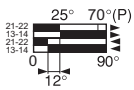
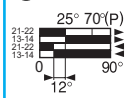
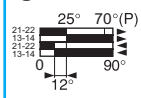
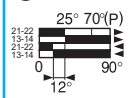
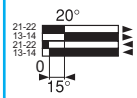
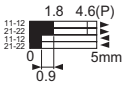
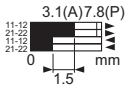
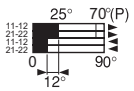
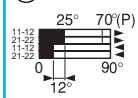
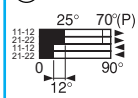
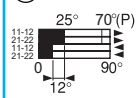
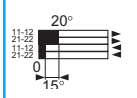
ZCE28



ZCEH0

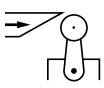
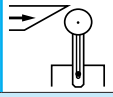


Limit switches
XC Standard range
Compact design, metal, XCKD
M12 connector

Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" *(2)*
References							
2-pole NC + NO snap action (XE2S P2151) 	**XCKD21H0M12** 	**XCKD21H2M12** 	**XCKD2118M12** 	**XCKD2145M12** 	**XCKD2139M12** 	**XCKD2149M12** 	**XCKD2106M12** 
2-pole NC + NC snap action (XE2S P2141) 	**ZCD29M12 + ZCEH0** 	**ZCD29M12 + ZCEH2** 	**ZCD29M12 + ZCE01 + ZCY18** 	**ZCD29M12 + ZCE01 + ZCY45** 	**ZCD29M12 + ZCE01 + ZCY39** 	**ZCD29M12 + ZCE01 + ZCY49** 	**ZCD29M12 + ZCE06** 
Weight (kg)	0.235	0.235	0.220	0.220	0.220	0.220	0.185
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*		

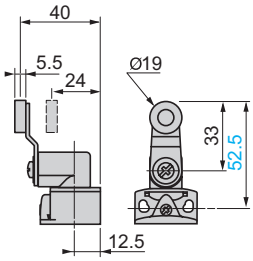
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics

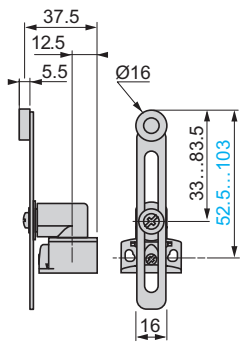
Switch actuation	On end	By 30° cam					By any moving part
Type of actuation							
Maximum actuation speed	0.5 m/s		1.5 m/s				1 m/s (any direct.)
Mechanical durability (in millions of operating cycles)	10						5
Minimum force or torque For tripping	15 N	10 N	0.1 N.m				0.13 N.m
Minimum force or torque For positive opening	45 N	36 N	0.25 N.m				–
Connection	M12 connector, Ui = 60 V, Ie = 4 A maximum, Ith = 4 A						

Dimensions

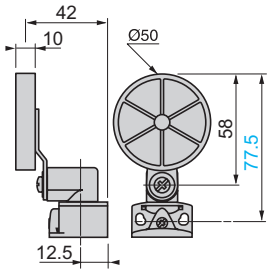
ZCE01 + ZCY18



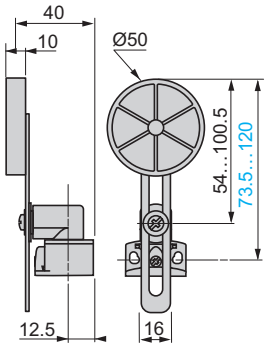
ZCE01 + ZCY45



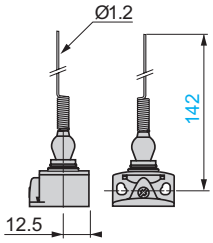
ZCE01 + ZCY39



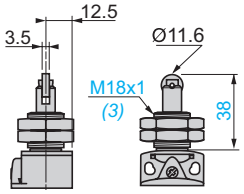
ZCE01 + ZCY49



ZCE06

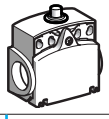
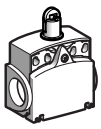
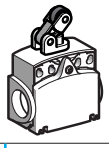
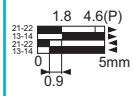
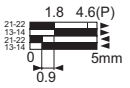
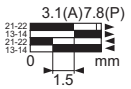
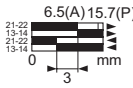
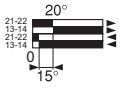
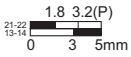
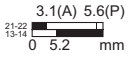
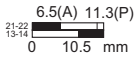
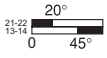
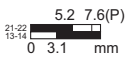
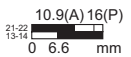
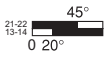
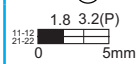
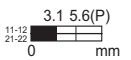
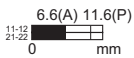
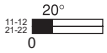
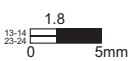
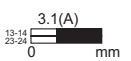
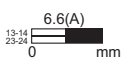
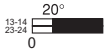


ZCEH2



(3) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, plastic, XCKT
Complete switches with 2 cable entries

Type of head	Plunger (fixing by the body)				Multi-directional
	Form B *(1)*		Form C *(1)*	Form E *(1)*	
					
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	"Cat's whisker" *(3)*
References of complete switches with 2 ISO M16 x 1.5 cable entries *(4)*					
13 21 / 14 22 **2-pole NC + NO snap action (XE2SP3151)**	**XCKT2110P16** ⊖ 	**XCKT2111P16** ⊖ 	**XCKT2102P16** ⊖ 	**XCKT2121P16** ⊖ 	**XCKT2106P16** 
13 21 / 14 22 **2-pole NC + NO break before make, slow break (XE2NP3151)**	**ZCT25P16 + ZCE10** ⊖ 	**ZCT25P16 + ZCE11** ⊖ 	**ZCT25P16 + ZCE02** ⊖ 	**ZCT25P16 + ZCE21** ⊖ 	**ZCT25P16 + ZCE06** 
21 13 / 22 14 **2-pole NC + NO make before break, slow break (XE2NP3161)**	**ZCT26P16 + ZCE10** ⊖ 	**ZCT26P16 + ZCE11** ⊖ 	**ZCT26P16 + ZCE02** ⊖ 	**ZCT26P16 + ZCE21** ⊖ 	**ZCT26P16 + ZCE06** 
11 21 / 12 22 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCT27P16 + ZCE10** ⊖ 	**ZCT27P16 + ZCE11** ⊖ 	**ZCT27P16 + ZCE02** ⊖ 	**ZCT27P16 + ZCE21** ⊖ 	**ZCT27P16 + ZCE06** 
13 23 / 14 24 **2-pole NO + NO simultaneous, slow break (XE2NP3131)**	**ZCT28P16 + ZCE10** 	**ZCT28P16 + ZCE11** 	**ZCT28P16 + ZCE02** 	**ZCT28P16 + ZCE21** 	**ZCT28P16 + ZCE06** 
Weight (kg)	0.100	0.100	0.105	0.115	0.095

References of complete switches with 2 entries for n° 11 cable gland

*For entries tapped for n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKT2110P16 becomes **XCKT2110G11**.*

Contact operation ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

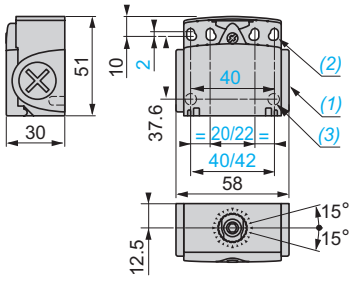
Characteristics

Switch actuation		On end	By 30° cam		By any moving part
Type of actuation					
Maximum actuation speed		0.5 m/s		1 m/s	1 m/s (any direction)
Mechanical durability (in millions of operating cycles)		15	10	15	5
Minimum force or torque	For tripping	15 N	12 N	6 N	0.3 N.m
	For positive opening	45 N	36 N	18 N	–
Cable entry *(3)*		2 entries tapped M16 x 1.5 for ISO cable gland Clamping capacity 4 to 8 mm (1 entry fitted with blanking plug)			

(1) Form conforming to EN 50047, see page 24. (2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing. (4) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

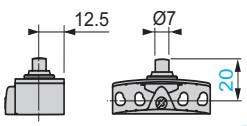
Dimensions

ZCT2●P16

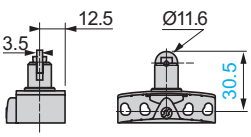


(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm ctrs, 4 holes Ø 4.3 on 20/40 mm ctrs.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

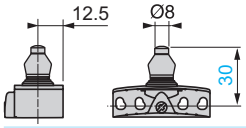
ZCE10



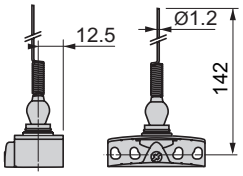
ZCE02



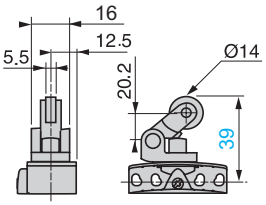
ZCE11



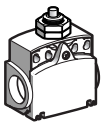
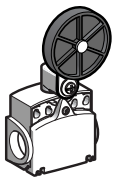
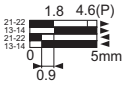
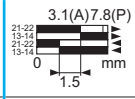
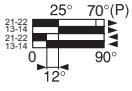
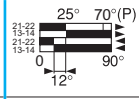
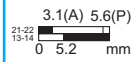
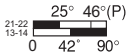
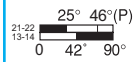
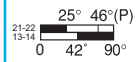
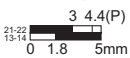
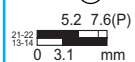
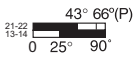
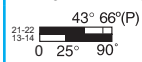
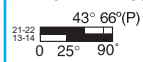
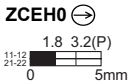
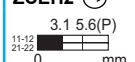
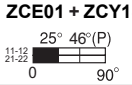
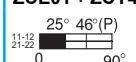
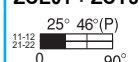
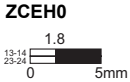
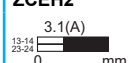
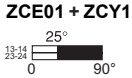
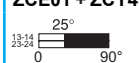
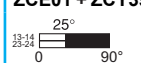
ZCE06



ZCE21



Limit switches
XC Standard range
Compact design, plastic, XCKT
Complete switches with 2 cable entries

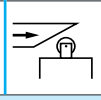
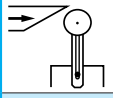
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body) Form A *(1)*		
					
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm
References of complete switches with 2 ISO M16 x 1.5 cable entries *(2)*					
 **2-pole NC + NO snap action (XE2SP3151)**	**XCKT21H0P16** 	**XCKT21H2P16** 	**XCKT2118P16** 	**XCKT2145P16**	**XCKT2139P16** 
 **2-pole NC + NO break before make, slow break (XE2NP3151)**	**ZCT25P16 + ZCEH0** 	**ZCT25P16 + ZCEH2** 	**ZCT25P16 + ZCE01 + ZCY18** 	**ZCT25P16 + ZCE01 + ZCY45** 	**ZCT25P16 + ZCE01 + ZCY39** 
 **2-pole NO + NC make before break, slow break (XE2NP3161)**	**ZCT26P16 + ZCEH0** 	**ZCT26P16 + ZCEH2** 	**ZCT26P16 + ZCE01 + ZCY18** 	**ZCT26P16 + ZCE01 + ZCY45** 	**ZCT26P16 + ZCE01 + ZCY39** 
 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCT27P16 + ZCEH0** 	**ZCT27P16 + ZCEH2** 	**ZCT27P16 + ZCE01 + ZCY18** 	**ZCT27P16 + ZCE01 + ZCY45** 	**ZCT27P16 + ZCE01 + ZCY39** 
 **2-pole NO + NO simultaneous, slow break (XE2NP3131)**	**ZCT28P16 + ZCEH0** 	**ZCT28P16 + ZCEH2** 	**ZCT28P16 + ZCE01 + ZCY18** 	**ZCT28P16 + ZCE01 + ZCY45** 	**ZCT28P16 + ZCE01 + ZCY39** 
Weight (kg)	0.145	0.145	0.145	0.155	0.160

References of complete switches with 2 entries for n° 11 cable gland

For entries tapped for n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKT21H0P16 becomes **XCKT21H0G11**.

Contact operation ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

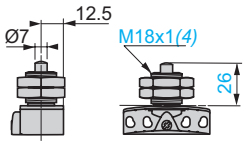
Characteristics

Switch actuation		On end	By 30° cam	
Type of actuation				
Maximum actuation speed		0.5 m/s		1.5 m/s
Mechanical durability		10 million operating cycles		
Minimum force or torque	For tripping	15 N	10 N	0.1 N.m
	For positive opening	45 N	36 N	0.25 N.m
Cable entry *(3)*		2 entries tapped M16 x 1.5 for ISO cable gland Clamping capacity 4 to 8 mm (1 entry fitted with blanking plug)		

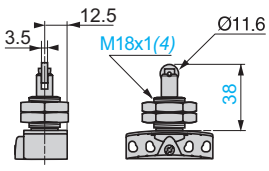
(1) Form conforming to EN 50047, see page 24.
(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Dimensions

ZCEH0



ZCEH2



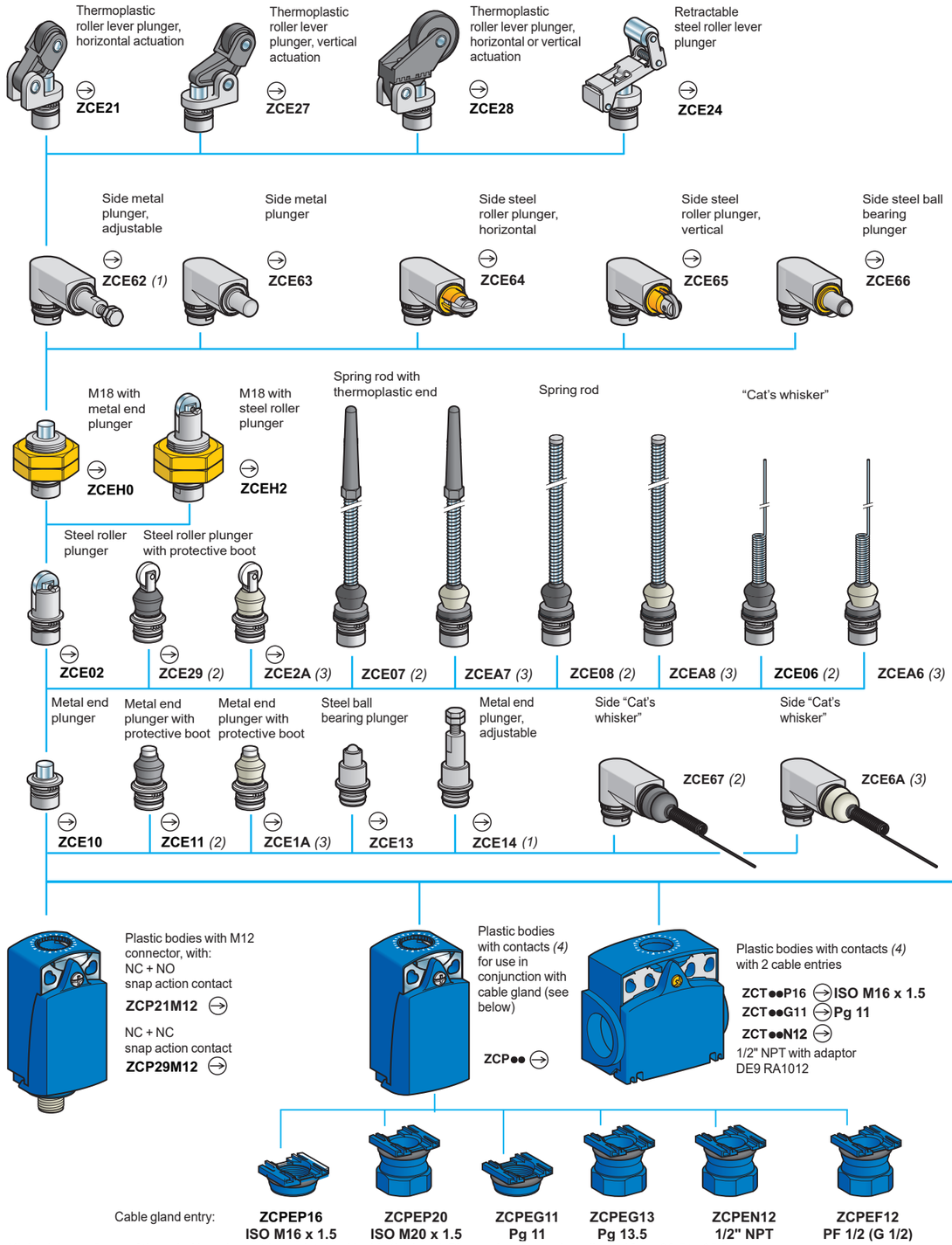
ZCE01 + ZCY18

ZCE01 + ZCY39

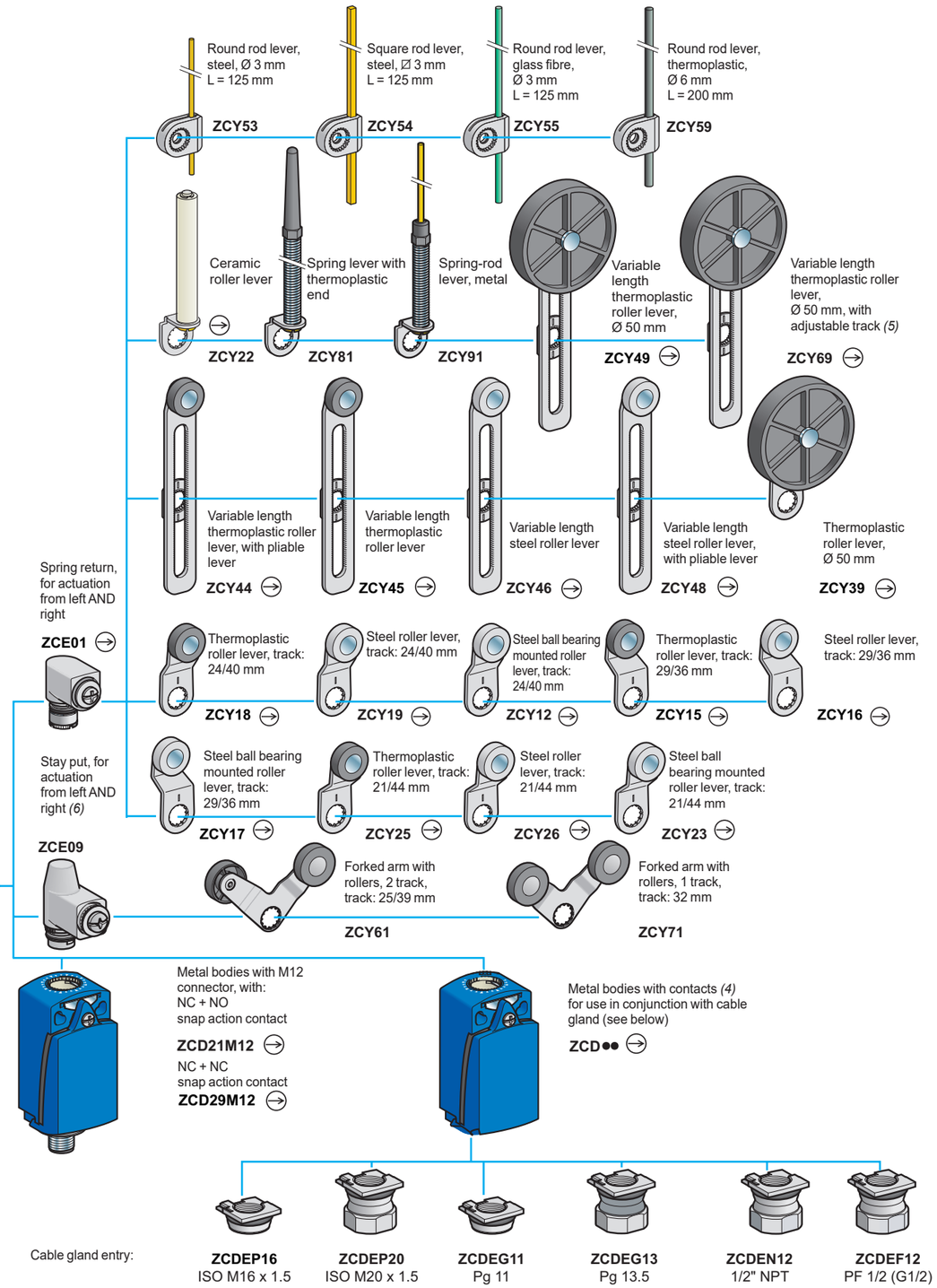
ZCE01 + ZCY45

(4) Fixing nut thickness 3.5 mm.

Limit switches
XC Standard range
Compact design, XCKD, XCKP and XCKT
Variable composition

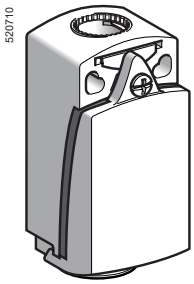


(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm.
(2) Nitrile boot for indoor use.
(3) Silicone boot for outdoor use.
(4) For further information, see page 98.

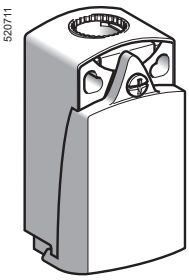


(5) Variable length and adjustable track by lever deformation.
(6) Suitable with bodies: ZCD21, ZCP21, ZCT21, ZCD29, ZCP29, ZCD31, ZCP31, ZCD39, ZCP39, ZCD2●M12, ZCP2●M12

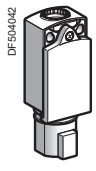
Limit switches
XC Standard range
Compact design, metal, XCKD or plastic, XCKP
Adaptable sub-assemblies: bodies with contacts



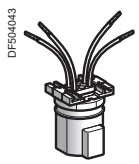
ZCD●●



ZCP●●



ZCP21D44



ZCPED44

Bodies with contacts, XCKD and XCKP *(1)*

Type of contact	Positive operation *(2)*	Scheme	Body material	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	⊖	13 21 / 14 22	Metal	**ZCD21**	0.140
			Plastic	**ZCP21**	0.070
NC + NC snap action XE2SP2141)	⊖	11 21 / 12 22	Metal	**ZCD29**	0.140
			Plastic	**ZCP29**	0.070
NC + NO break before make, slow break (XE2NP2151)	⊖	13 21 / 14 22	Metal	**ZCD25**	0.140
			Plastic	**ZCP25**	0.070
NO + NC make before break, slow break (XE2NP2161)	⊖	13 21 / 14 22	Metal	**ZCD26**	0.140
			Plastic	**ZCP26**	0.070
NC + NC simultaneous, slow break (XE2NP2141)	⊖	11 21 / 12 22	Metal	**ZCD27**	0.140
			Plastic	**ZCP27**	0.070
NO + NO simultaneous, slow break (XE2NP2131)	–	13 23 / 14 24	Metal	**ZCD28**	0.140
			Plastic	**ZCP28**	0.070
3-pole					
NC + NO + NO snap action (XE3SP2151)	⊖	21 33 13 / 22 34 14	Metal	**ZCD31**	0.140
			Plastic	**ZCP31**	0.070
NC + NC + NO snap action (XE3SP2141)	⊖	31 21 13 / 32 22 14	Metal	**ZCD39**	0.140
			Plastic	**ZCP39**	0.070
NC + NC + NO break before make, slow break (XE3NP2141)	⊖	31 21 13 / 32 22 14	Metal	**ZCD37**	0.140
			Plastic	**ZCP37**	0.070
NC + NO + NO break before make, slow break (XE3NP2151)	⊖	21 33 13 / 22 34 14	Metal	**ZCD35**	0.140
			Plastic	**ZCP35**	0.070

Components for connection using DEUTSCH connector

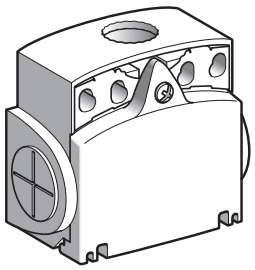
Bodies with contacts for DEUTSCH connector

Type of contact	Positive operation *(2)*	Scheme	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	⊖	13 21 / 14 22	Connector	**ZCP21D44**	0.065
DEUTSCH male connector DT04-4P				**ZCPED44**	0.015

(1) Bodies with gold contacts or eyelet type connections: please consult your Regional Sales Office.
(2) ⊖: bodies with contacts assuring positive opening operation.

Limit switches
XC Standard range
Compact design, plastic, XCKT
Adaptable sub-assemblies: bodies with contacts

561390

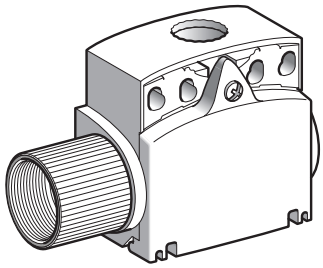


ZCT●●●

Bodies with contacts, XCKT plastic, 2 cable entries

Type of contact	Positive operation *(1)*	Scheme	Cable entries	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP3151)	⊖	13 21 / 14 22	ISO M16 x 1.5	**ZCT21P16**	0.085
			Pg 11	**ZCT21G11**	0.085
NC + NO break before make, slow break (XE2NP3151)	⊖	13 21 / 14 22	ISO M16 x 1.5	**ZCT25P16**	0.085
			Pg 11	**ZCT25G11**	0.085
NC + NC simultaneous, slow break (XE2NP3141)	⊖	11 21 / 12 22	ISO M16 x 1.5	**ZCT27P16**	0.085
			Pg 11	**ZCT27G11**	0.085
NO + NO simultaneous, slow break (XE2NP3131)	–	13 23 / 14 24	ISO M16 x 1.5	**ZCT28P16**	0.085
			Pg 11	**ZCT28G11**	0.085
NO + NC make before break, slow break (XE2NP3161)	⊖	13 21 / 14 22	ISO M16 x 1.5	**ZCT26P16**	0.085
			Pg 11	**ZCT26G11**	0.085

561387



ZCT●●N12

Bodies with contacts, XCKT plastic, 2 cable entries with 1/2" NPT adaptor

Type of contact	Positive operation *(1)*	Scheme	Reference	Weight kg
2-pole				
NC + NO snap action (XE2SP3151)	⊖	13 21 / 14 22	**ZCT21N12**	0.130
NC + NO break before make, slow break (XE2NP3151)	⊖	13 21 / 14 22	**ZCT25N12**	0.130
NC + NC simultaneous, slow break (XE2NP3141)	⊖	11 21 / 12 22	**ZCT27N12**	0.130
NO + NO simultaneous, slow break (XE2NP3131)	–	13 23 / 14 24	**ZCT28N12**	0.130
NO + NC make before break, slow break (XE2NP3161)	⊖	13 21 / 14 22	**ZCT26N12**	0.130

(1) ⊖: bodies with contact assuring positive opening operation.

Limit switches
XC Standard range
Compact design, metal, XCKD or plastic, XCKP and XCKT
Adaptable sub-assemblies: bodies with contacts

56127



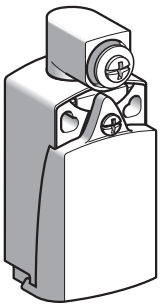
ZCE05

561392



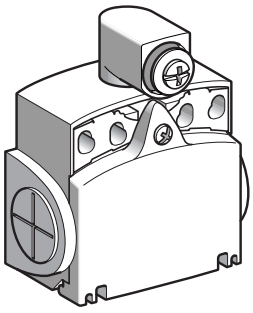
DE9RA1012

561388



XCK●2●01●●

561389



XCKT2●01●●

Accessories

Description	Suitable levers for use with head	Unit reference	Weight kg
Rotary head, without lever, spring return, for actuation from left AND right or left OR right *(1)*	ZCY12, ZCY15, ZCY16, ZCY17, ZCY18, ZCY19, ZCY22, ZCY23, ZCY25, ZCY26, ZCY39, ZCY53, ZCY54, ZCY55, ZCY81	**ZCE05**	0.045
Tap-off terminal for XCKT	Sold in lots of 10	**XALZ09**	0.010
Spacer for angular positioning of heads with adjustable levers, for values other than - 90°, 0° and 90°	–	**XCMZ07**	0.002
Adaptor for 1/2" NPT conduit (male Pg 11 / female 1/2" NPT)	Sold in lots of 10	**DE9RA1012**	0.050

Bodies with contacts, XCKP plastic, with rotary head (without operating lever)

Type of contact	Scheme	Positive operation *(2)*	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKP2101P16**	0.115
		⊖	Pg 11	**XCKP2101G11**	0.115
		⊖	M12 connector	**XCKP2101M12**	0.125
NC + NO break before make, slow break (XE2NP2151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKP2501P16**	0.115
		⊖	Pg 11	**XCKP2501G11**	0.115

Bodies with contacts, XCKD metal, with rotary head (without operating lever)

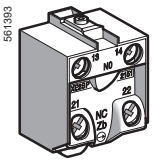
Type of contact	Scheme	Positive operation *(2)*	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKD2101P16**	0.185
		⊖	Pg 11	**XCKD2101G11**	0.185
		⊖	M12 connector	**XCKD2101M12**	0.195
NC + NO break before make, slow break (XE2NP2151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKD2501P16**	0.185
		⊖	Pg 11	**XCKD2501G11**	0.185

Bodies with contacts, XCKT plastic, with rotary head (without operating lever)

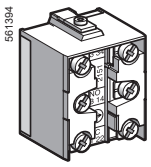
Type of contact	Scheme	Positive operation *(2)*	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP3151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKT2101P16**	0.130
		⊖	Pg 11	**XCKT2101G11**	0.130
NC + NO break before make, slow break (XE2NP3151)	13 21 / 14 22	⊖	ISO M16 x 1.5	**XCKT2501P16**	0.130
		⊖	Pg 11	**XCKT2501G11**	0.130

(1) For programming see page 18.
(2) ⊖: bodies with contact assuring positive opening operation.

Limit switches
XC Standard range
Compact design, metal, XCKD or plastic, XCKP and XCKT
Adaptable sub-assemblies: contact blocks



XE2●●21●●



XE3●●21●●

Contact blocks with screw clamp terminals for XCKD and XCKP

Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
2-pole				
NC + NO snap action	⊖	13 21 / 14 22	**XE2SP2151**	0.020
NC + NC simultaneous, snap action	⊖	11 21 / 12 22	**XE2SP2141**	0.020
NC + NO break before make, slow break	⊖	13 21 / 14 22	**XE2NP2151**	0.020
NO + NC make before break, slow break	⊖	13 21 / 14 22	**XE2NP2161**	0.020
NC + NC simultaneous, slow break	⊖	11 21 / 12 22	**XE2NP2141**	0.020
NO + NO simultaneous, slow break	–	13 23 / 14 24	**XE2NP2131**	0.020
3-pole				
NC + NO + NO snap action	⊖	21 33 13 / 22 34 14	**XE3SP2151**	0.035
NC + NC + NO snap action	⊖	31 21 13 / 32 22 14	**XE3SP2141**	0.035
NC + NC + NO break before make, slow break	⊖	31 21 13 / 32 22 14	**XE3NP2141**	0.035
NC + NO + NO break before make, slow break	⊖	21 33 13 / 22 34 14	**XE3NP2151**	0.035

Contact blocks with screw clamp terminals for XCKT

Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
2-pole				
NC + NO snap action	⊖	13 21 / 14 22	**XE2SP3151**	0.015
NC + NO break before make, slow break	⊖	13 21 / 14 22	**XE2NP3151**	0.015
NO + NC make before break, slow break	⊖	13 21 / 14 22	**XE2NP3161**	0.015
NC + NC simultaneous, slow break	⊖	11 21 / 12 22	**XE2NP3141**	0.015
NO + NO simultaneous, slow break	–	13 23 / 14 24	**XE2NP3131**	0.015

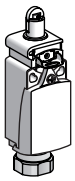
(1) ⊖: contact blocks assuring positive opening operation.

Limit switches
XC Standard range
Compact design, plastic, with reset, XCPR and XCTR

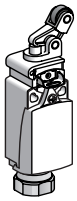
■ XCPR
with 1 cable entry

□ With head for linear movement (plunger). Fixing by the body
XCPR

520425



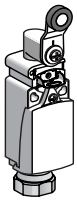
520427



Page 104

□ With head for rotary movement (lever) or multi-directional. Fixing by the body
XCPR

520428



Page 104

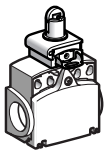
■ XCTR
with 2 cable entries
Tripping/resetting points and fixing centres conform to CENELEC 50047

□ With head for linear movement (plunger). Fixing by the body
XCTR

520436



520437



Page 106

□ With head for rotary movement (lever) or multi-directional. Fixing by the body
XCTR

520438



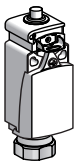
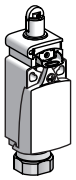
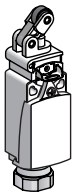
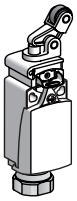
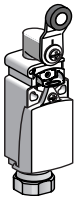
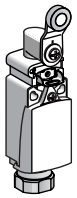
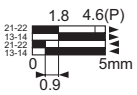
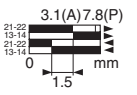
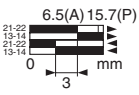
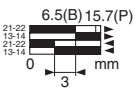
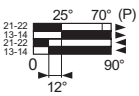
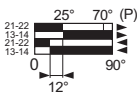
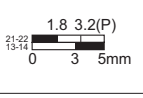
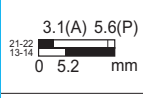
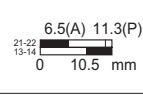
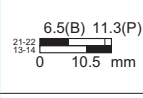
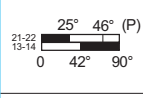
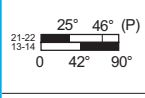
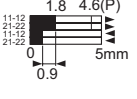
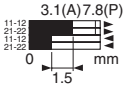
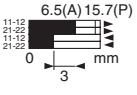
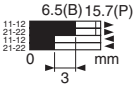
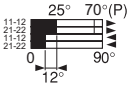
Page 106

Limit switches
XC Standard range
Compact design, plastic, with reset, XCPR and XCTR

Environment characteristics		
Conformity to standards	Products	CE, EN/IEC 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	EN/IEC 60204-1
Product certifications		UL, CSA
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25…+ 70 °C (- 40…+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40…+ 70 °C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20-030
Degree of protection		**IP 66 and IP 67 conforming to IEC 60529** **IK 04 conforming to IEC 62262**
Repeat accuracy		0.1 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry	Depending on model	Either: tapped entry for n° 13 cable gland, tapped ISO M20 x 1.5 or tapped 1/2" NPT
Materials		Plastic bodies, Zamak heads

Contact block characteristics		
Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage		Ui = 500 V degree of pollution 3 conforming to IEN/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 Appendix K
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection		10 A cartridge fuse type gG (gI)
Connection (screw clamp terminals)	XE2SP2151	Clamping capacity, min: 1 x 0.34 mm^2, max: 2 x 1.5 mm^2
	XE2NP2151	Clamping capacity, min: 1 x 0.5 mm^2, max: 2 x 2.5 mm^2
Minimum actuation speed (for head with end plunger)		**XE2SP2151**: 0.01 m/minute
		XE2NP2151: 6 m/minute

Limit switches
XC Standard range
Compact design, plastic, with reset, XCPR
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)				Rotary (fixing by the body)	
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever	Steel roller lever
References of complete switches with 1 ISO M20 x 1.5 cable entry						
 **2-pole NC + NO snap action (XE2SP2151)**	**XCPR2110P20** 	**XCPR2102P20** 	**XCPR2121P20** 	**XCPR2127P20** 	**XCPR2118P20** 	**XCPR2119P20** 
 **2-pole NC + NO break before make, slow break (XE2NP2151)**	**XCPR2510P20** 	**XCPR2502P20** 	**XCPR2521P20** 	**XCPR2527P20** 	**XCPR2518P20** 	**XCPR2519P20** 
 **2-pole NC + NC snap action (XE2SP2141)**	**XCPR2910P20** 	**XCPR2902P20** 	**XCPR2921P20** 	**XCPR2927P20** 	**XCPR2918P20** 	–
Weight (kg)	0.115	0.115	0.125	0.120	0.155	–

References of complete switches with 1 Pg 13.5 cable entry

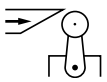
For complete switches with 1 Pg 13.5 cable entry replace P20 by **G13**.
Example: XCPR2110P20 becomes **XCPR2110G13**.

References of complete switches with 1 entry for 1/2" NPT conduit

For complete switches with 1 entry for 1/2" NPT conduit replace P20 by **N12**.
Example: XCPR2110P20 becomes **XCPR2110N12**.

Contact operation — ■ *closed* □ *open* — *(A) (B) = cam displacement (P) = positive opening point* — ⊖ *NC contact with positive opening operation*

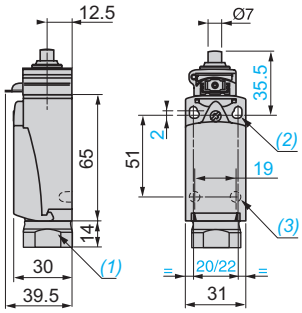
Characteristics

Switch actuation		On end	By 30° cam			
Type of actuation						
Maximum actuation speed		0.5 m/s		1 m/s		1.5 m/s
Minimum force or torque	For tripping	15 N	12 N	6 N		0.1 N.m
	For positive opening	45 N	36 N	18 N		0.25 N.m
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit				
Other versions		Complete switches with cable entries other than those listed above. please consult our Customer Care Centre.				

Limit switches
XC Standard range
Compact design, plastic, with reset, XCPR
Complete switches with 1 cable entry

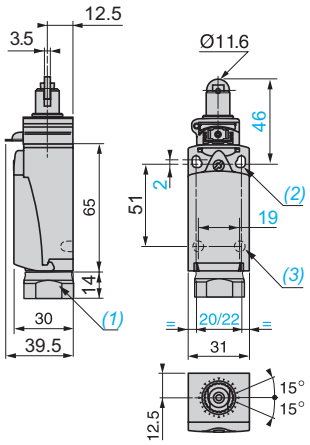
Dimensions

XCPR2●10●●●

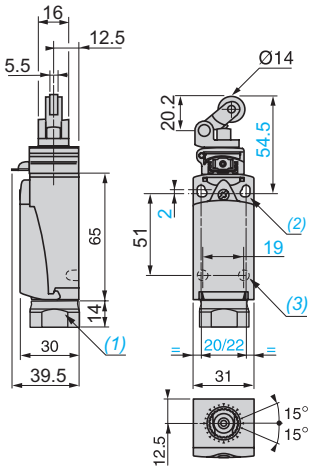


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

XCPR2●02●●●

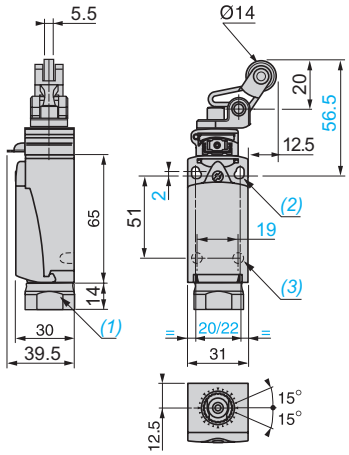


XCPR2●21●●●

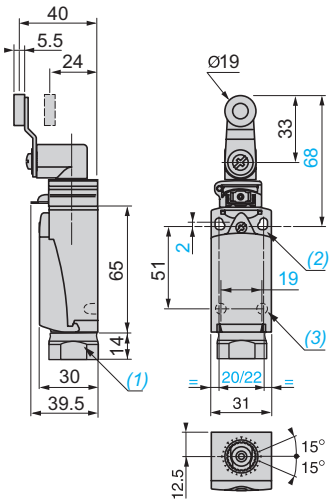


Dimensions

XCPR2●27●●●

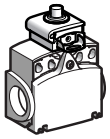
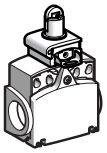
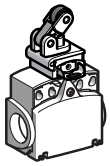
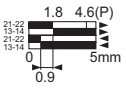
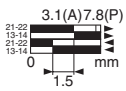
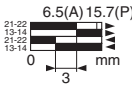
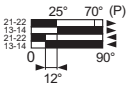
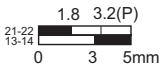
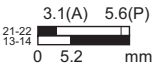
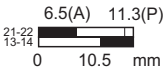
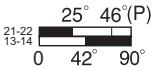


XCPR2●18●●●, XCPR2●19●●●



(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Limit switches
XC Standard range
Compact design, plastic, with reset, XCTR
Complete switches with 2 cable entries

Type of head	Plunger (fixing by the body)			Rotary (fixing by the body)
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger
References of complete switches with 2 ISO M16 x 1.5 cable entries				
 **2-pole NC + NO snap action (XE2SP3151)**	**XCTR2110P16** 	**XCTR2102P16** 	**XCTR2121P16** 	**XCTR2118P16** 
 **2-pole NC + NO break before make, slow break (XE2NP3151)**	**XCTR2510P16** 	**XCTR2502P16** 	**XCTR2521P16** 	**XCTR2518P16** 
Weight (kg)	0.120	0.125	0.135	0.165

References of complete switches with 2 Pg 11 cable entries

For complete switches with 2 Pg 11 cable entries replace P16 by **G11**.
Example: XCTR2110P16 becomes **XCTR2110G11**.

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

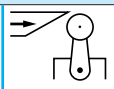
For complete switches with 2 entries for 1/2" NPT conduit replace P16 by **N12**.
Example: XCTR2110P16 becomes **XCTR2110N12**.

Contact operation

■ *closed*
□ *open*

(A) = cam displacement
(P) = positive opening point
⊖ *NC contact with positive opening operation*

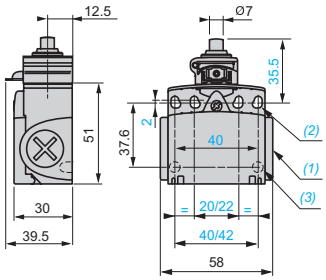
Characteristics

Switch actuation		On end	By 30° cam		
Type of actuation					
Maximum actuation speed		0.5 m/s		1 m/s	1.5 m/s
Minimum force or torque	For tripping	15 N	12 N	6 N	0.1 N.m
	For positive opening	45 N	36 N	18 N	0.25 N.m
Cable entry (1 entry fitted with blanking plug)		2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm 2 entries tapped Pg 11 for cable gland, clamping capacity 7 to 10 mm 2 entries tapped for 1/2" NPT (USAS B2-1) conduit using Pg 11 - 1/2" NPT adaptor **DE9RA1012**			

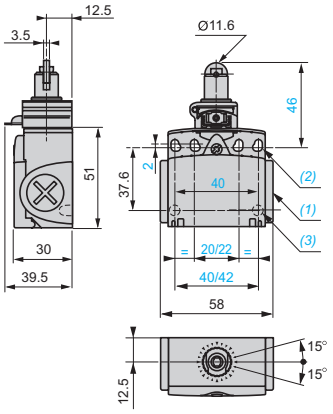
Limit switches
XC Standard range
Compact design, plastic, with reset, XCTR
Complete switches with 2 cable entries

Dimensions

XCTR2●10●●●



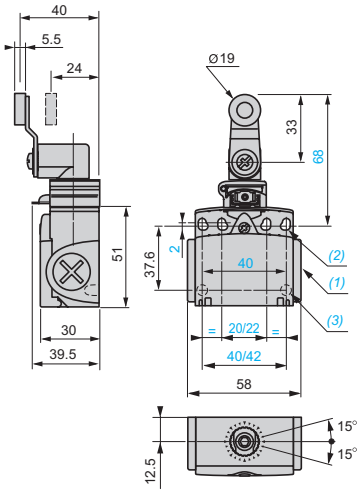
XCTR2●02●●●



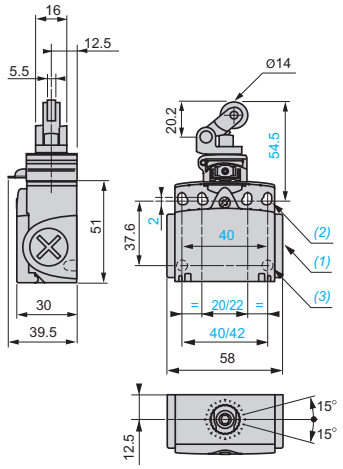
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or tapped 1/2" NPT.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Tapped entry for 1/2" NPT conduit.
(5) Pg 11 threaded sleeve.

Dimensions

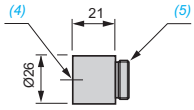
XCTR2●18●●●



XCTR2●21●●●



DE9RA1012

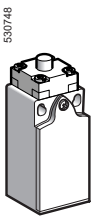


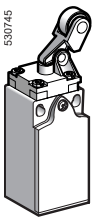
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or 1/2" NPT conduit.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

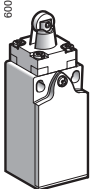
Limit switches
XC Basic range
Compact design, plastic, XCKN and XCNT

■ XCKN
with 1 cable entry
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)

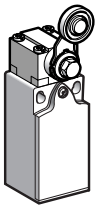


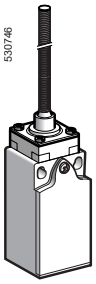




Page 110

□ With head for rotary movement (lever) or multi-directional

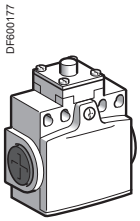


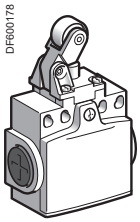


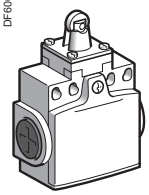
Page 111

■ XCNT
with 2 cable entries
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)

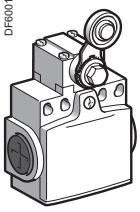


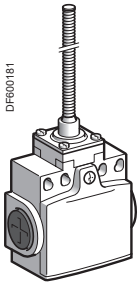




Page 112

□ With head for rotary movement (lever) or multi-directional





Page 113

Limit switches
XC Basic range
Compact design, plastic, XCKN and XCNT

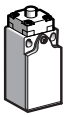
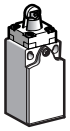
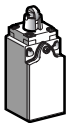
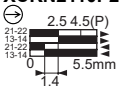
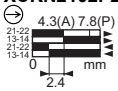
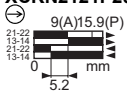
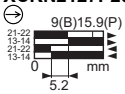
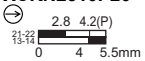
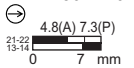
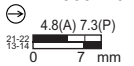
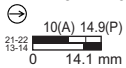
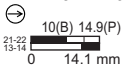
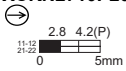
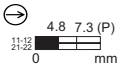
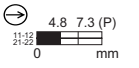
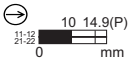
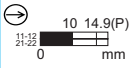
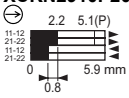
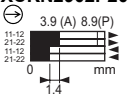
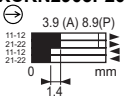
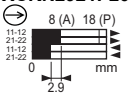
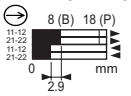
Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Version	Standard: "TC"
Ambient air temperature	For operation	- 25…+ 70°C
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz) except XCKN●●08: 10 gn, XCKN●●39 and XCKN●●49: 15 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except XCKN2●49●● and XCKN●●39: 15 gn, XCKN2●08●●: 20 gn and XCKN2●45●●: 35 gn
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		**IP 65 conforming to IEC 60529; IK 04 conforming to IEC 62262**
Cable entry		Depending on model: tapped entry for ISO M20 x 1.5 or Pg 11 cable gland, ISO M 16 x 1.5 cable gland or PF 1/2 (G 1/2).
Materials	Bodies	Plastic
	Heads	Plastic

Contact block characteristics

Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A
		⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	2-pole contact	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Short-circuit protection		10 A cartridge fuse type gG (gI)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm^2, max: 2 x 1.5 mm^2

Limit switches
XC Basic range
Compact design, plastic, XCKN
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)				
					
Type of operator	Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction
Sold and packed in lots of	20	20	20	20	20
References of complete switches with 1 ISO M20 x 1.5 cable entry					
 **2-pole NC + NO snap action**	**XCKN2110P20** 	**XCKN2102P20** 	**XCKN2103P20** 	**XCKN2121P20** 	**XCKN2127P20** 
 **2-pole NC + NO break before make, slow break**	**XCKN2510P20** 	**XCKN2502P20** 	**XCKN2503P20** 	**XCKN2521P20** 	**XCKN2527P20** 
 **2-pole NC + NC simultaneous, slow break**	**XCKN2710P20** 	**XCKN2702P20** 	**XCKN2703P20** 	**XCKN2721P20** 	**XCKN2727P20** 
 **2-pole NC + NC snap action**	**XCKN2910P20** 	**XCKN2902P20** 	**XCKN2903P20** 	**XCKN2921P20** 	**XCKN2927P20** 
Weight (kg)	0.065	0.065	0.065	0.070	0.070
Contact operation	■ *closed* □ *open*	*(A) (B) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Characteristics

Switch actuation		On end	By 30° cam		
Type of actuation					
Maximum actuation speed		0.5 m/s	0.3 m/s	1 m/s	
Mechanical durability (in millions of operating cycles)		10			
Minimum force or torque	For tripping	15 N	12 N	6 N	
	For positive opening	30 N	20 N	10 N	
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm			

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by **G11**.
Example: XCKN2110P20 becomes **XCKN2110G11**.

Other cable entries

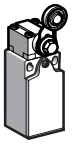
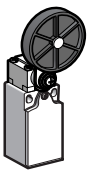
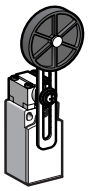
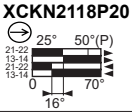
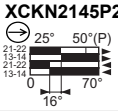
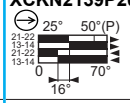
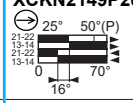
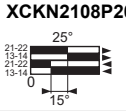
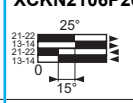
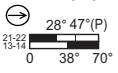
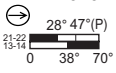
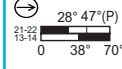
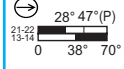
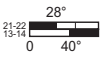
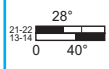
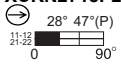
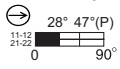
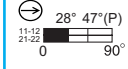
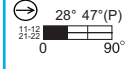
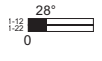
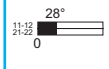
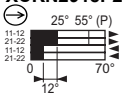
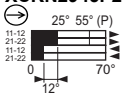
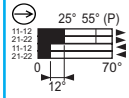
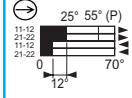
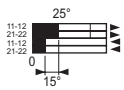
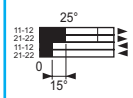
For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

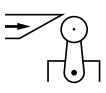
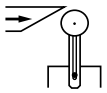
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches
XC Basic range
Compact design, plastic, XCKN
Complete switches with 1 cable entry

Type of head	Rotary (fixing by the body)				Multi-directional	
						
Type of operator	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	Spring rod	"Cat's whisker"
Sold and packed in lots of	20	20	20	20	20	20
References of complete switches with 1 ISO M20 x 1.5 cable entry						
 **2-pole NC + NO snap action**	**XCKN2118P20** 	**XCKN2145P20** 	**XCKN2139P20** 	**XCKN2149P20** 	**XCKN2108P20** 	**XCKN2106P20** 
 **2-pole NC + NO break before make, slow break**	**XCKN2518P20** 	**XCKN2545P20** 	**XCKN2539P20** 	**XCKN2549P20** 	**XCKN2508P20** 	**XCKN2506P20** 
 **2-pole NC + NC simultaneous, slow break**	**XCKN2718P20** 	**XCKN2745P20** 	**XCKN2739P20** 	**XCKN2749P20** 	**XCKN2708P20** 	**XCKN2706P20** 
 **2-pole NC + NC snap action**	**XCKN2918P20** 	**XCKN2945P20** 	**XCKN2939P20** 	**XCKN2949P20** 	**XCKN2908P20** 	**XCKN2906P20** 
Weight (kg)	0.085	0.090	0.110	0.115	0.085	0.075
Contact operation	■ *closed* □ *open*		*(A) (B) = cam displacement (P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Characteristics

Switch actuation		By 30° cam	By any moving part
Type of actuation		 	
Maximum actuation speed		1.5 m/s	1 m/s (any direction)
Mechanical durability		10 million operating cycles	5 million operating cycles
Minimum force or torque	For tripping	0.1 N.m	0.13 N.m
	For positive opening	0.15 N.m	–
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by **G11**.
Example: XCKN2118P20 becomes **XCKN2118G11**.

Other cable entries

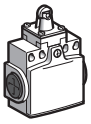
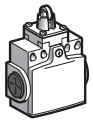
For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

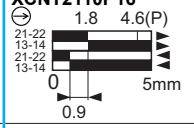
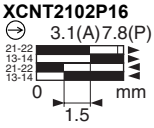
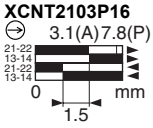
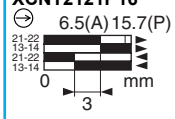
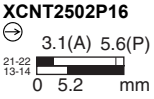
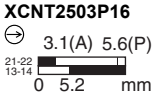
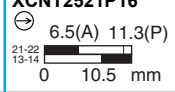
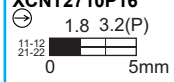
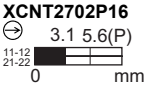
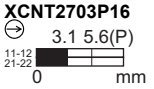
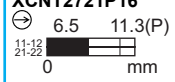
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches
XC Basic range
Compact design, plastic, XCNT
Complete switches with 2 cable entries

Type of head	Plunger (fixing by the body)			
				
Type of operator	Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction
Sold and packed in lots of	10	10	10	10

References of complete switches with 2 ISO M16 x 1.5 cable entries

	**2-pole NC + NO snap action**	**XCNT2110P16** 	**XCNT2102P16** 	**XCNT2103P16** 	**XCNT2121P16** 
	**2-pole NC + NO break before make, slow break**	**XCNT2510P16** 	**XCNT2502P16** 	**XCNT2503P16** 	**XCNT2521P16** 
	**2-pole NC + NC simultaneous, slow break**	**XCNT2710P16** 	**XCNT2702P16** 	**XCNT2703P16** 	**XCNT2721P16** 
Weight (kg)	0.085	0.085	0.085	0.090	
Contact operation	■ *closed* □ *open*	*(A) (B) = cam displacement* *(P) = positive opening point*		*⊖ NC contact with positive opening operation*	

Characteristics

Switch actuation		On end	By 30° cam	
Type of actuation				
Maximum actuation speed		0.5 m/s	0.3 m/s	1 m/s
Mechanical durability (in millions of operating cycles)		10		
Minimum force or torque	For tripping	15 N	12 N	6 N
	For positive opening	30 N	20 N	10 N
Cable entry		2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm		

References of complete switches with 2 Pg 11 cable entries

For complete switches with 2 Pg 11 cable entries replace P16 by **G11**.
Example: XCNT2110P16 becomes **XCNT2110G11**.

Complete switches with 1/2" NPT cable entry

For complete switches with 1/2" NPT cable entry use adaptor DE9 RA1012 (compatible with XCNT●●●●G11).

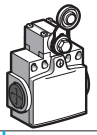
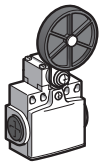
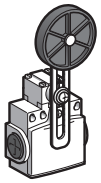
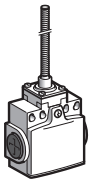
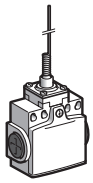
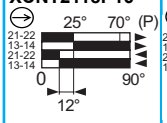
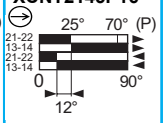
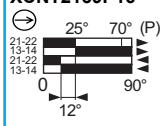
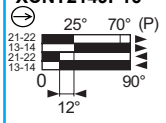
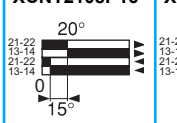
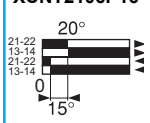
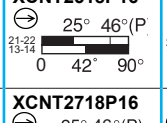
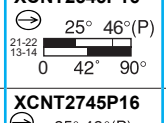
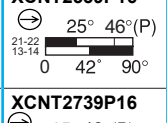
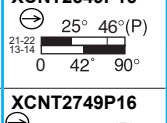
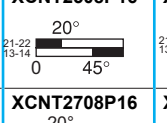
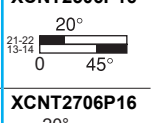
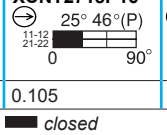
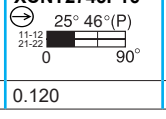
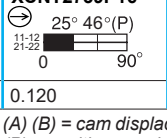
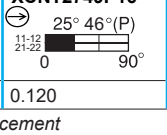
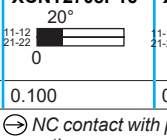
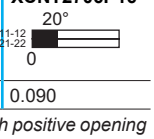

DE9RA1012

Description	Sold in lots of	Unit reference	Weight kg
Adaptor for 1/2" NPT conduit (male Pg 11 / female 1/2" NPT)	10	**DE9RA1012**	0.050

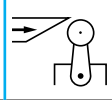
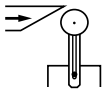
Other contacts

For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

Limit switches
XC Basic range
Compact design, plastic, XCNT
Complete switches with 2 cable entries

Type of head	Rotary (fixing by the body)				Multi-directional	
						
Type of operator	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	Spring rod	"Cat's whisker"
Sold and packed in lots of	10	10	10	10	8	8
References of complete switches with 2 ISO M16 x 1.5 cable entries						
 **2-pole NC + NO snap action**	**XCNT2118P16** 	**XCNT2145P16** 	**XCNT2139P16** 	**XCNT2149P16** 	**XCNT2108P16** 	**XCNT2106P16** 
 **2-pole NC + NO break before make, slow break**	**XCNT2518P16** 	**XCNT2545P16** 	**XCNT2539P16** 	**XCNT2549P16** 	**XCNT2508P16** 	**XCNT2506P16** 
 **2-pole NC + NC simultaneous, slow break**	**XCNT2718P16** 	**XCNT2745P16** 	**XCNT2739P16** 	**XCNT2749P16** 	**XCNT2708P16** 	**XCNT2706P16** 
Weight (kg)	0.105	0.120	0.120	0.120	0.100	0.090
Contact operation	■ *closed* □ *open*		*(A) (B) = cam displacement (P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Characteristics

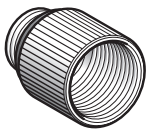
Switch actuation		By 30° cam	By any moving part
Type of actuation		 	
Maximum actuation speed		1.5 m/s	1 m/s (any direction)
Mechanical durability		10 million operating cycles	5 million operating cycles
Minimum force or torque	For tripping	0.1 N.m	0.13 N.m
	For positive opening	0.15 N.m	–
Cable entry		2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm	

References of complete switches with 2 Pg 11 cable entries

For complete switches with 2 Pg 11 cable entries replace P16 by G11.
Example: XCNT2118P16 becomes **XCNT2118G11**.

Complete switches with 1/2" NPT cable entry

For complete switches with 1/2" NPT cable entry use adaptor DE9 RA1012 (compatible with XCNT●●●●G11).


DE9RA1012

Description	Sold in lots of	Unit reference	Weight kg
Adaptor for 1/2" NPT conduit (male Pg 11 / female 1/2" NPT)	10	**DE9RA1012**	0.050

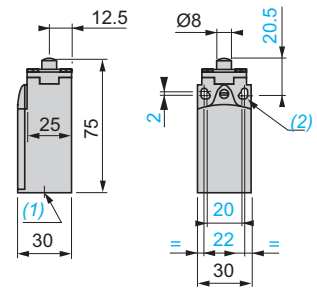
Other contacts

For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

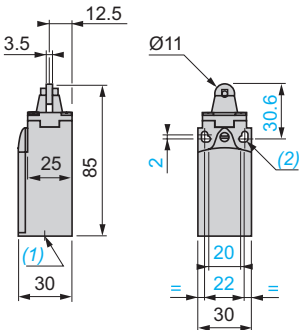
Limit switches
XC Basic range
Compact design, plastic, XCKN
Complete switches with 1 cable entry

Dimensions

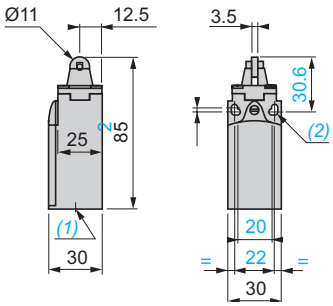
XCKN2●10P20



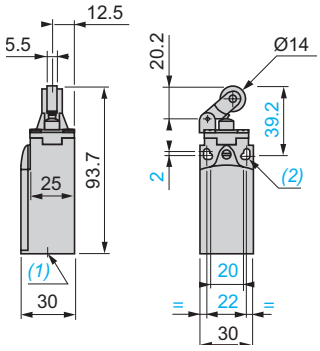
XCKN2●02P20



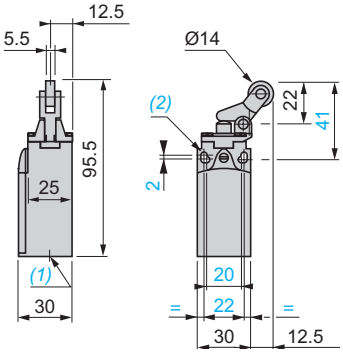
XCKN2●03P20



XCKN2●21P20

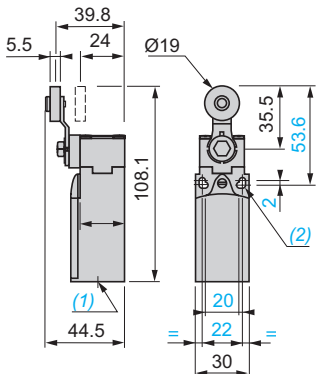


XCKN2●27P20

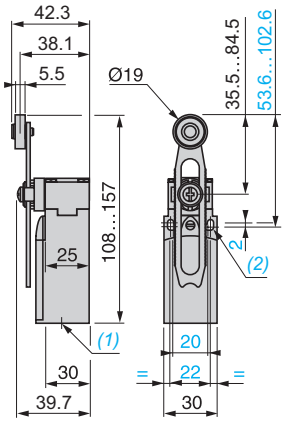


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

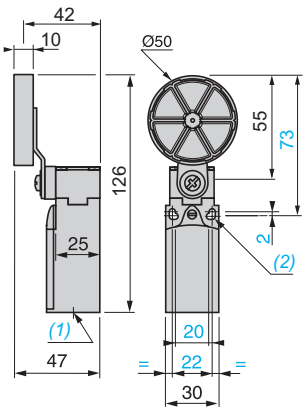
XCKN2●18P20



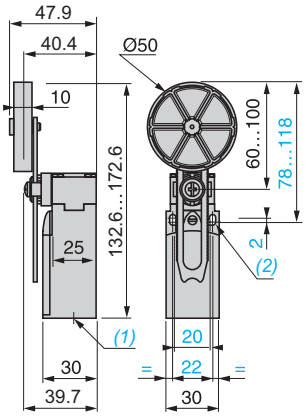
XCKN2●45P20



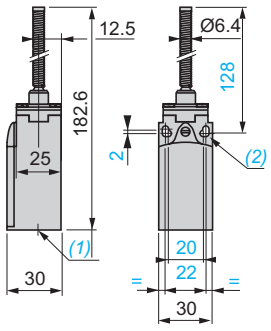
XCKN2●39P20



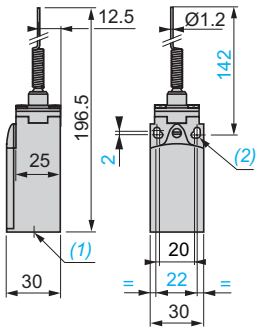
XCKN2●49P20



XCKN2●08P20



XCKN2●06P20

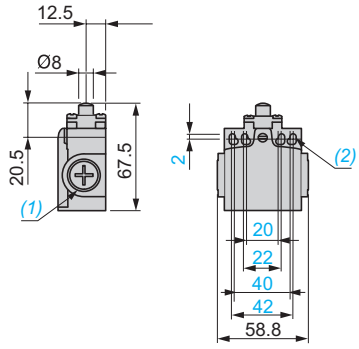


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

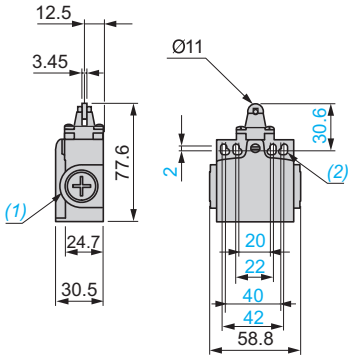
Limit switches
XC Basic range
Compact design, plastic, XCNT
Complete switches with 2 cable entries

Dimensions

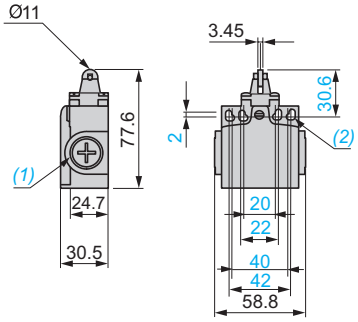
XCNT2●10P20



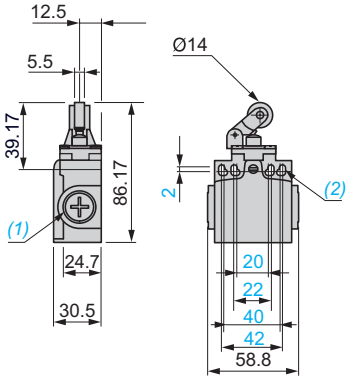
XCNT2●02P20



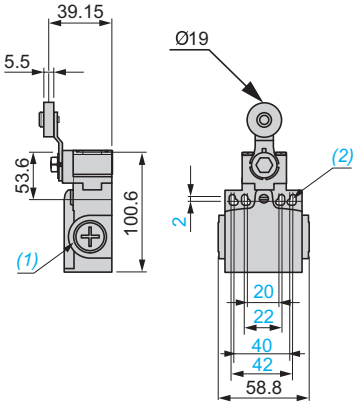
XCNT2●03P20



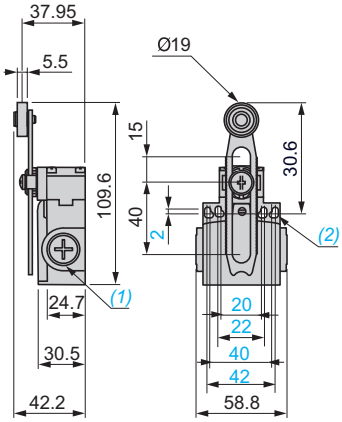
XCNT2●21P20



XCNT2●18P16

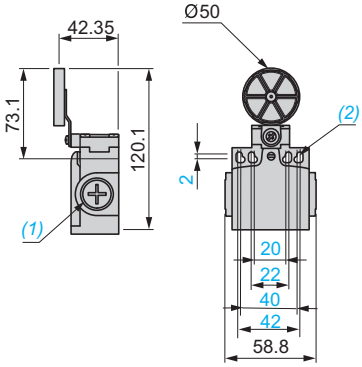


XCNT2●45P16

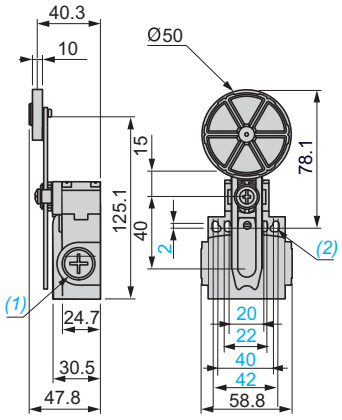


(1) 2 tapped entries for ISOM16 x 1.5 or Pg 11 cable gland.
(2) Ø: 4 elongated holes Ø 4.3 x 6.3

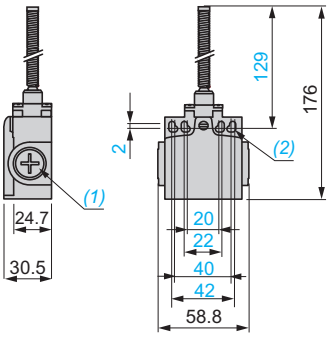
XCNT2●39P16



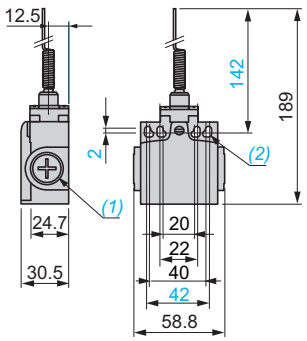
XCNT2●49P16



XCNT2●08P16



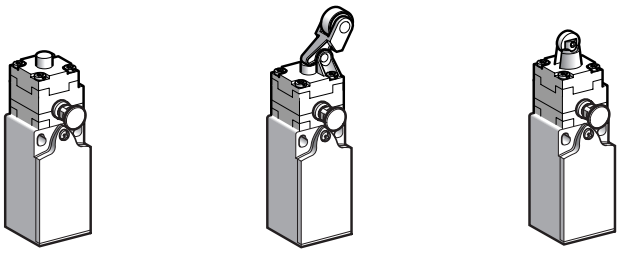
XCNT2●06P16



Limit switches
XC Basic range
Compact design, plastic, with reset knob, XCNR
Complete switches with 1 cable entry

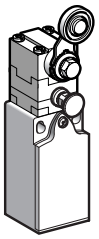
■ XCNR
with 1 cable entry

□ With head for linear movement (plunger)



Page 118

□ With head for rotary movement (lever)



Page 118

Limit switches
XC Basic range
Compact design, plastic, with reset knob, XCNR
Complete switches with 1 cable entry

Environment characteristics

Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Version	Standard: "TC"
Ambient air temperature	For operation	- 25…+ 70°C
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		**IP 65 conforming to IEC 60529; IK 04 conforming to IEC 62262**
Cable entry		Depending on model: tapped entry, for ISO M20 x 1.5 or Pg 11 cable gland, ISO M16 x 1.5 cable gland or PF 1/2 (G 1/2)
Materials	Bodies	Plastic
	Heads	Plastic

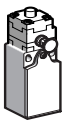
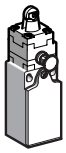
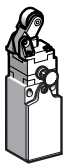
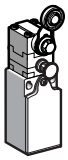
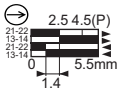
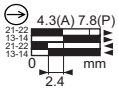
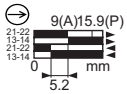
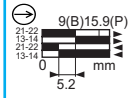
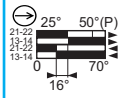
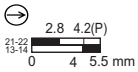
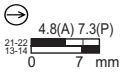
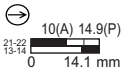
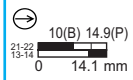
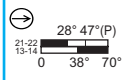
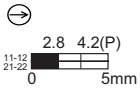
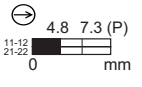
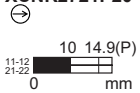
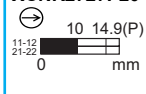
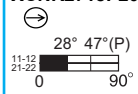
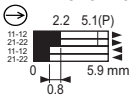
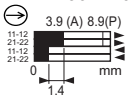
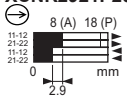
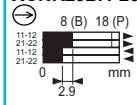
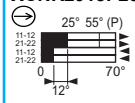
Contact block characteristics

Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A
		⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	2-pole contact	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Short-circuit protection		10 A cartridge fuse type gG (gI)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm^2, max: 2 x 1.5 mm^2

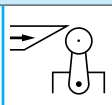
Limit switches

XC Basic range

Compact design, plastic, with reset knob, XCNR
Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)				Rotary (fixing by the body)
					
Type of operator	Metal end plunger	Plastic roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction	Thermoplastic roller lever
Sold and packed in lots of	10	10	10	10	10
References of complete switches with 1 ISO M20 x 1.5 cable entry					
 **2-pole NC + NO snap action**	**XCNR2110P20** 	**XCNR2102P20** 	**XCNR2121P20** 	**XCNR2127P20** 	**XCNR2118P20** 
 **2-pole NC + NO break before make, slow break**	**XCNR2510P20** 	**XCNR2502P20** 	**XCNR2521P20** 	**XCNR2527P20** 	**XCNR2518P20** 
 **2-pole NC + NC simultaneous, slow break**	**XCNR2710P20** 	**XCNR2702P20** 	**XCNR2721P20** 	**XCNR2727P20** 	**XCNR2718P20** 
 **2-pole NC + NC snap action**	**XCNR2910P20** 	**XCNR2902P20** 	**XCNR2921P20** 	**XCNR2927P20** 	**XCNR2918P20** 
Weight (kg)	0.080	0.080	0.085	0.090	0.100
Contact operation	■ *closed* □ *open*	*(A) (B) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Characteristics

Switch actuation		On end	By 30° cam		
Type of actuation						
Maximum actuation speed		0.5 m/s	0.3 m/s	1 m/s		1.5 m/s
Mechanical durability		100,000 operating cycles				
Minimum force or torque	For tripping	15 N	12 N	6 N		0.1 N.m
	For positive opening	30 N	20 N	10 N		0.15 N.m
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm				

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by **G11**.
Example: XCNR2110P20 becomes **XCNR2110G11**.

Other cable entries

For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

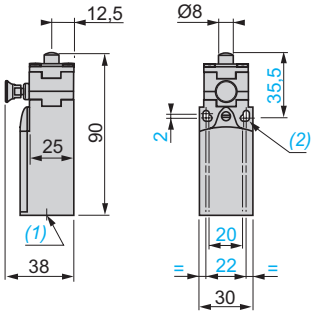
For complete switches with 2-pole contacts:
NC + NO make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

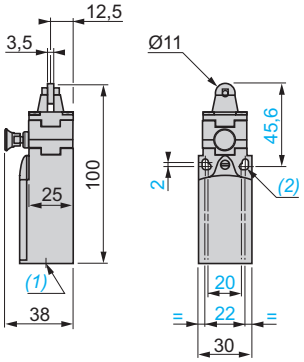
Limit switches
XC Basic range
Compact design, plastic, with reset knob, XCNR
Complete switches with 1 cable entry

Dimensions

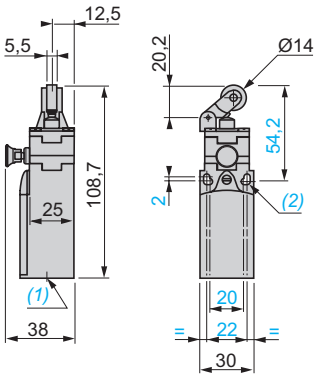
XCNR2●10P20



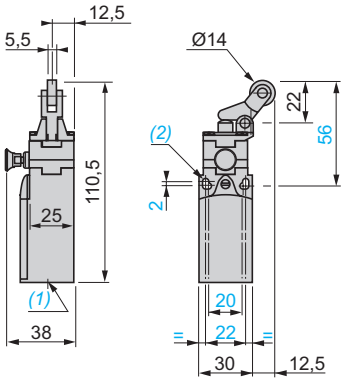
XCNR2●02P20



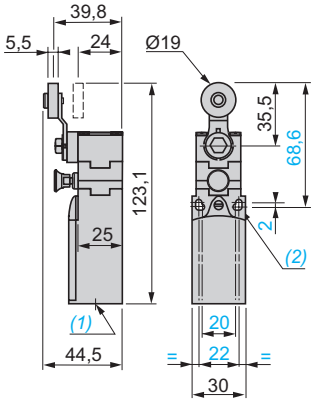
XCNR2●21P20



XCNR2●27P20



XCNR2●18P20

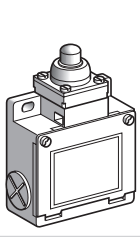


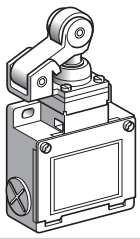
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

Limit switches
XC Standard range, Classic format
Metal, XCKM, XCKL and XCKML

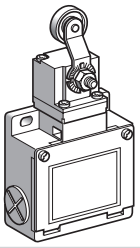
■ XCKM, with 3 cable entries

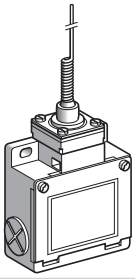
□ With head for linear movement (plunger)





□ With head for rotary movement (lever) or multi-directional

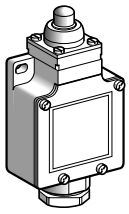


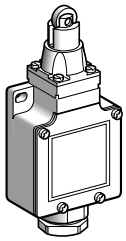


Page 122

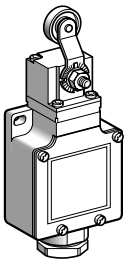
■ XCKL, with 1 cable entry

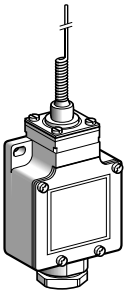
□ With head for linear movement (plunger)





□ With head for rotary movement (lever) or multi-directional

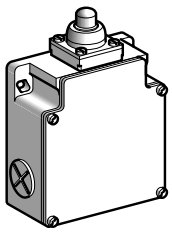


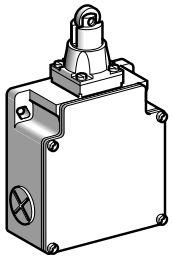


Page 124

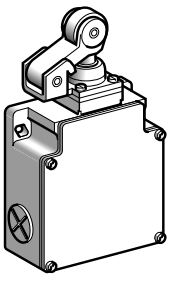
■ XCKML, with 3 cable entries and 2 x 2-pole contacts

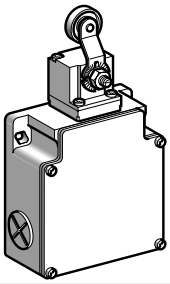
□ With head for linear movement (plunger)





□ With head for rotary movement (lever)





Page 126

Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA CCC (only for XCKM) BV (only for XCKM and XCKL)
Protective treatment	Version	Standard: “TC”. Special: “TH”
Ambient air temperature	For operation	- 25…+ 70°C
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class I conforming to IEC 61140 and NF C 20-030
Degree of protection		IP 66 conforming to IEC 60529; IK 05 conforming to IEC 62262
Repeat accuracy		**XCKML** 0.1 mm; **XCKM** and **XCKL** 0.05 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry or connector	Depending on model	**XCKM:** 3 tapped entries for Pg 11 cable gland or tapped ISO M20, or with 1/2" NPT adaptor **XCKL**: 1 tapped entry incorporating Pg 13.5 cable gland or 1 entry tapped 1/2" NPT **XCKML**: 3 tapped entries for Pg 13.5 cable gland or tapped ISO M20
Materials		Bodies: Zamak. Rotary heads: Zamak or plastic, depending on product reference. Other heads: plastic

Contact block characteristics

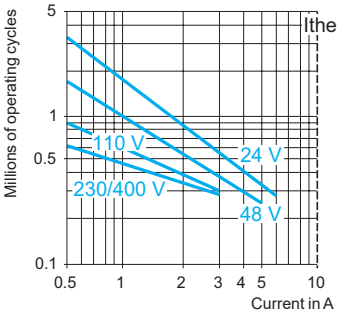
Rated operational characteristics	XE2●P	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm²
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm², max: 2 x 2.5 mm²
	XESP2151L and XENP2151L	Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm² or 1 x 2.5 mm²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²
Minimum actuation speed		**XE2SP21●1, XESP2151L** and **XE3S**P: 0.01 m/minute
		XE2NP21●1, XENP2151L and **XE3N**P: 6 m/minute

Electrical durability

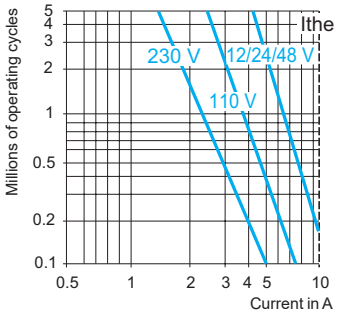
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
50/60 Hz ∼
⎓ inductive circuit

XE2SP21●1, XE2SP2141, XESP2151L



XE2NP21●1, XENP2151L



DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

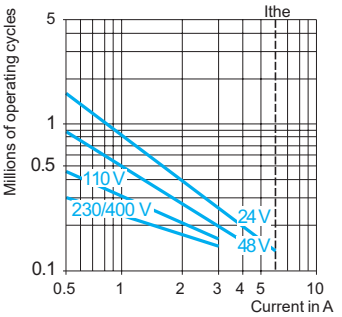
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

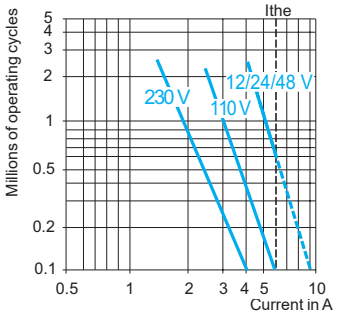
For XE2SP●151 on ∼ or ⎓, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply
50/60 Hz ∼
⎓ inductive circuit

XE3SP●●●●



XE3NP●●●●



DC supply ⎓

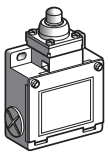
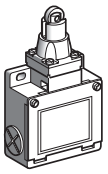
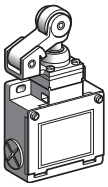
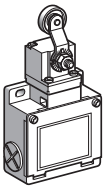
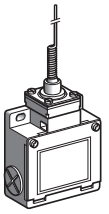
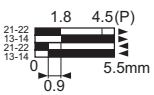
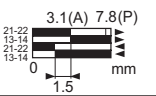
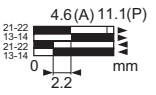
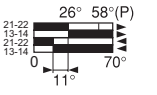
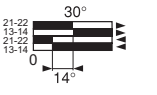
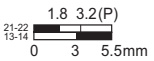
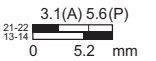
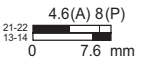
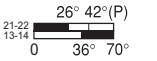
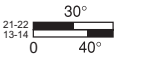
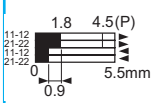
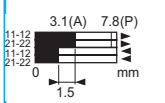
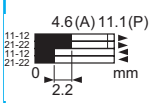
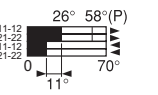
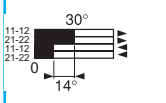
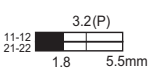
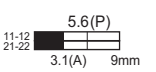
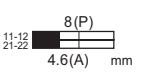
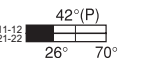
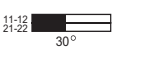
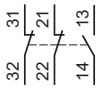
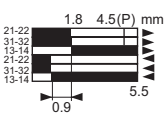
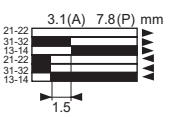
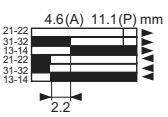
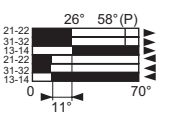
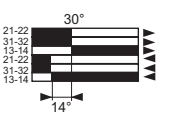
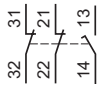
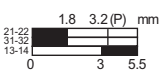
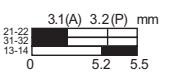
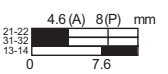
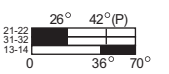
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	4	3	2

Limit switches
XC Standard range, Classic format
Metal, XCKM
Complete units with 3 cable entries

Type of head	Plunger (fixing by the body)			Rotary (fixing by the body)	Multi-directional, (fixing by the body)
					
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever *(1)*	"Cat's whisker" *(2)*
References of complete units with 3 ISO M20 x 1.5 cable entries *(3)*					
2-pole NC + NO snap action (XE2SP2151) 	**XCKM110H29** 	**XCKM102H29** 	**XCKM121H29** 	**XCKM115H29** 	**XCKM106H29** 
2-pole NC + NO break before make, slow break (XE2NP2151) 	**XCKM510H29** 	**XCKM502H29** 	**XCKM521H29** 	**XCKM515H29** 	**XCKM506H29** 
2-pole NC + NC snap action (XE2SP2141) 	**ZCKM9H29 + ZCKD10** 	**ZCKM9H29 + ZCKD02** 	**ZCKM9H29 + ZCKD21** 	**ZCKM9H29 + ZCKD15** 	**ZCKM9H29 + ZCKD06** 
2-pole NC + NC simultaneous, slow break (XE2NP2141) 	**ZCKM7H29 + ZCKD10** 	**ZCKM7H29 + ZCKD02** 	**ZCKM7H29 + ZCKD21** 	**ZCKM7H29 + ZCKD15** 	**ZCKM7H29 + ZCKD06** 
3-pole NC + NC + NO snap action (XE3SP2141) 	**ZCKMD39H29 + ZCKD10** 	**ZCKMD39H29 + ZCKD02** 	**ZCKMD39H29 + ZCKD21** 	**ZCKMD39H29 + ZCKD15** 	**ZCKMD39H29 + ZCKD06** 
3-pole NC + NC + NO break before make, slow break (XE3NP2141) 	**ZCKMD37H29 + ZCKD10** 	**ZCKMD37H29 + ZCKD02** 	**ZCKMD37H29 + ZCKD21** 	**ZCKMD37H29 + ZCKD15** 	**ZCKMD37H29 + ZCKD06**
Weight (kg)	0.250	0.255	0.300	0.280	0.250
Contact operation	closed / open	*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

References of complete units with 3 Pg 11 cable entries

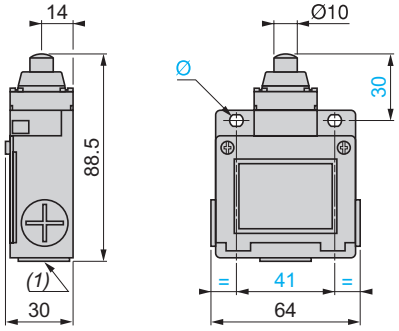
For complete units with 3 Pg 11 cable entries, delete **H29** from the end of the reference. Example: **XCKM110H29** becomes **XCKM110**.

Characteristics						
Switch actuation		On end	By 30° cam			By any moving part
Type of actuation						
Maximum actuation speed		0.5 m/s		1.5 m/s		1 m/s (any direction)
Mechanical durability *(4)* **(in millions of operating cycles)**		20			15	10
Minimum force or torque	For tripping	15 N	12 N	8 N	0.1 N.m	0.13 N.m
	For positive opening	45 N	36 N	24 N	0.25 N.m	–
Cable entry		3 entries tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm				

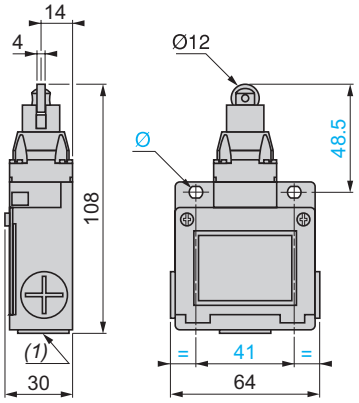
(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Limited to 15 million operating cycles for switches with contacts XE3●P.

Limit switches
XC Standard range, Classic format
Metal, XCKM
Complete units with 3 cable entries

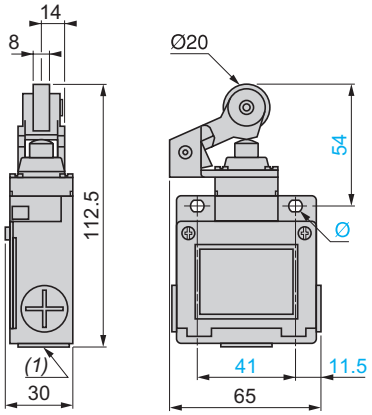
XCKM●10
ZCKMD3● + ZCKD10



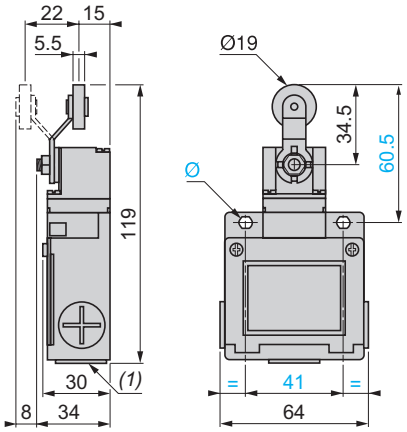
XCKM●02
ZCKMD3● + ZCKD02



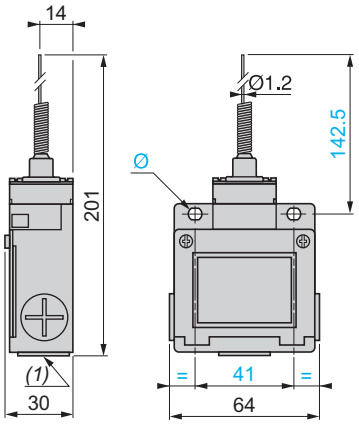
XCKM●21
ZCKMD3● + ZCKD21



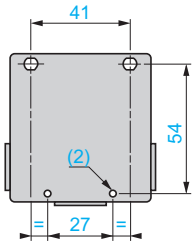
XCKM●15
ZCKMD3● + ZCKD15



XCKM●06
ZCKMD3● + ZCKD06

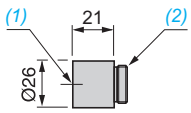


Rear view XCKM●●●, ZCKM●, ZCKMD3●



(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.
(2) 2 x Ø 4 H 11, depth 10.
Ø: 2 elongated holes Ø 5.2 x 6.2

Adaptor for 1/2" NPT conduit
DE9RA1012



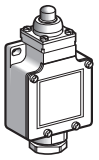
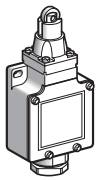
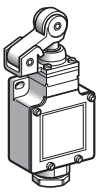
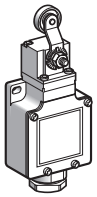
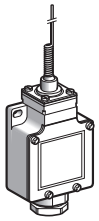
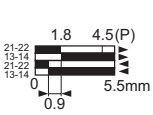
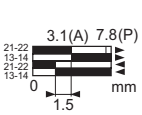
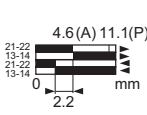
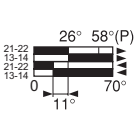
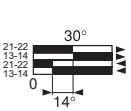
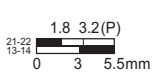
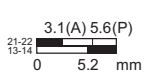
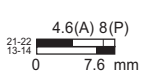
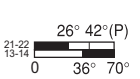
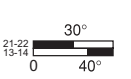
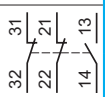
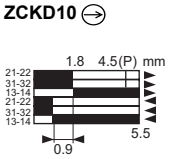
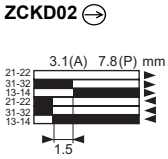
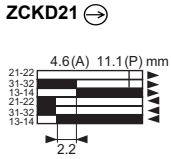
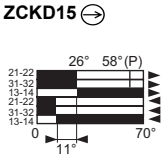
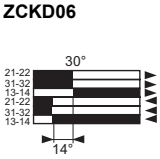
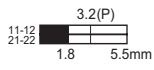
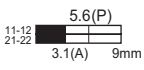
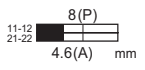
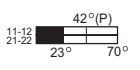
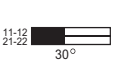
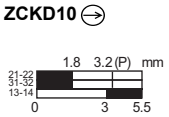
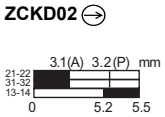
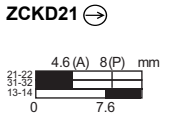
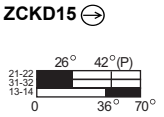
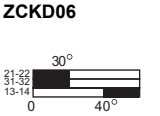
(1) Tapped entry for 1/2" NPT conduit.
(2) Pg 11 threaded sleeve.

Limit switches

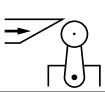
XC Standard range, Classic format

Metal, XCKL

Complete units incorporating Pg 13.5 cable gland

Type of head	Plunger (fixing by the body)			Rotary (fixing by the body)	Multi-directional, (fixing by the body)
					
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever *(1)*	"Cat's whisker" *(2)*
References *(3)*					
2-pole NC + NO snap action (XE2SP2151) 	**XCKL110** 	**XCKL102** 	**XCKL121** 	**XCKL115** 	**XCKL106** 
2-pole NC + NO break before make, slow break (XE2NP2151) 	**XCKL510** 	**XCKL502** 	**XCKL521** 	**XCKL515** 	**XCKL506** 
3-pole NC + NC + NO snap action (XE3SP2141) 	**ZCKLD39 + ZCKD10** 	**ZCKLD39 + ZCKD02** 	**ZCKLD39 + ZCKD21** 	**ZCKLD39 + ZCKD15** 	**ZCKLD39 + ZCKD06** 
2-pole NC + NC simultaneous, slow break (XE2NP2141) 	**ZCKL7 + ZCKD10** 	**ZCKL7 + ZCKD02** 	**ZCKL7 + ZCKD21** 	**ZCKL7+ ZCKD15** 	**ZCKL7 + ZCKD06** 
3-pole NC + NC + NO break before make, slow break (XE3NP2141) 	**ZCKLD37 + ZCKD10** 	**ZCKLD37 + ZCKD02** 	**ZCKLD37 + ZCKD21** 	**ZCKLD37 + ZCKD15** 	**ZCKLD37 + ZCKD06** 
Weight (kg)	0.255	0.260	0.305	0.285	0.255
Contact operation	■ *closed* □ *open*	*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

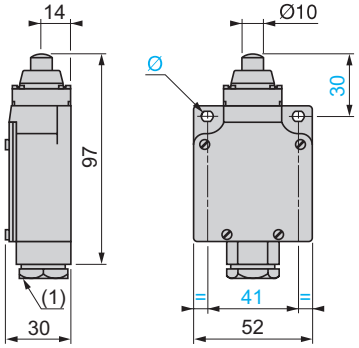
Characteristics

Switch actuation		On end	By 30° cam			By any moving part
Type of actuation						
Maximum actuation speed		0.5 m/s		1.5 m/s		1 m/s (any direction)
Mechanical durability *(4)* **(in millions of operating cycles)**		20			15	10
Minimum force or torque	For tripping	15 N	12 N	8 N	0.1 N.m	0.13 N.m
	For positive opening	45 N	36 N	24 N	0.25 N.m	–
Cable entry		1 entry incorporating metal cable gland. Clamping capacity 6 to 13.5 mm.				

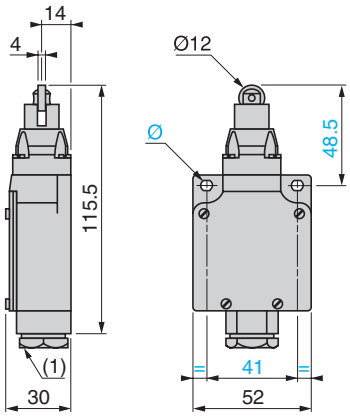
(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Limited to 15 million operating cycles for switches with contacts XE3●P.

Limit switches
XC Standard range, Classic format
Metal, XCKL
Complete units incorporating Pg 13.5 cable gland

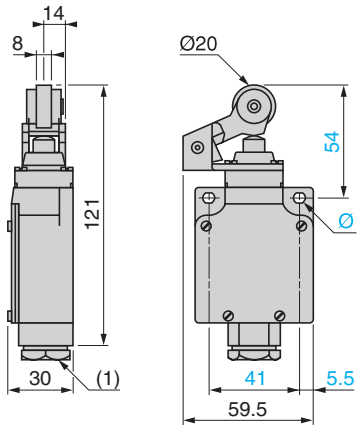
XCKL●10
ZCKL● + ZCKD10
ZCKLD3● + ZCKD10



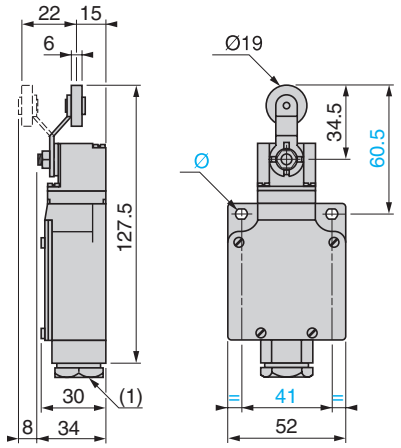
XCKL●02
ZCKL3● + ZCKD02
ZCKLD3● + ZCKD02



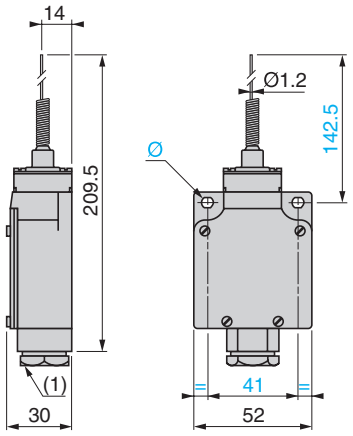
XCKL●21
ZCKL● + ZCKD21
ZCKLD3● + ZCKD21



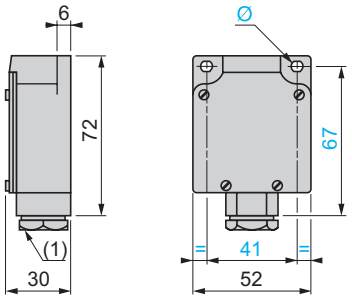
XCKL●15
ZCKL● + ZCKD15
ZCKLD3● + ZCKD15



XCKL●06
ZCKL● + ZCKD06
ZCKLD3● + ZCKD06



Body fixings



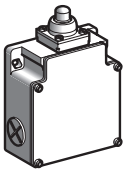
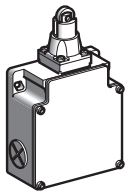
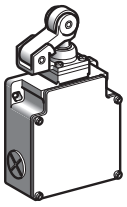
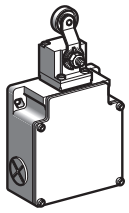
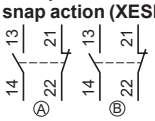
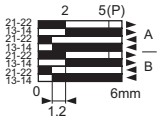
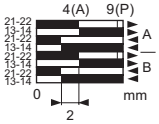
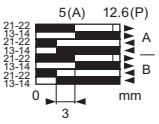
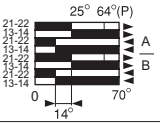
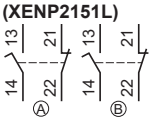
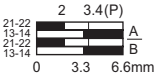
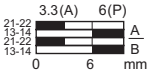
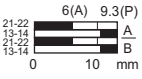
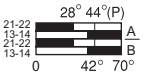
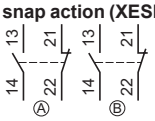
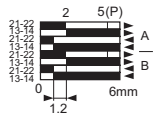
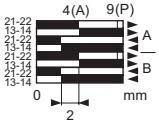
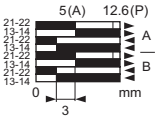
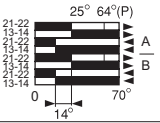
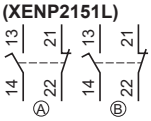
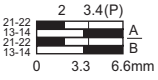
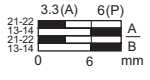
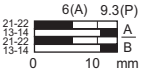
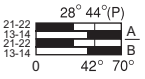
(1) Incorporated Pg 13.5 cable gland
Ø: 2 elongated holes Ø 5.2 x 6.2

Limit switches

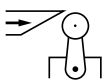
XC Standard range, Classic format

Metal, 2 x 2-pole contacts, XCKML

Complete switches with 3 cable entries

Type of head	Plunger (fixing by the body)			Rotary (fixing by the body)
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever *(1)*
References of complete switches with 3 ISO M20 x 1.5 cable entries *(2)*				
2 x 2-pole NC + NO snap action (XESP2151L) 	**XCKML110H29** ⊖ 	**XCKML102H29** ⊖ 	**XCKML121H29** ⊖ 	**XCKML115H29** ⊖ 
2 x 2-pole NC + NO break before make, slow break (XENP2151L) 	**XCKML510H29** ⊖ 	**XCKML502H29** ⊖ 	**XCKML521H29** ⊖ 	**XCKML515H29** ⊖ 
References of complete switches with 3 entries tapped for n° 13 cable gland *(2)*				
2 x 2-pole NC + NO snap action (XESP2151L) 	**XCKML110** ⊖ 	**XCKML102** ⊖ 	**XCKML121** ⊖ 	**XCKML115** ⊖ 
2 x 2-pole NC + NO break before make, slow break (XENP2151L) 	**XCKML510** ⊖ 	**XCKML502** ⊖ 	**XCKML521** ⊖ 	**XCKML515** ⊖ 
Weight (kg)	0.400	0.405	0.450	0.430
Contact operation	■ *closed* □ *open*	*(A) = cam displacement* *(P) = positive opening point*	⊖ *NC contact with positive opening operation*	

Characteristics

Switch actuation		On end	By 30° cam		
Type of actuation					
Maximum actuation speed		0.5 m/s		1.5 m/s	
Mechanical durability		3 million operating cycles			
Minimum force	For tripping	15 N	12 N	8 N	0.2 N.m
	For positive opening	60 N	50 N	50 N	0.5 N.m
Cable entry		3 entries tapped ISO M20 x 1.5, clamping capacity 7 to 13 mm, or 3 entries tapped for n° 13 cable gland conforming to NF C 68-300 (DIN Pg 13.5), clamping capacity 9 to 12 mm.			

(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

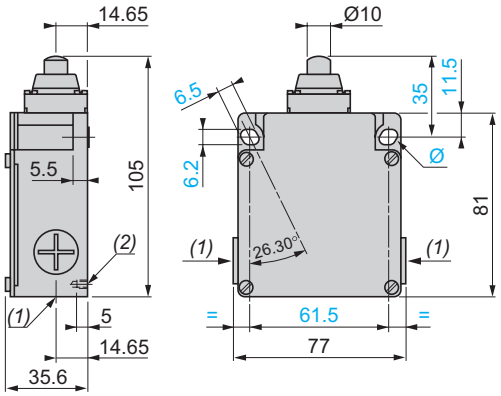
(2) Switches available with other 2-pole slow break contact blocks: NO + NC make before break, NC + NC simultaneous (with positive opening operation), NO + NO simultaneous. Please consult our Customer Care Centre.

Note: replacement parts

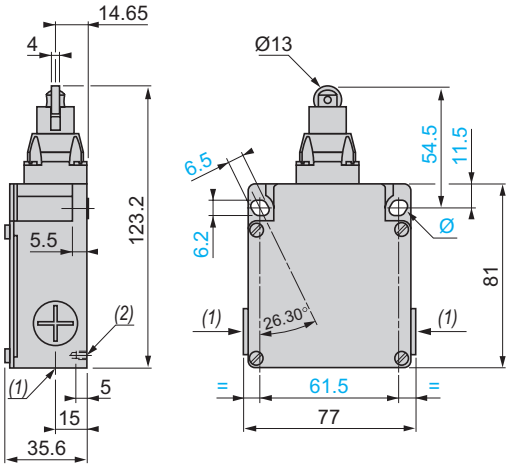
*The heads of limit switches XCKML are the same as those for XCKM and XCKL (see heads **ZCKD10**, **ZCKD02**, **ZCKD21** and **ZCKD15** on page 128).*

Limit switches
XC Standard range, Classic format
Metal, 2 x 2-pole contacts, XCKML
Complete switches with 3 cable entries

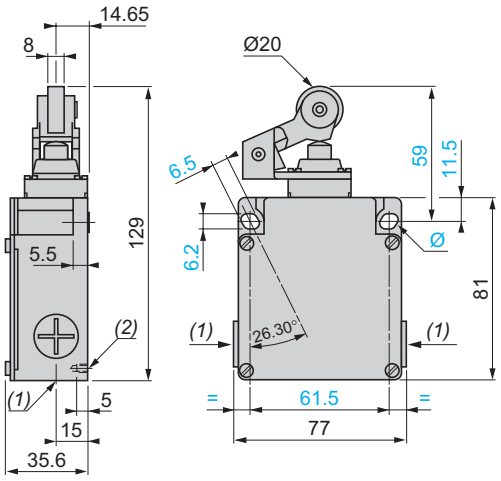
XCKML110H29, XCKML510H29, XCKML110, XCKML510



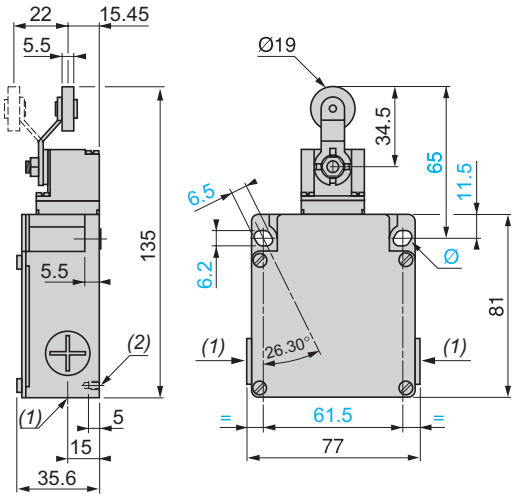
XCKML102H29, XCKML502H29, XCKML102, XCKML502



XCKML121H29, XCKML521H29, XCKML121, XCKML521

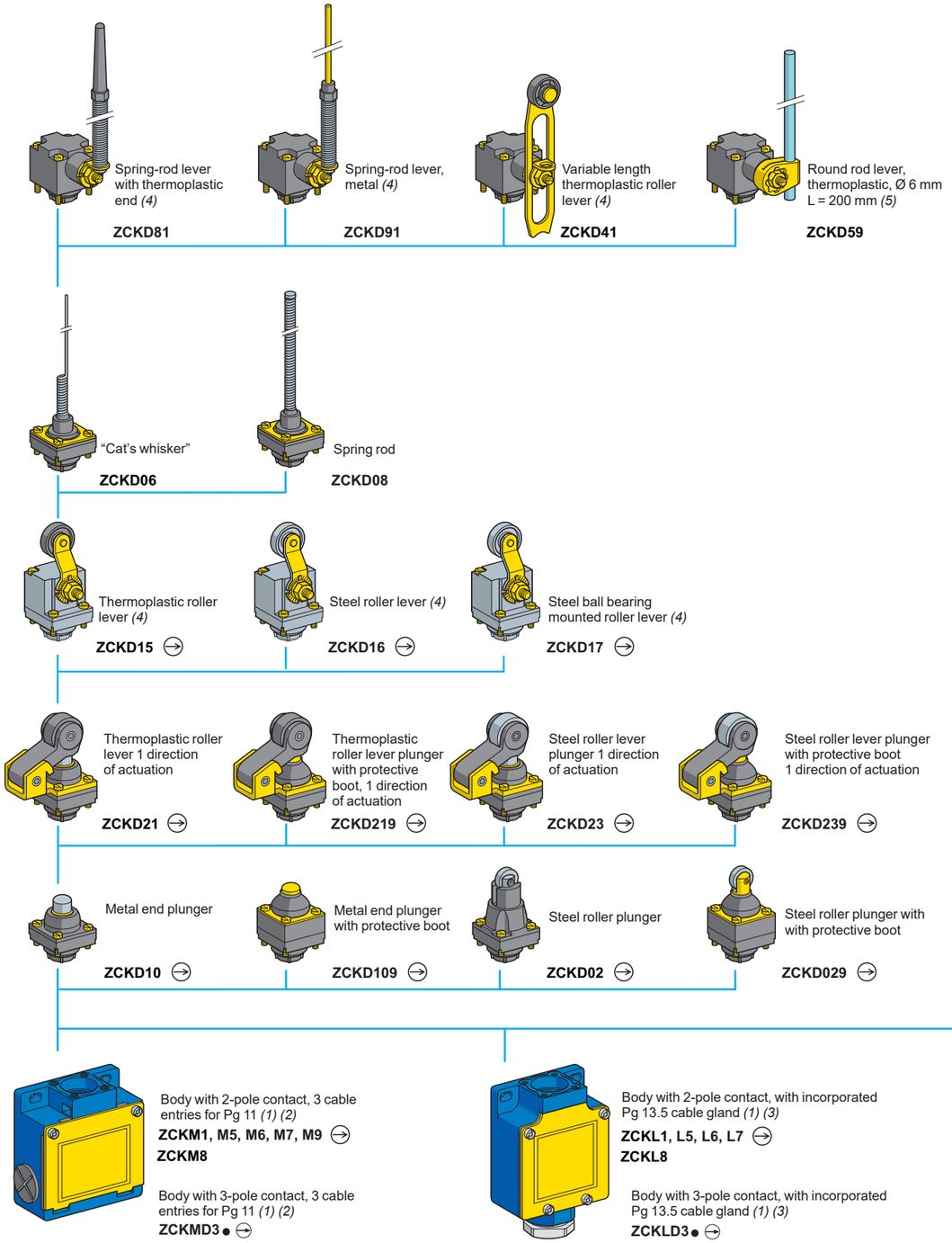


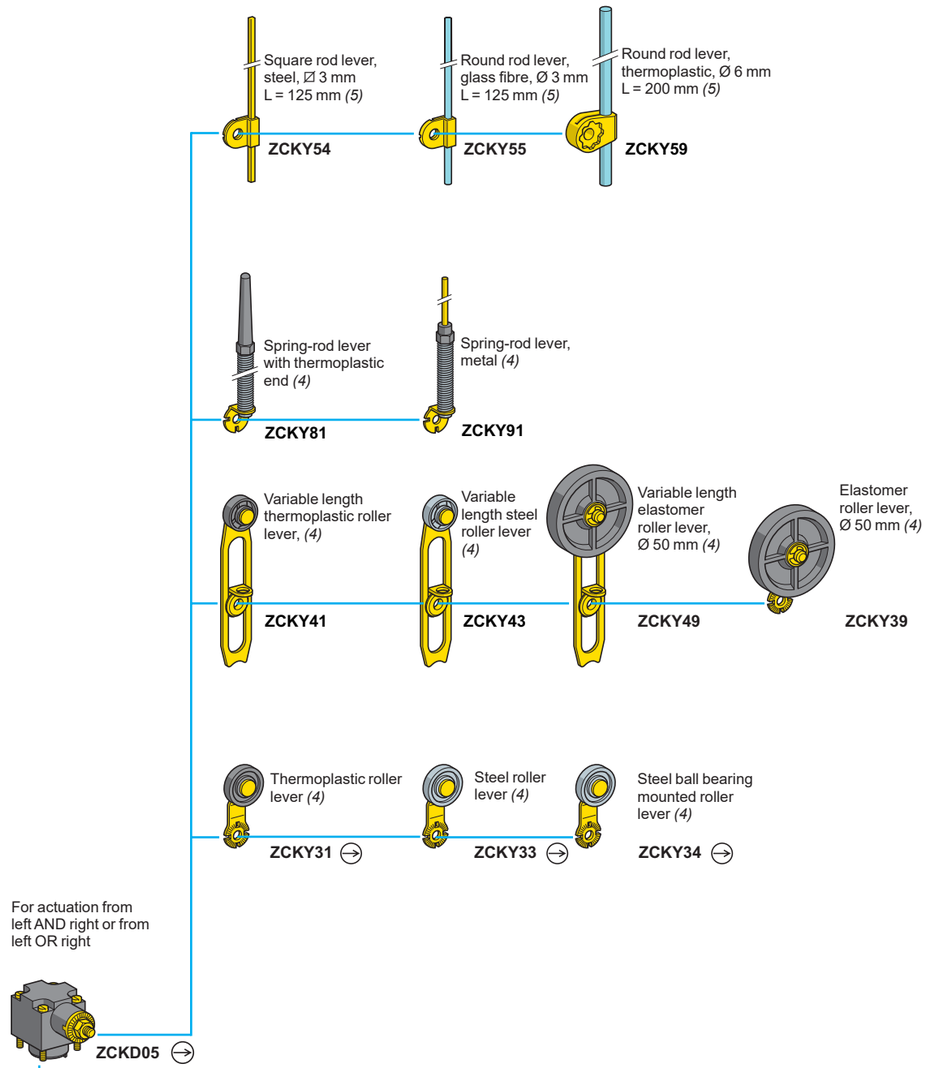
XCKML115H29, XCKML515H29, XCKML115, XCKML515



*(1) **XCKML●●●H29**: 3 entries tapped M20 x 1.5. **XCKML●●●**: 3 tapped entries for n° 13 cable gland.*
(2) 2 centring holes Ø 3.9 ± 0.2, for cover fixing holes alignment.
Ø 2 elongated holes 6.2 x 6.5, inclined at 26° 30' to the vertical axis, for M5 screws.

Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Variable composition

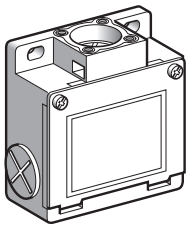




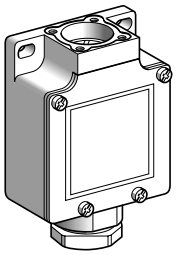
(1) For further information, see page 130.
*(2) For 3 cable entries tapped ISO M20 x 1.5, add **H29** to the reference. Example: ZCKM1 becomes **ZCKM1H29**.*
*For one cable entry with 1/2" NPT adaptor, add **H7** to the reference. Example: ZCKM1 becomes **ZCKM1H7**.*
*(3) For one cable entry tapped 1/2" NPT, add **H7** to the reference. Example: ZCKL1 becomes **ZCKL1H7**.*

⊖: head assuring positive opening operation.
(4) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies



ZCKM●



ZCKL●

Bodies with 2-pole contact

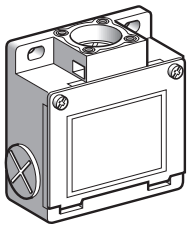
With contact block	Scheme	Positive operation *(1)*	Cable entry	Reference	Weight kg
For limit switches XCKM					
NC + NO snap action (XE2SP2151)		⊖	Pg 11	**ZCKM1**	0.210
			ISO M20 x 1.5	**ZCKM1H29**	0.210
			1/2" NPT *(2)*	**ZCKM1H7**	0.210
NC + NO break before make, slow break (XE2NP2151)		⊖	Pg 11	**ZCKM5**	0.210
			ISO M20 x 1.5	**ZCKM5H29**	0.210
			1/2" NPT *(2)*	**ZCKM5H7**	0.210
NO + NC make before break, slow break (XE2NP2161)		⊖	Pg 11	**ZCKM6**	0.210
			ISO M20 x 1.5	**ZCKM6H29**	0.210
			1/2" NPT *(2)*	**ZCKM6H7**	0.210
NC + NC simultaneous, slow break (XE2NP2141)		⊖	Pg 11	**ZCKM7**	0.210
			ISO M20 x 1.5	**ZCKM7H29**	0.210
			1/2" NPT *(2)*	**ZCKM7H7**	0.210
NO + NO simultaneous, slow break (XE2NP2131)		–	Pg 11	**ZCKM8**	0.210
			ISO M20 x 1.5	**ZCKM8H29**	0.210
			1/2" NPT *(2)*	**ZCKM8H7**	0.210
NC + NC snap action (XE2SP2141)		⊖	Pg 11	**ZCKM9**	0.210
			ISO M20 x 1.5	**ZCKM9H29**	0.210
For limit switches XCKL					
NC + NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKL1** *(3)*	0.210
			1/2" NPT	**ZCKL1H7**	0.210
NC + NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKL5** *(3)*	0.210
			1/2" NPT	**ZCKL5H7**	0.210
NO + NC make before break, slow break (XE2NP2161)		⊖	Pg 13.5	**ZCKL6** *(3)*	0.210
			1/2" NPT	**ZCKL6H7**	0.210
NC + NC simultaneous, slow break (XE2NP2141)		⊖	Pg 13.5	**ZCKL7** *(3)*	0.210
			1/2" NPT	**ZCKL7H7**	0.210
NO + NO simultaneous, slow break (XE2NP2131)		–	Pg 13.5	**ZCKL8** *(3)*	0.210
			1/2" NPT	**ZCKL8H7**	0.210

(1) ⊖*: NC contact with positive opening operation.*

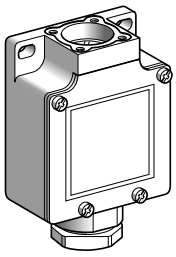
(2) 3 tapped entries, one with metal adaptor for 1/2" NPT (USASB2-1) conduit.

(3) Pg 13.5 cable gland included with switch.

Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

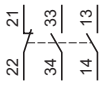
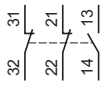
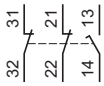
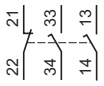
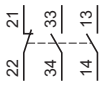
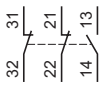
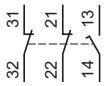
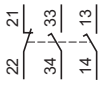


ZCKMD3●



ZCKLD3●

Bodies with 3-pole contact

With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
For limit switches XCKM					
NC + NO + NO snap action (XE3SP2151)		⊖	Pg 11	**ZCKMD31**	0.210
			ISO M20 x 1.5	**ZCKMD31H29**	0.210
			1/2" NPT (2)	**ZCKMD31H7**	0.210
NC + NC + NO snap action (XE3SP2141)		⊖	Pg 11	**ZCKMD39**	0.210
			ISO M20 x 1.5	**ZCKMD39H29**	0.210
			1/2" NPT (2)	**ZCKMD39H7**	0.210
NC + NC + NO break before make, slow break (XE3NP2141)		⊖	Pg 11	**ZCKMD37**	0.210
			ISO M20 x 1.5	**ZCKMD37H29**	0.210
			1/2" NPT (2)	**ZCKMD37H7**	0.210
NC + NO + NO break before make, slow break (XE3NP2151)		⊖	Pg 11	**ZCKMD35**	0.210
			ISO M20 x 1.5	**ZCKMD35H29**	0.210
			1/2" NPT (2)	**ZCKMD35H7**	0.210
For limit switches XCKL					
NC + NO + NO snap action (XE3SP2151)		⊖	Pg 13.5	**ZCKLD31** (3)	0.210
			1/2" NPT	**ZCKLD31H7**	0.210
NC + NC + NO snap action (XE3SP2141)		⊖	Pg 13.5	**ZCKLD39** (3)	0.210
			1/2" NPT	**ZCKLD39H7**	0.210
NC + NC + NO break before make, slow break (XE3NP2141)		⊖	Pg 13.5	**ZCKLD37** (3)	0.210
			1/2" NPT	**ZCKLD37H7**	0.210
NC + NO + NO break before make, slow break (XE3NP2151)		⊖	Pg 13.5	**ZCKLD35** (3)	0.210
			1/2" NPT	**ZCKLD35H7**	0.210

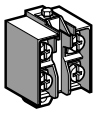
(1) ⊖ : NC contact with positive opening operation.

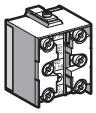
(2) 3 tapped entries, one with metal adaptor for 1/2" NPT (USASB2-1) conduit.

(3) Pg 13.5 cable gland included with switch.

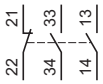
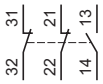
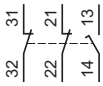
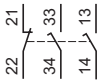
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies


XE2SP21●1


XE2NP21●1


XE3●P21●●

Contact blocks

Type of contact	Scheme	For bodies	Positive operation (1)	Reference	Weight kg
2-pole contact					
NC + NO snap action		ZCKM1 ZCKL1	⊖	**XE2SP2151**	0.020
NC + NO break before make, slow break		ZCKM5 ZCKL5	⊖	**XE2NP2151**	0.020
NO + NC make before break, slow break		ZCKM6 ZCKL6	⊖	**XE2NP2161**	0.020
NC + NC simultaneous, slow break		ZCKM7 ZCKL7	⊖	**XE2NP2141**	0.020
NO + NO simultaneous, slow break		ZCKM8 ZCKL8	–	**XE2NP2131**	0.020
NC + NC snap action		ZCKM9	⊖	**XE2SP2141**	0.020
3-pole contact					
NC + NO + NO snap action		ZCKMD31 ZCKLD31	⊖	**XE3SP2151**	0.035
NC + NC + NO snap action		ZCKMD39 ZCKLD39	⊖	**XE3SP2141**	0.035
NC + NC + NO break before make, slow break		ZCKMD37 ZCKLD37	⊖	**XE3NP2141**	0.035
NC + NO + NO break before make, slow break		ZCKMD35 ZCKLD35	⊖	**XE3NP2151**	0.035

(1) ⊖ : NC contact with positive opening operation or sub-assembly assuring positive opening operation.


XCKZ09

Accessory for limit switches XCKM

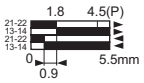
Description	Sold in lots of	Unit reference	Weight kg
Tap-off terminal for cabling continuity	1	**XCKZ09**	0.010

Other versions Gold flashed contacts.
Please consult our Customer Care Centre.

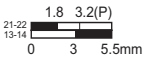
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

Heads ZCKD10, D109 with body

ZCKM1, L1



ZCKM5, L5



ZCKM6, L6

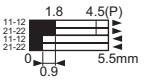


ZCKM7, L7

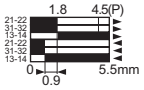


ZCKM8, L8

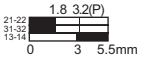
ZCKM9



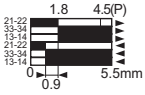
ZCKMD39, LD39



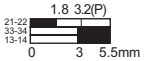
ZCKMD37, LD37



ZCKMD31, LD31

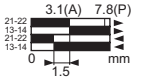


ZCKMD35, LD35

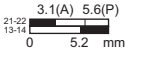


Heads ZCKD02, D029 with body

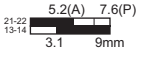
ZCKM1, L1



ZCKM5, L5



ZCKM6, L6

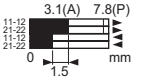


ZCKM7, L7

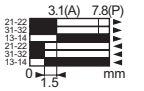


ZCKM8, L8

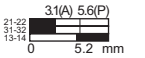
ZCKM9



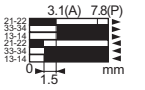
ZCKMD39, LD39



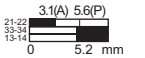
ZCKMD37, LD37



ZCKMD31, LD31

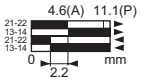


ZCKMD35, LD35

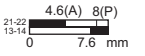


Heads ZCKD21, D23, D219, D239 with body

ZCKM1, L1



ZCKM5, L5



ZCKM6, L6

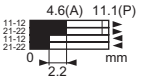


ZCKM7, L7

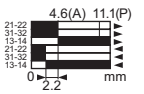


ZCKM8, L8

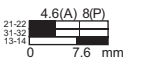
ZCKM9



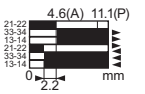
ZCKMD39, LD39



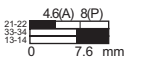
ZCKMD37, LD37



ZCKMD31, LD31

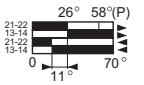


ZCKMD35, LD35

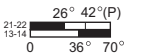


Heads ZCKD15, D16, D17 with body

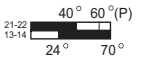
ZCKM1, L1



ZCKM5, L5



ZCKM6, L6

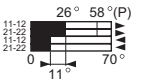


ZCKM7, L7

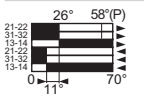


ZCKM8, L8

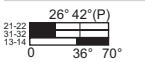
ZCKM9



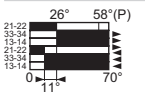
ZCKMD39, LD39



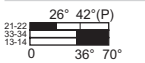
ZCKMD37, LD37



ZCKMD31, LD31



ZCKMD35, LD35



Heads ZCKD41, D59, D81, D91 with body

ZCKM1, L1

ZCKM5, L5

ZCKM6, L6

ZCKM7, L7

ZCKM8, L8

ZCKM9

ZCKMD39, LD39

ZCKMD37, LD37

ZCKMD31, LD31

ZCKMD35, LD35

Heads ZCKD06, D08 with body

ZCKM1, L1

ZCKM5, L5

ZCKM6, L6

ZCKM7, L7

ZCKM8, L8

ZCKM9

ZCKMD39, LD39

ZCKMD37, LD37

ZCKMD31, LD31

ZCKMD35, LD35

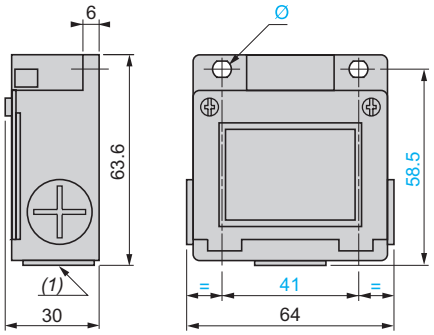
Contact operation — closed / open

(A) = cam displacement
(P) = positive opening point

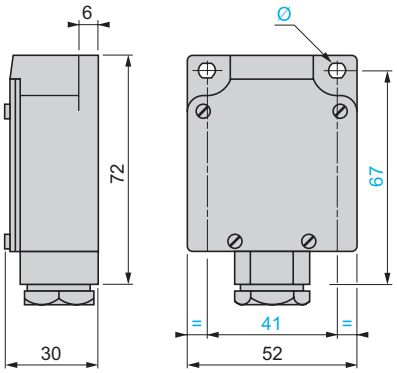
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

Bodies with contacts

ZCKM1, M5, M6, M7, M8, M9, MD3●, MD3H●29, MD3●H7
ZCKM1H29, M5H29, M6H29, M7H29, M8H29, M9H29
ZCKM1H7, M5H7, M6H7, M7H7, M8H7

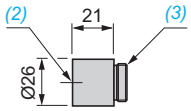


ZCKL1, L5, L6, L7, L8, LD3● (with incorporated Pg 13.5 cable gland)
ZCKL1H7, L5H7, L6H7, L7H7, L8H7, LD3●H7 (with 1/2" NPT cable entry)



Adaptor for 1/2" NPT conduit

DE9RA1012

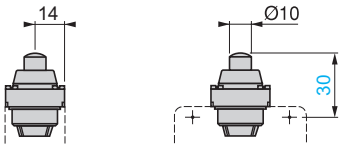


(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland.
Ø: 2 elongated holes Ø 5.2 x 6.2
(2) Tapped entry for 1/2" NPT conduit.
(3) Pg 11 threaded sleeve.

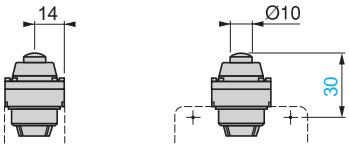
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

Plunger heads

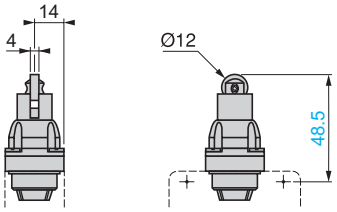
ZCKD10



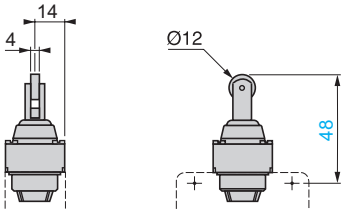
ZCKD109



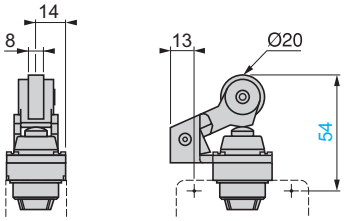
ZCKD02



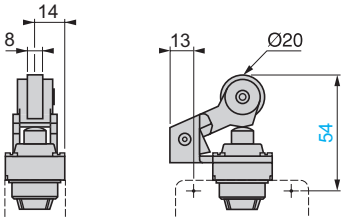
ZCKD029



ZCKD21, ZCKD23

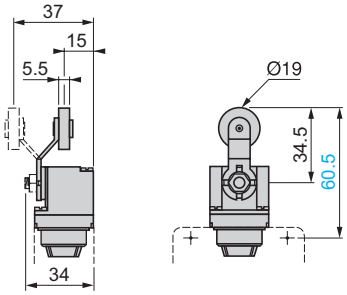


ZCKD219, ZCKD239

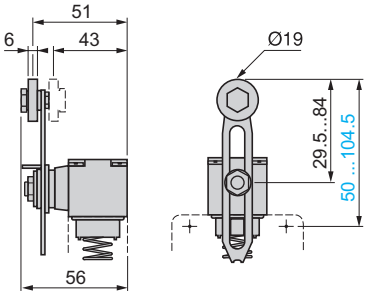


Rotary heads

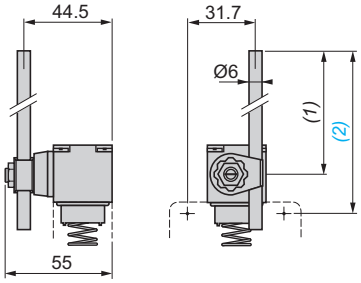
ZCKD15, ZCKD16, ZCKD17



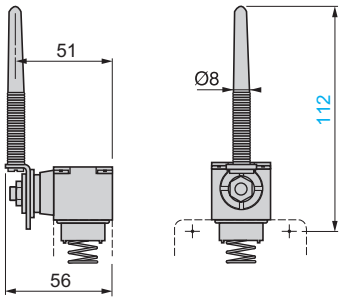
ZCKD41



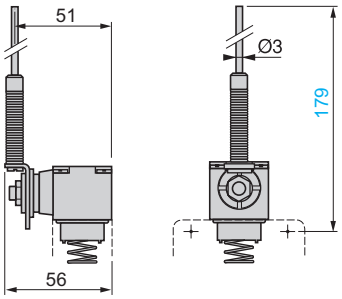
ZCKD59



ZCKD81

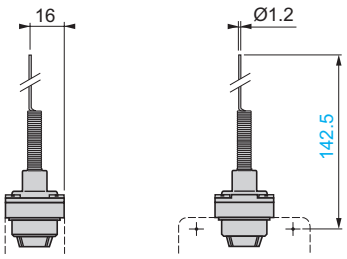


ZCKD91

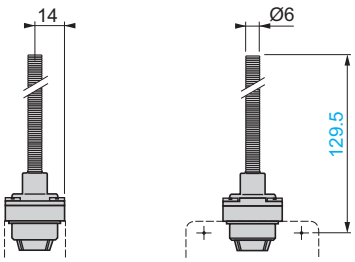


Multi-directional heads

ZCKD06



ZCKD08



(1) 190 max.
(2) 215.5 max.

Note: *operating lever spindle threaded M6.*

Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS

Complete switch
with 2 contacts (NO + NC) and 1 cable entry

■ The XCKS limit switches range, with 2 integrated contacts, offers “all-in-one”, ready to use products.

□ XCKS, with head for linear (plunger) and rotary (lever) movement



Variable composition switch
with 2, 3 or 4 contacts and 1 cable entry

■ The variable composition range expands the offer up to 4 contacts and choice among 18 different actuators.

□ ZCKD: complete head with linear or rotary actuator
□ ZCKS: bodies with 2, 3 or 4 contacts



Environment characteristics

Conformity to standards	Products	CE, EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14, CCC, EAC
	Machine assemblies	EN/IEC 60204-1
Product certifications		UL, CSA, CCC, EAC
Protective treatment	Version	Standard “TC”, special “TH”
Ambient air temperature	For operation	- 25…+ 70 °C
	For storage	- 40…+ 70 °C
Vibration resistance	Conforming to EN/IEC 60068-2-6	25 gn (10…500 Hz)
Shock resistance	Conforming to EN/IEC 60068-2-27	**XCKS1●●**: 40 gn (11 ms) **XCKS5●●**: 50 gn (11 ms)
Electric shock protection	Conforming to EN/IEC 61140	Class II
Degree of protection	Conforming to EN/IEC 60529	**XCKS1●●**, **XCKS5●●**: IP 66 and IP 67 **ZCKS**: IP 65
	Conforming to EN 62262	**XCKS1●●**, **XCKS5●●**: IK 05 **ZCKS**: IK 03
Cable entry	Depending on model	Tapped entry for cable gland: ■ Pg 13.5 ■ ISO M20 x 1.5 ■ 1/2” NPT
Materials		Bodies and heads: plastic

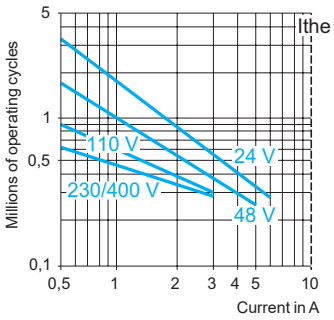
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS

Contact block characteristics

Type of contacts	Conforming to EN/IEC 60947-5-1	Type Zb, electrically separate double break contacts
Positive operation (depending on model)		NC contacts with positive opening operation conforming to EN/IEC 60947-5-1 Appendix K
Rated operational characteristics	XCKS1●●, XCKS5●● XE2●P●, XESP●	∼ AC-15 ; A300 (Ue = 240 V, Ie = 3 A) ; Ithe = 10 A ⎓ DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
	XE3●P●	∼ AC-15 ; B300 (Ue = 240 V, Ie = 1.5 A) ; Ithe = 6 A ⎓ DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage	XCKS1●●, XCKS5●● XE2●P●, XESP●	Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-5-1
	XE3●P●	Ui = 300 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	XCKS1●●, XCKS5●● XE2●P●, XESP●	U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664
	XE3●P●	U imp = 4 kV conforming to EN/IEC 60947-1, IEC 60664
Short-circuit protection	XCKS1●●, XCKS5●● XE2●P●, XESP●	10 A cartridge fuse type gG (gl)
	XE3●P●	6 A cartridge fuse type gG (gl)
Resistance across terminals		≤ 25 mΩ conforming to EN/IEC 60255-7 category 3
Connection (screw clamp terminals)	XCKS1●●, XCKS5●● XE2SP21●1	Clamping capacity, min: 1 x 0.34 mm² / AWG 22, max: 2 x 1.5 mm² / AWG 16
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm² / AWG 20, max: 2 x 2.5 mm² / AWG 14
	XESP●	Clamping capacity, min: 1 x 0.75 mm² / AWG 20, max: 2 x 1.5 mm² / AWG 16
	XE3●P●	Clamping capacity, min: 1 x 0.34 mm² / AWG 22, max: 1 x 1 mm² / AWG 18 or 2 x 0.75 mm² / AWG 20
Minimum actuation speed		Snap action contacts (**XCKS1●, XE●SP●** and **XESP●**): 0.01 m/minute
		Slow break contacts (**XCKS5●, XE2NP●** and **XE3NP●**): 6 m/minute
Electrical durability	XCKS1●● + LC1D38 / ∼ 230 V	15 million operating cycles
	XCKS5●● + LC1D38 / ∼ 230 V	20 million operating cycles
	ZCKS	■ Conforming to IEC 60947-5-1 Appendix C ■ Utilisation categories AC-15 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5

XE2SP21●1, XE2SP2141

AC supply
50/60 Hz ∼
⎓ inductive circuit

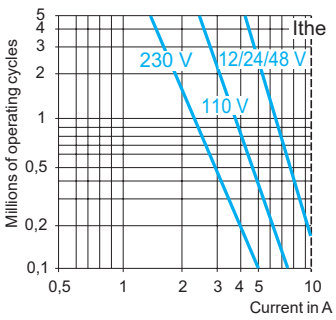


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

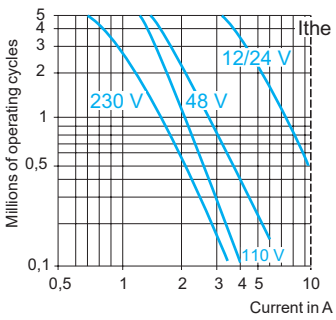
XE2NP21●1



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

XESP3021



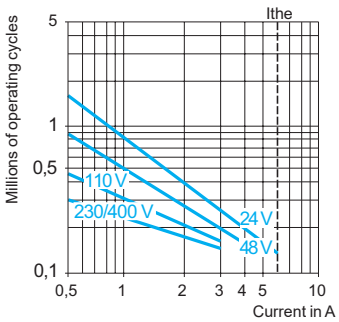
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

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

XE3SP●●●●

AC supply
50/60 Hz ∼
⎓ inductive circuit

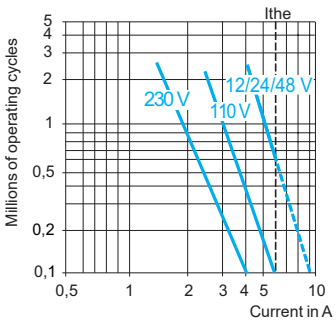


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

XE3NP●●●●



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	4	3	2

Limit switches

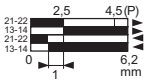
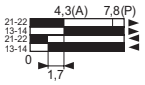
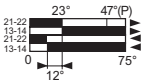
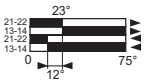
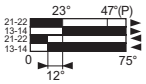
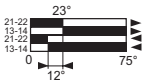
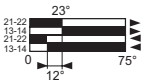
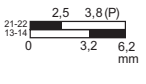
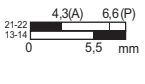
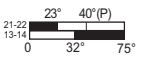
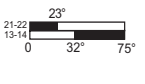
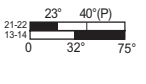
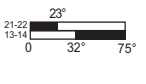
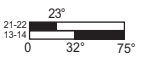
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)				
							
Form conforming to EN 50041 *(1)*	B	C	A	A	A	A	D
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic or steel roller lever *(2)*	Elastomer roller lever, Ø 50 mm *(2)*	Variable length thermoplastic or steel roller lever *(2)*	Variable length elastomer roller lever, Ø 50 mm *(2)*	Round thermoplastic rod lever, Ø 6 mm *(3) (4)*
Positive operation	⊖	⊖	⊖	–	⊖	–	–

References of complete switches with 1 ISO M20 x 1.5 cable entry

 **2-pole NC + NO snap action**	**XCKS101H29** 	**XCKS102H29** 	**XCKS131H29** (thermoplastic) **XCKS133H29** (steel) 	**XCKS139H29** 	**XCKS141H29** (thermoplastic) **XCKS143H29** (steel) 	**XCKS149H29** 	**XCKS159H29** 
 **2-pole NC + NO break before make, slow break**	**XCKS501H29** 	**XCKS502H29** 	**XCKS531H29** (thermoplastic) **XCKS533H29** (steel) 	**XCKS539H29** 	**XCKS541H29** (thermoplastic) **XCKS543H29** (steel) 	**XCKS549H29** 	**XCKS559H29** 
Weight (kg)	0.125	0.135	0.160	0.175	0.165	0.180	0.170

Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

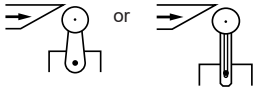
References of complete switches with 1 Pg 13.5 cable entry

For an entry tapped for a Pg 13.5 cable gland, delete **H29** from the end of the reference. (Except XCKS133H29, XCKS143H29, XCKS533H29 and XCKS543H29). Example: **XCKS101H29** becomes **XCKS101**.

References of complete switches with 1/2" NPT cable entry

For an entry tapped for a 1/2" NPT cable gland, replace **H29** at the end of the reference by **H7**. (Except XCKS133H29, XCKS143H29, XCKS501H29, XCKS533H29, XCKS539H29, XCKS543H29, XCKS549H29 and XCKS559H29). Example: **XCKS101H29** becomes **XCKS101H7**.

Characteristics

Switch actuation		On end	By 30° cam					By any moving part
Type of actuation								
Maximum actuation speed		0.5 m/s		1.5 m/s				1 m/s
Mechanical durability (in millions of operating cycles)		25	15	20				
Minimum force or torque	For tripping	15 N	12 N	0.10 N.m				
	For positive opening	30 N	20 N	0.15 N.m	–	0.15 N.m	–	–
Cable entry		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm						

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(4) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches with 1 cable entry



***Note**: ZCKD heads can only be used with ZCKS bodies.*

References of variable composition switches (ZCKS bodies and ZCKD heads) with 1 ISO M20 x 1.5 cable entry *(3)*

Form conforming to EN 50041 *(1)*	B	C	A	A	A	A	D
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(2)*	Elastomer roller lever, Ø 50 mm *(2)*	Variable length thermoplastic roller lever *(2)*	Variable length elastomer roller lever, Ø 50 mm *(2)*	Round thermoplastic rod lever, Ø 6 mm *(4)* *(5)*
Positive operation	⊖	⊖	⊖	–	⊖	–	–
2-pole NC + NC snap action (XE2SP2141)	**ZCKS9H29 + ZCKD01**	**ZCKS9H29 + ZCKD02**	**ZCKS9H29 + ZCKD31**	**ZCKS9H29 + ZCKD39**	**ZCKS9H29 + ZCKD41**	**ZCKS9H29 + ZCKD49**	**ZCKS9H29 + ZCKD59**
2-pole NC + NC simultaneous, slow break (XE2NP2141)	**ZCKS7H29 + ZCKD01**	**ZCKS7H29 + ZCKD02**	**ZCKS7H29 + ZCKD31**	**ZCKS7H29 + ZCKD39**	**ZCKS7H29 + ZCKD41**	**ZCKS7H29 + ZCKD49**	**ZCKS7H29 + ZCKD59**
3-pole NC + NC + NO snap action (XE3SP2141)	**ZCKSD39H29 + ZCKD01**	**ZCKSD39H29 + ZCKD02**	**ZCKSD39H29 + ZCKD31**	**ZCKSD39H29 + ZCKD39**	**ZCKSD39H29 + ZCKD41**	**ZCKSD39H29 + ZCKD49**	**ZCKSD39H29 + ZCKD59**
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	**ZCKSD37H29 + ZCKD01**	**ZCKSD37H29 + ZCKD02**	**ZCKSD37H29 + ZCKD31**	**ZCKSD37H29 + ZCKD39**	**ZCKSD37H29 + ZCKD41**	**ZCKSD37H29 + ZCKD49**	**ZCKSD37H29 + ZCKD59**
Weight (kg)	0.095	0.105	0.145	0.150	0.155	0.155	0.150

Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

References of variable composition switches (ZCKS bodies and ZCKD heads) with 1 Pg 13.5 cable entry

For ZCKS bodies with 1 Pg 13.5 cable entry, delete H29 from the end of the reference. Example: **ZCKS1H29** becomes **ZCKS1**.

Characteristics

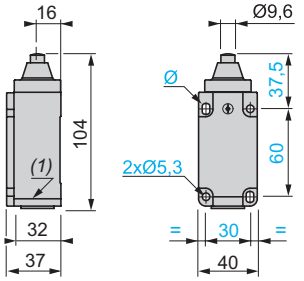
Switch actuation	On end	By 30° cam					By any moving part
Type of actuation			or				
Maximum actuation speed	0.5 m/s		1.5 m/s				1 m/s
Mechanical durability *(6)* (in millions of operating cycles)	25	15	20				
Minimum force or torque – For tripping	15 N	12 N	0.15 N.m				
Minimum force or torque – For positive opening	45 N	36 N	0.3 N.m	–	0.3 N.m	–	–
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm						

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(5) Value taken with actuation by moving part at 100 mm from the fixing.
(6) Limited to 15 million operating cycles for switches with contacts XE3●P.

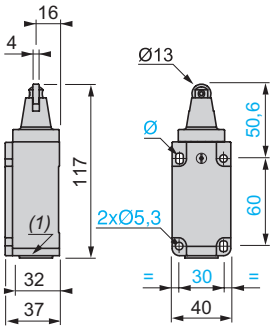
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Complete switches with 1 cable entry

Dimensions

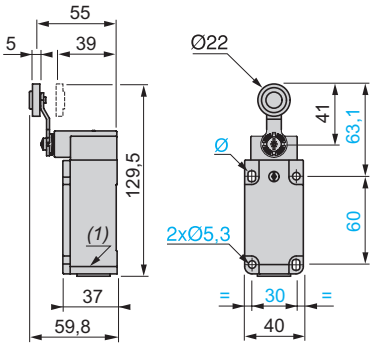
XCKS●01●●



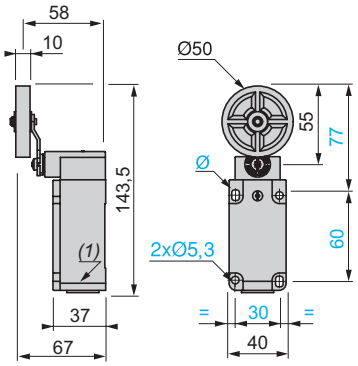
XCKS●02●●



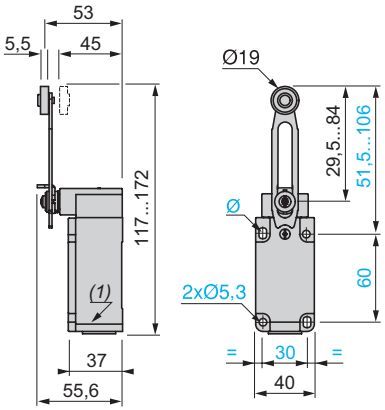
XCKS●31●● / XCKS●33●●



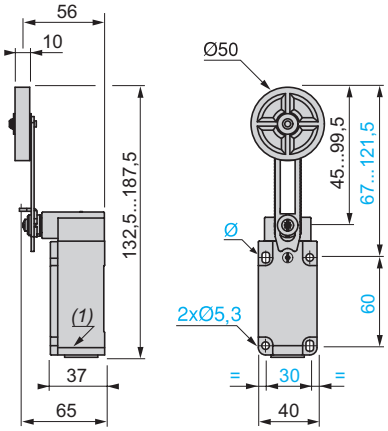
XCKS●39●●



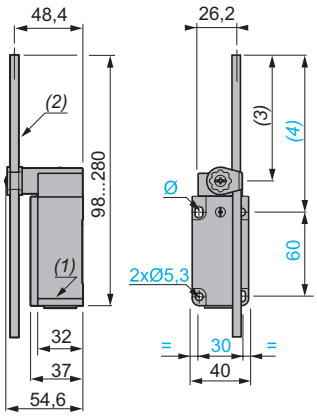
XCKS●41●● / XCKS●43●●



XCKS●49●●



XCKS●59●●

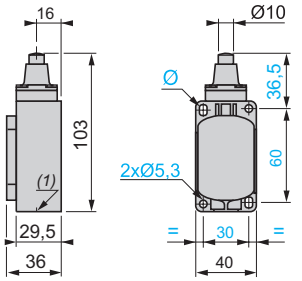


(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.
(2) Ø 6 rode, lenght 200 mm.
(3) 190 max.
(4) 212 max.
Ø : 2 elongated holes 5.3 x 7.3 mm.

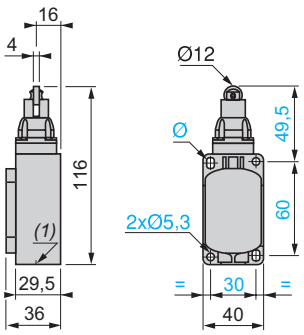
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches with 1 cable entry

Dimensions

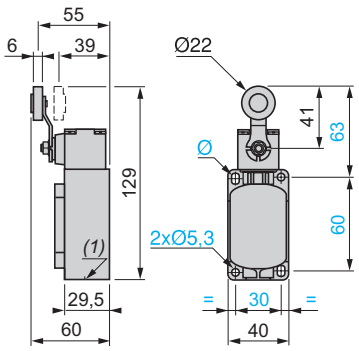
ZCKS● + ZCKD01



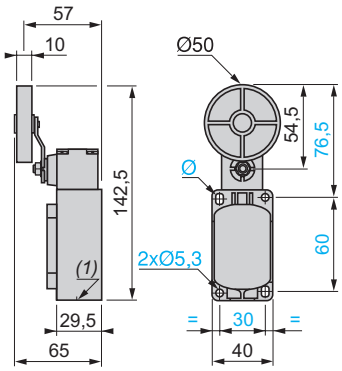
ZCKS● + ZCKD02



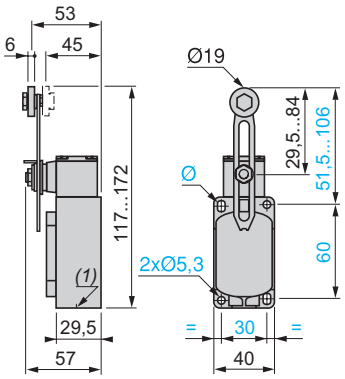
ZCKS● + ZCKD31



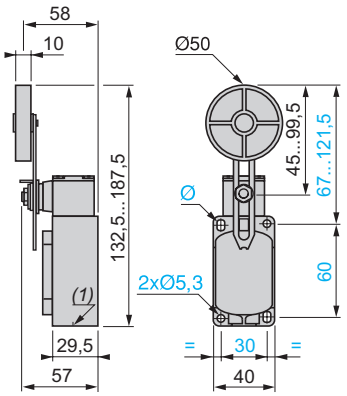
ZCKS● + ZCKD39



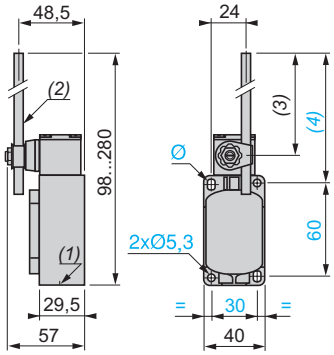
ZCKS● + ZCKD41



ZCKS● + ZCKD49

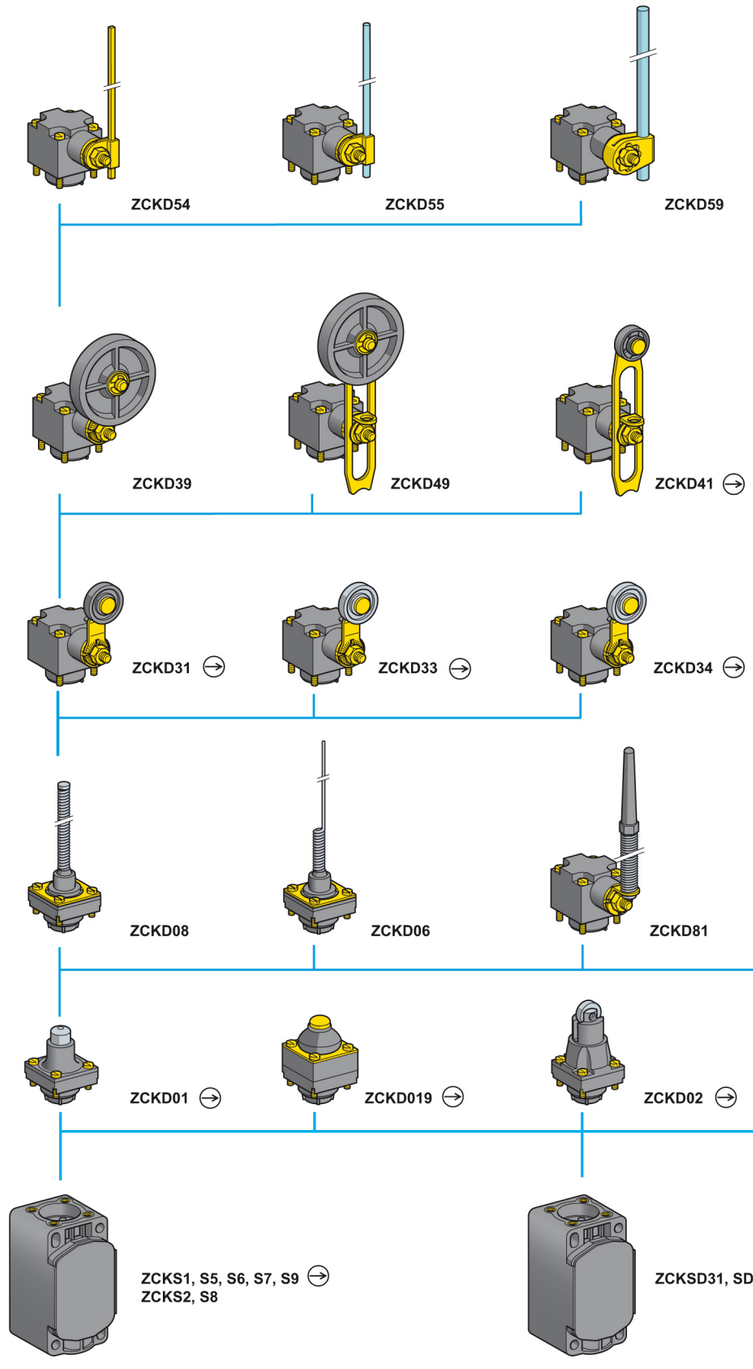


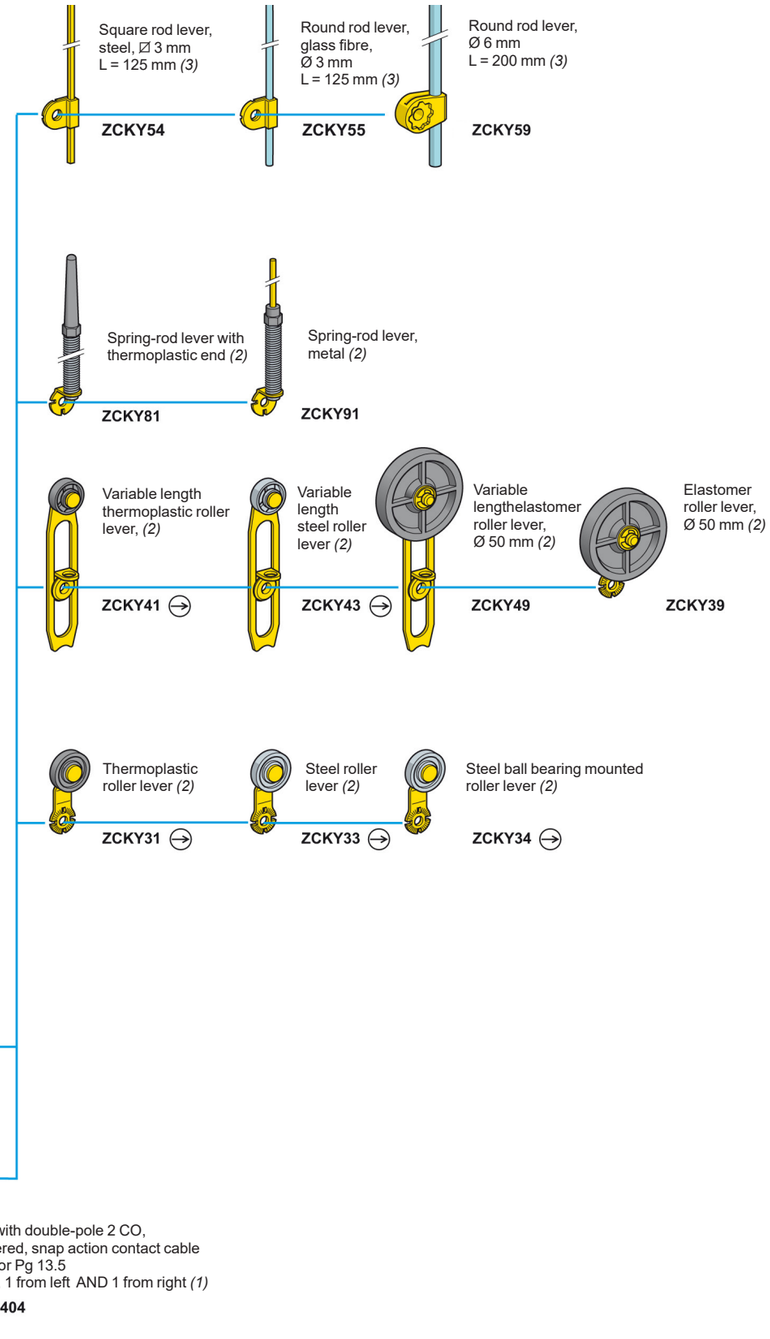
ZCKS● + ZCKD59



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.
(2) Ø 6 rode, lenght 200 mm.
(3) 190 max.
(4) 212 max.
Ø : 2 elongated holes 5.3 x 7.3 mm.

Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition

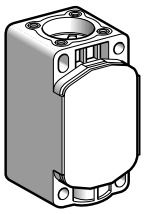




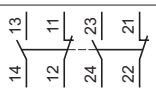
*(1) For further details see page 147. For a cable entry tapped ISO M20 x 1.5, add **H29** to the reference.*
*Example: ZCKS1 becomes **ZCKS1H29**.*
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

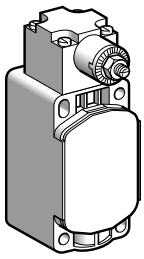
***Note**: ZCKD heads can only be used with ZCKS bodies.*

Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches


ZCKS●

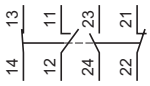
Bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	NC + NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKS1**	0.080
				ISO M20 x 1.5	**ZCKS1H29**	0.080
	2 CO simultaneous, snap action (XESP3021)		–	Pg 13.5	**ZCKS2**	0.080
				ISO M20 x 1.5	**ZCKS2H29**	0.080
	NC + NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKS5**	0.080
				ISO M20 x 1.5	**ZCKS5H29**	0.080
	NO + NC make before break, slow break (XE2NP2161)		⊖	Pg 13.5	**ZCKS6**	0.080
				ISO M20 x 1.5	**ZCKS6H29**	0.080
	NC + NC simultaneous, slow break (XE2NP2141)		⊖	Pg 13.5	**ZCKS7**	0.080
				ISO M20 x 1.5	**ZCKS7H29**	0.080
	NO + NO simultaneous, slow break (XE2NP2131)		–	Pg 13.5	**ZCKS8**	0.080
				ISO M20 x 1.5	**ZCKS8H29**	0.080
	NC + NC snap action (XE2SP2141)		⊖	Pg 13.5	**ZCKS9**	0.080
				ISO M20 x 1.5	**ZCKS9H29**	0.080

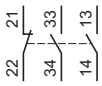
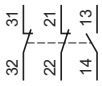
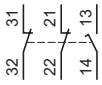
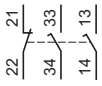

ZCKS404

Bodies with double-pole contact and spring return rotary head

Without operating lever

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
2 step 1 from left and 1 from right	2 CO staggered snap action		–	Pg 13.5	**ZCKS404**	0.150
				ISO M20 x 1.5	**ZCKS404H29**	0.150

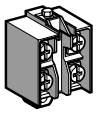
Bodies with 3-pole contact and 1 cable entry

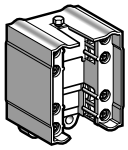
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
–	NC + NO + NO snap action (XE3SP2151)		⊖	Pg 13.5	**ZCKSD31**	0.080
				ISO M20 x 1.5	**ZCKSD31H29**	0.080
	NC + NC + NO snap action (XE3SP2141)		⊖	Pg 13.5	**ZCKSD39**	0.080
				ISO M20 x 1.5	**ZCKSD39H29**	0.080
	NC + NC + NO break before make, slow break (XE3NP2141)		⊖	Pg 13.5	**ZCKSD37**	0.080
				ISO M20 x 1.5	**ZCKSD37H29**	0.080
	NC + NO + NO break before make, slow break (XE3NP2151)		⊖	Pg 13.5	**ZCKSD35**	0.080
				ISO M20 x 1.5	**ZCKSD35H29**	0.080

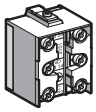
(1) ⊖: NC contact with positive opening operation or head assuring positive opening operation.

Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches


XE2SP21●1

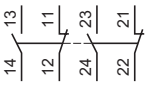
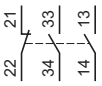
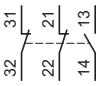
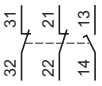
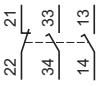

XE2NP21●1


XESP3021


XE3●P21●●


DE9RA●●12

Contact blocks for ZCKS●● bodies

Type of contact	Scheme	For body	Positive operation (1)	Reference	Weight kg
2-pole contact					
NC + NO snap action		ZCKS1	⊖	**XE2SP2151**	0.020
NC + NO break before make, slow break		ZCKS5	⊖	**XE2NP2151**	0.020
2 CO simultaneous snap action		ZCKS2	–	**XESP3021**	0.045
NO + NC make before break, slow break		ZCKS6	⊖	**XE2NP2161**	0.020
NC + NC simultaneous, slow break		ZCKS7	⊖	**XE2NP2141**	0.020
NO + NO simultaneous, slow break		ZCKS8	–	**XE2NP2131**	0.020
NC + NC snap action		ZCKS9	⊖	**XE2SP2141**	0.020
3-pole contact					
NC + NO + NO snap action		ZCKSD31	⊖	**XE3SP2151**	0.035
NC + NC + NO snap action		ZCKSD39	⊖	**XE3SP2141**	0.035
NC + NC + NO break before make, slow break		ZCKSD37	⊖	**XE3NP2141**	0.035
NC + NO + NO break before make, slow break		ZCKSD35	⊖	**XE3NP2151**	0.035

Accessories for ZCKS●● and XCKS●●

Description	Minimum order quantity	Reference	Weight kg
Adaptator for 1/2" NPT conduit (male Pg 13.5 / female 1/2" NPT)	10	**DE9RA1212**	0.035
Adaptator for 1/2" NPT conduit (male M20 x 1.5 / female 1/2" NPT)	5	**DE9RA2012**	0.050

(1) ⊖ : NC contact with positive opening operation or sub-assembly assuring positive opening operation.

Other versions Gold flashed contacts.
Please consult our Customer Care Centre.

Limit switches

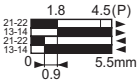
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

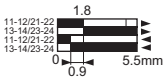
Variable composition switches

Heads ZCKD01, D109 with body

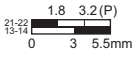
ZCKS1



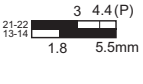
ZCKS2



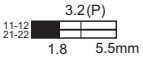
ZCKS5



ZCKS6



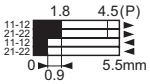
ZCKS7



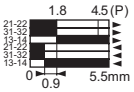
ZCKS8



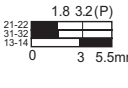
ZCKS9



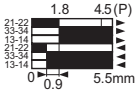
ZCKSD39



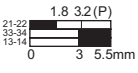
ZCKSD37



ZCKSD31

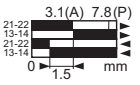


ZCKSD35

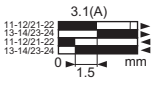


Heads ZCKD02, D029 with body

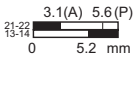
ZCKS1



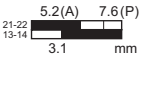
ZCKS2



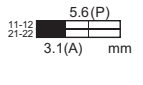
ZCKS5



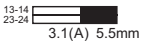
ZCKS6



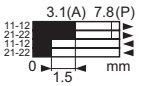
ZCKS7



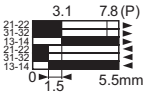
ZCKS8



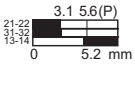
ZCKS9



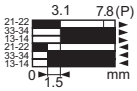
ZCKSD39



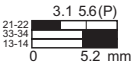
ZCKSD37



ZCKSD31

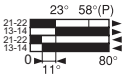


ZCKSD35

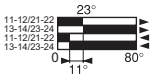


Heads ZCKD31, D33, D34 with body

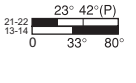
ZCKS1



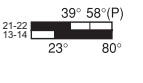
ZCKS2



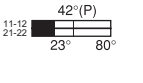
ZCKS5



ZCKS6



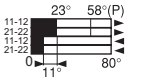
ZCKS7



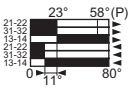
ZCKS8



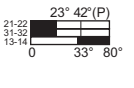
ZCKS9



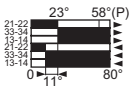
ZCKSD39



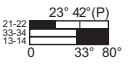
ZCKSD37



ZCKSD31

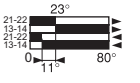


ZCKSD35

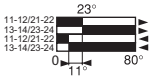


Heads ZCKD39, D41, D49, D54, D55, D59, D81, D91 with body

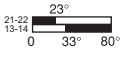
ZCKS1



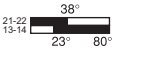
ZCKS2



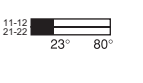
ZCKS5



ZCKS6



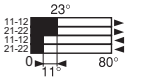
ZCKS7



ZCKS8



ZCKS9



ZCKSD39

ZCKSD37

ZCKSD31

ZCKSD35

Heads ZCKD05 (positive operation only assured with a ⊖ operating lever) with body

ZCKS1

ZCKS2

ZCKS5

ZCKS6

ZCKS7

ZCKS8

ZCKS9

ZCKSD39

ZCKSD37

ZCKSD31

ZCKSD35

Heads ZCKD06, D08 with body

ZCKS1

ZCKS2

ZCKS5

ZCKS6

ZCKS7

ZCKS8

ZCKS9

ZCKSD39

ZCKSD37

ZCKSD31

ZCKSD35

ZCKS404 (body with head)

Unactuated

Actuated from left

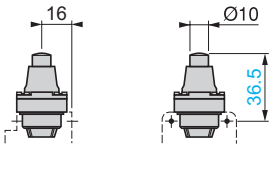
Actuated from right

Contact operation ■ closed □ open (A) = cam displacement (P) = positive opening point

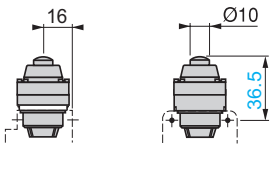
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches

Plunger heads

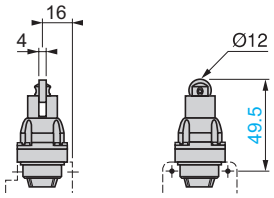
ZCKD01



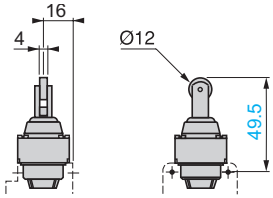
ZCKD019



ZCKD02

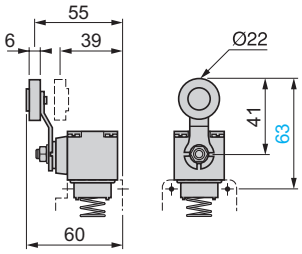


ZCKD029

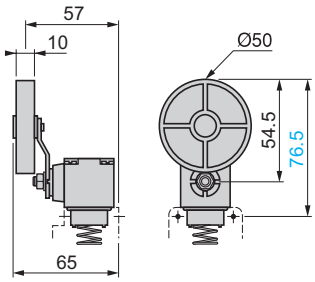


Rotary heads

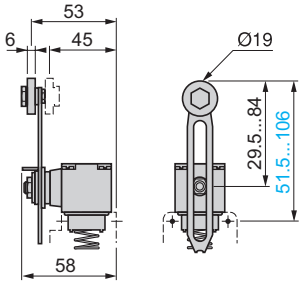
ZCKD31, ZCKD33, ZCKD34



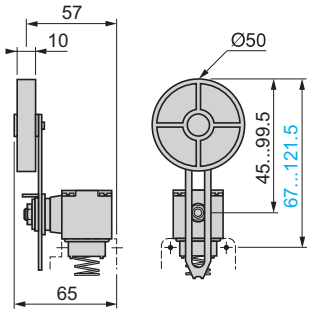
ZCKD39



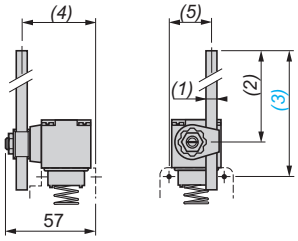
ZCKD41



ZCKD49

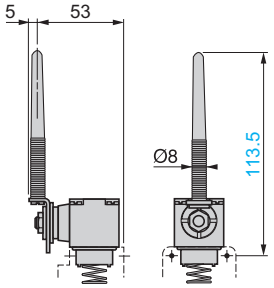


ZCKD54, ZCKD55, ZCKD59

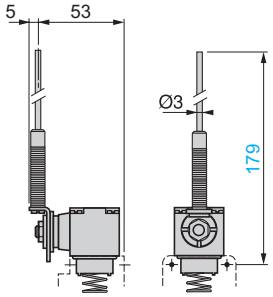


ZCK	(1) rod	(2)	(3)	(4)	(5)
D54	Ø 3, L = 125	115 max.	137 max.	49	24
D55	Ø 3, L = 125	115 max.	137 max.	49	24
D59	Ø 6, L = 200	190 max.	212 max.	46.5	26.2

ZCKD81



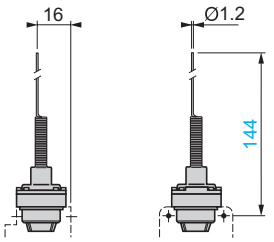
ZCKD91



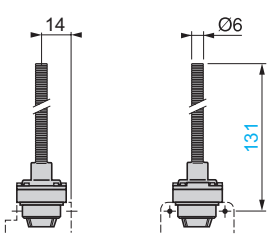
Note: *operating lever spindle threaded M6.*

Multi-directional heads

ZCKD06

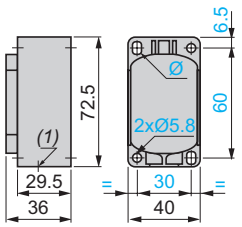


ZCKD08

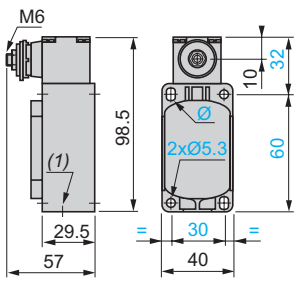


Bodies with contacts

ZCKS1, S2, S5, S6, S7, S8, S9
ZCKS1H29, S2H29, S5H29, S6H29, S7H29, S8H29, S9H29
ZCKSD3●, SD3●H29



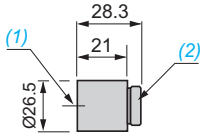
ZCKS404, S404H29



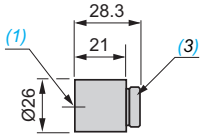
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland.
Ø: 2 elongated holes 5.3 x 7.3.

Adaptators for 1/2" NPT conduit

DE9RA1212 (Pg 13.5)



DE9RA2012 (M20)

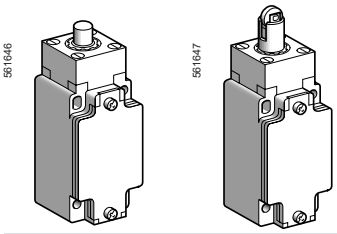


(1) Tapped entry for 1/2" NPT conduit.
(2) Pg 13.5 threaded sleeve.
(3) M20 x 1.5 threaded sleeve.

Limit switches
XC Standard range
Industrial format EN 50041
Metal, XCKJ
Conforming to CENELEC EN 50041

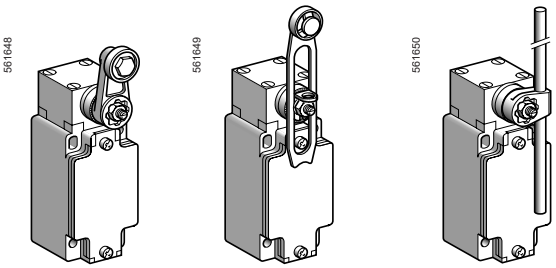
■ XCKJ
fixed body with 1 cable entry

□ With head for linear movement (plunger)



Page 150

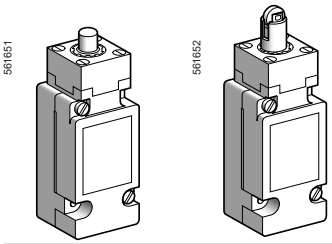
□ With head for rotary movement (lever)



Page 150

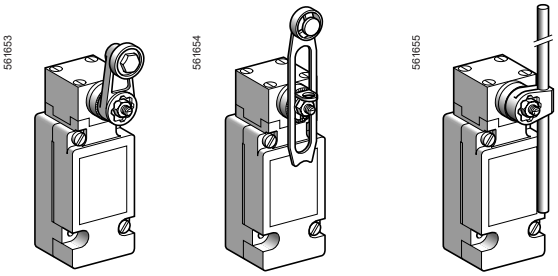
■ XCKJ
plug-in body with 1 cable entry

□ With head for linear movement (plunger)



Page 152

□ With head for rotary movement (lever)



Page 152

Environment characteristics

Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC, BV
Protective treatment	Version	Standard: "TC", special: "TH"
Ambient air temperature	For operation	- 25…+ 70°C, special sub-assemblies for use at - 40°C or + 120°C
	For storage	- 40…+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10…500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class I conforming to IEC 61140 and NF C 20-030
Degree of protection		IP 66 conforming to IEC 60529; IK 07 conforming to IEC 62262
Repeat accuracy		0.01 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry or connector	Depending on model	Tapped entry for Pg 13.5 cable gland, tapped ISO M20 x 1.5 or tapped 1/2" NPT, or M12 connector
Materials		Bodies and heads in Zamak

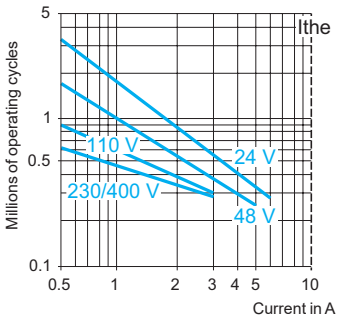
Limit switches
XC Standard range
Industrial format EN 50041
Metal, XCKJ
Conforming to CENELEC EN 50041

Contact block characteristics

Rated operational characteristics	XE2●P	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min:1 x 0.34 mm², max: 2 x 1.5 mm²
	XE2NP21●1	Clamping capacity, min:1 x 0.5 mm², max: 2 x 2.5 mm²
	XCKJ plug-in and XESP20●1	Clamping capacity, min:1 x 0.75 mm², max: 2 x 1.5 mm²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²
Minimum actuation speed		**XE2SP21●1** and **XE3SP**: 0.01 m/minute **XE2NP21●1** and **XE3NP**: 6 m/minute
Electrical durability		■ Conforming to IEC 60947-5-1 Appendix C ■ Utilisation categories AC-15 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5

XE2SP21●1, XE2SP2141

AC supply 50/60 Hz ∼ ⎓ inductive circuit

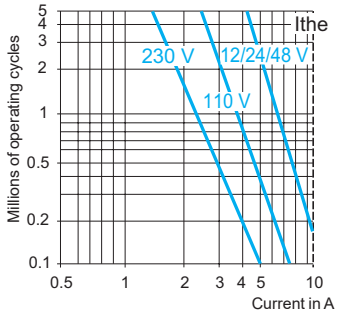


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

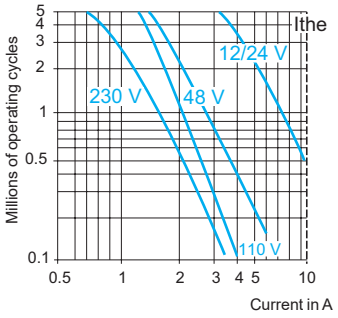
XE2NP21●1



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

XCKJ plug-in, XESP20●1



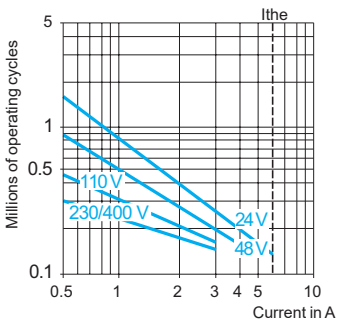
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

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

XE3SP●●●●

AC supply 50/60 Hz ∼ ⎓ inductive circuit

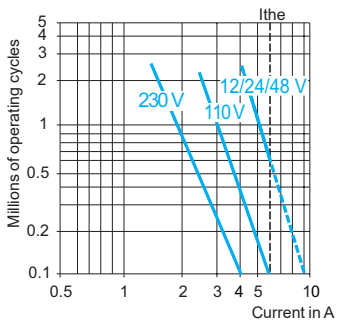


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

XE3NP●●●●

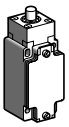
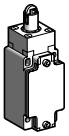
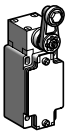
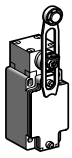
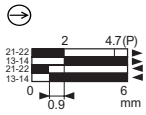
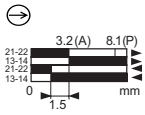
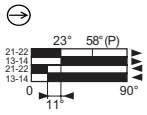
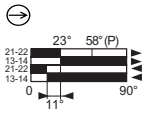
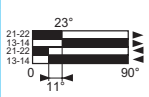
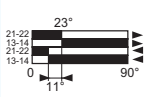
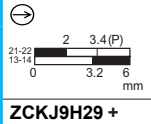
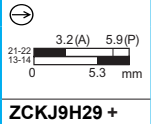
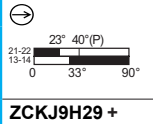
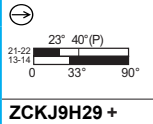
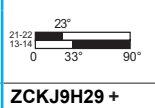
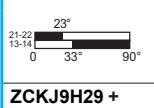
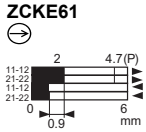
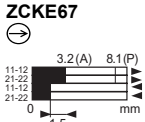
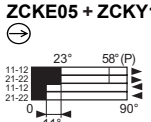
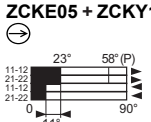
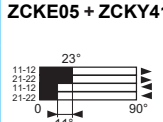
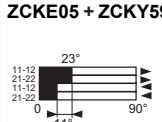
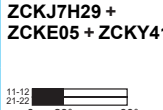
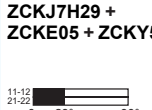
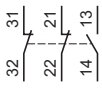
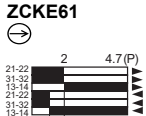
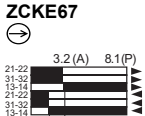
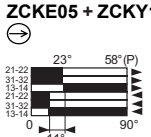
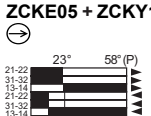
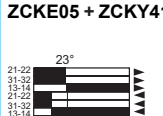


Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	4	3	2

Limit switches

XC Standard range
Industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete fixed body switches with 1 cable entry

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
	Form B *(1)*	Form C *(1)*	Form A *(1)*			Form D *(1)*
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(2)*	Steel roller lever *(2)*	Variable length thermoplastic roller lever *(2)*	Round thermoplastic rod lever, Ø 6 mm *(2) (4)*
References of complete switches with 1 ISO M20 x 1.5 cable entry *(3)*						
 **2-pole NC + NO snap action (XE2SP2151)**	**XCKJ161H29** 	**XCKJ167H29** 	**XCKJ10511H29** 	**XCKJ10513H29** 	**XCKJ10541H29** 	**XCKJ10559H29** 
 **2-pole NC + NO break before make, slow break (XE2NP2151)**	**XCKJ561H29** 	**XCKJ567H29** 	**XCKJ50511H29** 	**XCKJ50513H29** 	**XCKJ50541H29** 	**XCKJ50559H29** 
 **2-pole NC + NC snap action (XE2SP2141)**	**ZCKJ9H29 + ZCKE61** 	**ZCKJ9H29 + ZCKE67** 	**ZCKJ9H29 + ZCKE05 + ZCKY11** 	**ZCKJ9H29 + ZCKE05 + ZCKY13** 	**ZCKJ9H29 + ZCKE05 + ZCKY41** 	**ZCKJ9H29 + ZCKE05 + ZCKY59** 
 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCKJ7H29 + ZCKE61** 	**ZCKJ7H29 + ZCKE67** 	**ZCKJ7H29 + ZCKE05 + ZCKY11** 	**ZCKJ7H29 + ZCKE05 + ZCKY13** 	**ZCKJ7H29 + ZCKE05 + ZCKY41** 	**ZCKJ7H29 + ZCKE05 + ZCKY59** 
 **3-pole NC + NC + NO snap action (XE3SP2141)**	**ZCKJD39H29 + ZCKE61** 	**ZCKJD39H29 + ZCKE67** 	**ZCKJD39H29 + ZCKE05 + ZCKY11** 	**ZCKJD39H29 + ZCKE05 + ZCKY13** 	**ZCKJD39H29 + ZCKE05 + ZCKY41** 	**ZCKJD39H29 + ZCKE05 + ZCKY59**
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	**ZCKJD37H29 + ZCKE61**	**ZCKJD37H29 + ZCKE67**	**ZCKJD37H29 + ZCKE05 + ZCKY11**	**ZCKJD37H29 + ZCKE05 + ZCKY13**	**ZCKJD37H29 + ZCKE05 + ZCKY41**	**ZCKJD37H29 + ZCKE05 + ZCKY59**
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485

Contact operation
- ■ *closed*
- □ *open*

(A) = cam displacement
(P) = positive opening point

⊖ *NC contact with positive opening operation*

References of complete switches with 1 Pg 13.5 cable entry *(2)*

For complete switches with entry for Pg 13.5 cable gland, delete **H29** from the end of the reference. Example: XCKJ161H29 becomes **XCKJ161**.

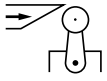
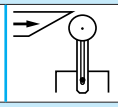
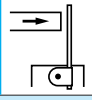
References of complete switches with 1 entry for 1/2" NPT conduit *(2)*

For complete switches with entry for 1/2" NPT (USAS B2-1) conduit, replace H29 at the end of the reference by **H7**. Example: XCKJ161H29 becomes **XCKJ161H7**.

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches
XC Standard range
Industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete fixed body switches with 1 cable entry

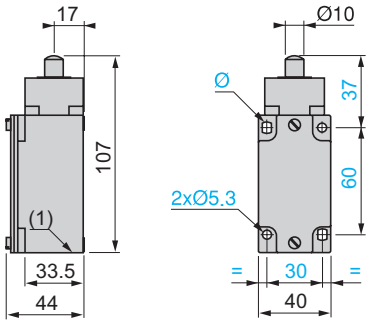
Characteristics

Switch actuation		On end	By 30° cam		By any moving part
Type of actuation					 
Maximum actuation speed		0.5 m/s	1 m/s	1.5 m/s	
Mechanical durability *(1)* (in millions of operating cycles)		30	25	30	
Minimum force or torque	For tripping	20 N	16 N	0.25 N.m	
	For positive opening	50 N	40 N	0.50 N.m	–
Cable entry *(3)*		1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 9 to 12 mm			

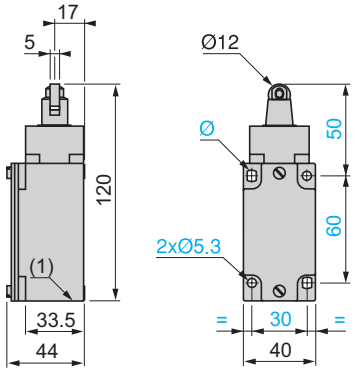
(1) Limited to 15 million operating cycles for switches with contacts XE3●P.

Dimensions

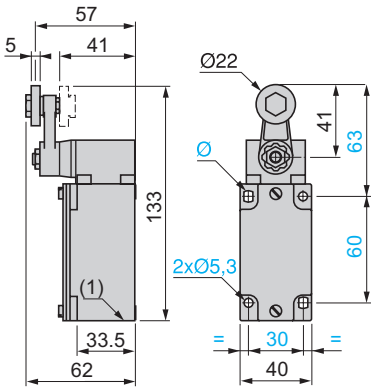
XCKJ●61H29
ZCKJ● + ZCKE61



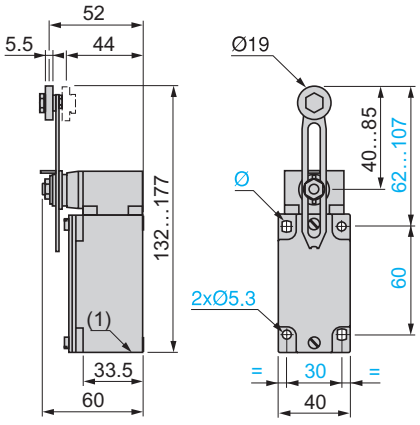
XCKJ●67H29
ZCKJ● + ZCKE67



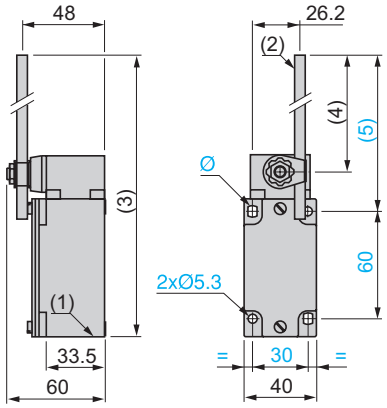
XCKJ●051●H29
ZCKJ● + ZCKE05 + ZCKY11 or Y13



XCKJ●0541H29
ZCKJ● + ZCKE05 + ZCKY41



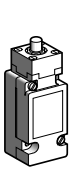
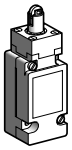
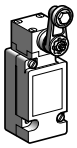
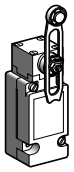
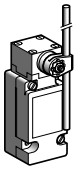
XCKJ●0559H29
ZCKJ● + ZCKE05 + ZCKY59



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) Ø 6 rod, length 200 mm.
(3) 282 max.
(4) 190 max.
(5) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.

Limit switches

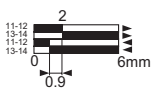
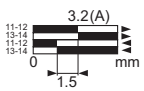
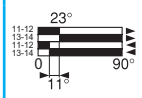
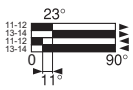
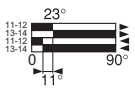
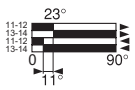
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, plug-in body
With 1 cable entry

Type of head	**Plunger (fixing by the body)**		**Rotary (fixing by the body)** (switches supplied for actuation from left AND right)			
	Form B *(1)*	**Form C** *(1)*	**Form A** *(1)*			**Form D** *(1)*
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(2)*	Steel roller lever *(2)*	Variable length thermoplastic roller lever *(2)*	Round thermoplastic rod lever, Ø 6 mm *(2) (4)*

References of complete switches with 1 ISO M20 x 1.5 cable entry *(3)*



Single-pole CO snap action

XCKJ1161H29	**XCKJ1167H29**	**XCKJ110511H29**	**XCKJ110513H29**	**XCKJ110541H29**	**XCKJ110559H29**
					
0.430	0.455	0.480	0.490	0.485	0.485

Contact operation ■ *closed* □ *open* *(A) = cam displacement*

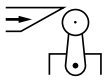
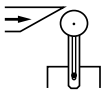
References of complete switches with 1 Pg 13.5 cable entry *(3)*

For complete switches with entry for Pg 13.5 cable gland, delete ***H29*** from the end of the reference.
Example: ***XCKJ1161H29*** becomes ***XCKJ1161***.

References of complete switches with 1 entry for 1/2" NPT conduit *(3)*

For complete switches with entry for 1/2" NPT (USAS B2-1) conduit, replace ***H29*** at the end of the reference by ***H7***.
Example: ***XCKJ1161H29*** becomes ***XCKJ1161H7***.

Characteristics

Switch actuation	On end	By 30° cam			By any moving part
Type of actuation					
Maximum actuation speed	0.5 m/s	1 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)	**30**	**25**	**30**		
Minimum tripping force or torque	20 N	16 N	0.25 N.m		
Cable entry	1 entry tapped M20 x 1.5 for ISO cable gland Clamping capacity 7 to 13 mm				

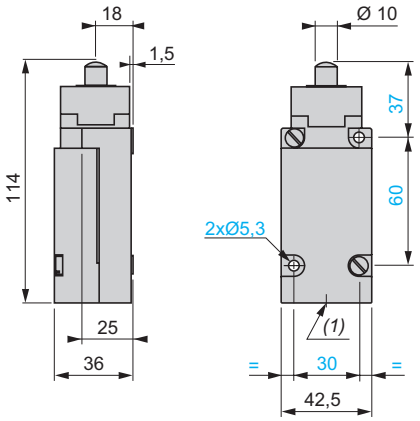
(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Switches with gold contacts: please consult our Customer Care Centre.
(4) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches

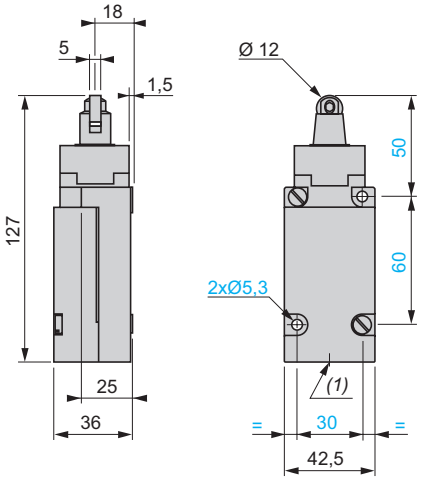
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, plug-in body
With 1 cable entry

Dimensions

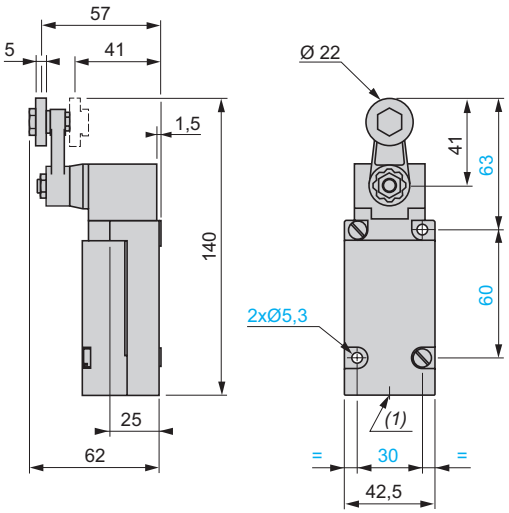
XCKJ1161H29



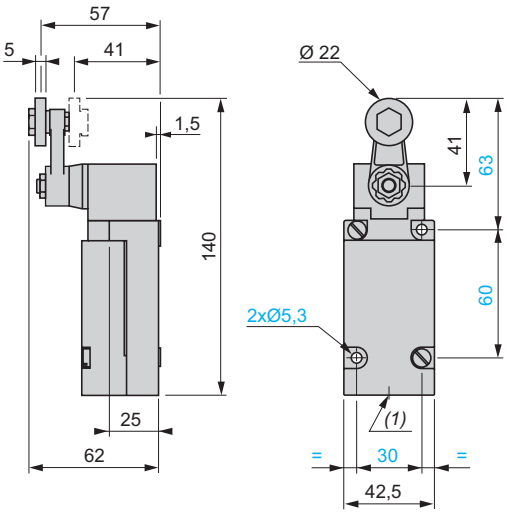
XCKJ1167H29



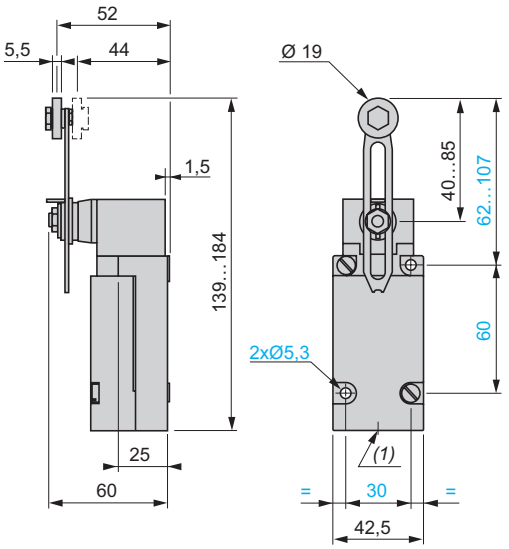
XCKJ110511H29



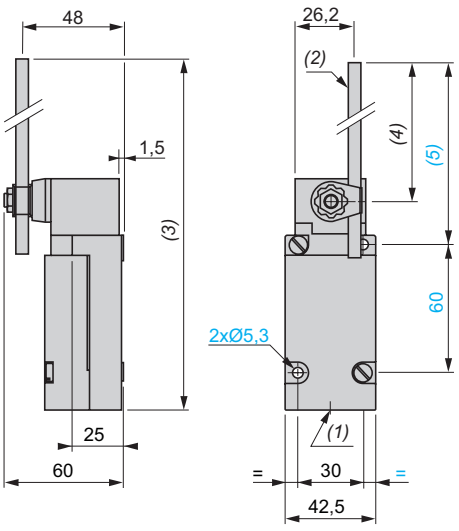
XCKJ110513H29



XCKJ110541H29



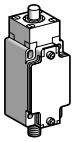
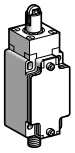
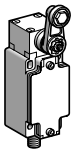
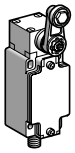
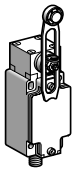
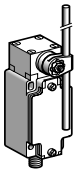
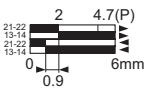
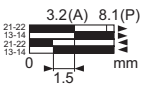
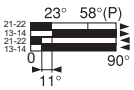
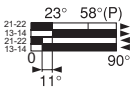
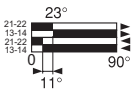
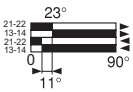
XCKJ110559H29



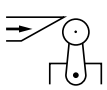
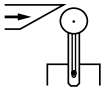
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or for 1/2" NPT conduit.
(2) Ø 6 rod, length 200 mm.
(3) 289 max.
(4) 190 max.
(5) 212 max.

Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Type of head	Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
	Form B *(1)*	Form C *(1)*	Form A *(1)*			Form D *(1)*
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(2)*	Steel roller lever *(2)*	Variable length thermoplastic roller lever *(2)*	Round thermoplastic rod lever, Ø 6 mm *(2) (3)*
References *(4)*						
2-pole NC + NO snap action (XE2SP2151)	**XCKJ161D**	**XCKJ167D**	**XCKJ10511D**	**XCKJ10513D**	**XCKJ10541D**	**XCKJ10559D**
						
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*			

Characteristics

Switch actuation		On end	By 30° cam			By any moving part
Type of actuation						
Maximum actuation speed		0.5 m/s	1 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)		30	25	30		
Minimum force or torque	For tripping	20 N	16 N	0.25 N.m		
	For positive opening	50 N	40 N	0.50 N.m	–	–
Connection		M12 connector, Ui = 60 V, Ie = 4 A (see suitable pre-wired female connectors below).				

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Value taken with actuation by moving part at 100 mm from the fixing.
(4) Switches with gold contacts: please consult our Customer Care Centre.

References of suitable pre-wired female connectors

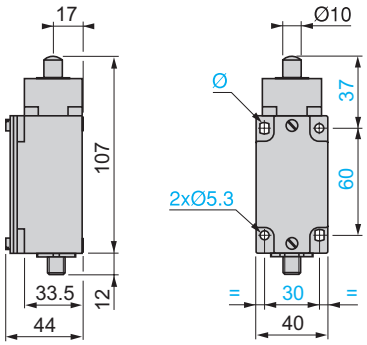
Type of connector		M12 straight, 5-pin, 4 A/24 V max.	M12 elbowed, 5-pin, 4 A/24 V max.
With cable, Ø 5.8 mm (4 x 0.34 mm² + 1 x 0.5 mm²)	L = 2 m	**XZCP1164L2**	**XZCP1264L2**
	L = 5 m	**XZCP1164L5**	**XZCP1264L5**
	L = 10 m	**XZCP1164L10**	**XZCP1264L10**
Weight (kg)	L = 2 m	0.115	
	L = 5 m	0.270	
	L = 10 m	0.520	

Limit switches

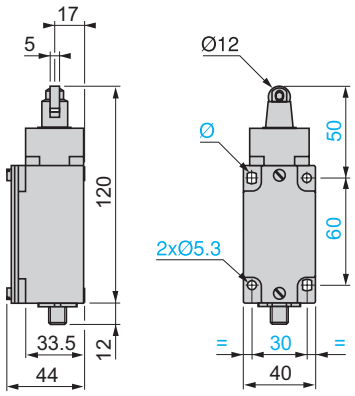
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Dimensions

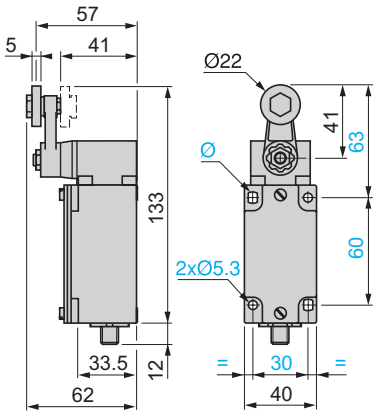
XCKJ161D



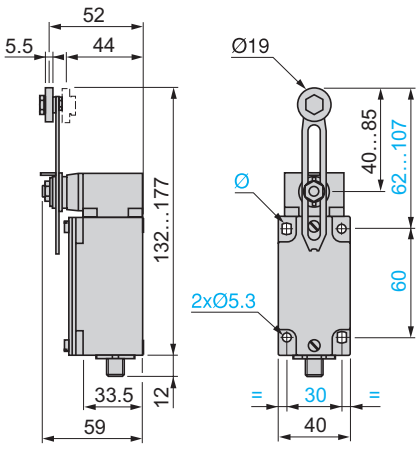
XCKJ167D



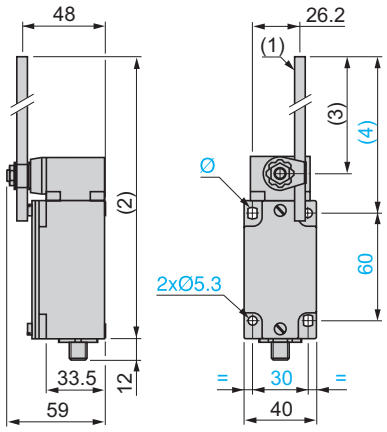
XCKJ1051●D



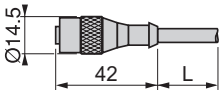
XCKJ10541D



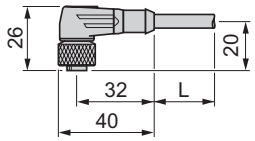
XCKJ10559D



XZCP1164L●



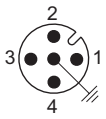
XZCP1264L●



(1) Ø 6 rod, length 200 mm.
(2) 282 max.
(3) 190 max.
(4) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.
L: *Cable length 2, 5 or 10 m.*

Connections

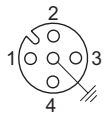
Limit switch XCKJ●●●●D



1-2 = NC
3-4 = NO
5 = ⏚
4 A / 24 V max.



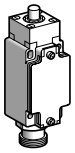
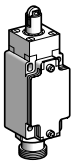
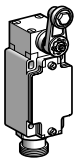
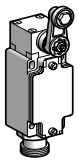
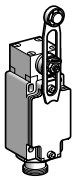
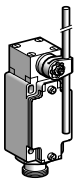
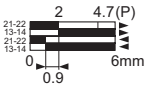
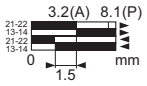
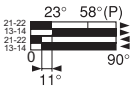
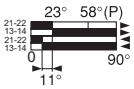
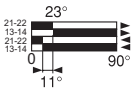
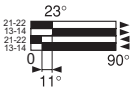
Pre-wired female connector XZCP1●64L●



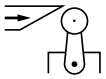
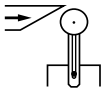
1 = brown
2 = white
3 = blue
4 = black
5 = ⏚ yellow/green

Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Type of head	**Plunger (fixing by the body)**		**Rotary (fixing by the body)** (switches supplied for actuation from left AND right)			
	Form B *(1)*	**Form C** *(1)*	**Form A** *(1)*			**Form D** *(1)*
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(2)*	Steel roller lever *(2)*	Variable length thermoplastic roller lever *(2)*	Round thermoplastic rod lever, Ø 6 mm *(2)* *(3)*
References *(4)*						
 **2-pole NC + NO snap action (XE2SP2151)**	**XCKJ161A** 	**XCKJ167A** 	**XCKJ10511A** 	**XCKJ10513A** 	**XCKJ10541A** 	**XCKJ10559A** 
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485
Contact operation	■ *closed* □ *open*		*(A) = cam displacement* *(P) = positive opening point*		⊖ *NC contact with positive opening operation*	

Characteristics

Switch actuation		On end	By 30° cam			By any moving part
Type of actuation						
Maximum actuation speed		0.5 m/s	1 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)		**30**	**25**	**30**		
Minimum force or torque	For tripping	20 N	16 N	0.25 N.m		
	For positive opening	50 N	40 N	0.50 N.m	–	–
Connection		7/8"-16UN connector, Ui = 250 V; Ie = 6 A (see suitable pre-wired female connectors below).				

(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Value taken with actuation by moving part at 100 mm from the fixing.
(4) Switches with gold contacts: please consult our Customer Care Centre.

References of suitable pre-wired female connectors

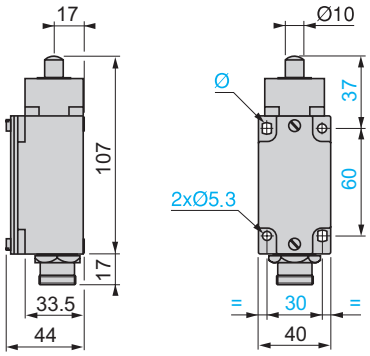
Type of connector		**7/8"-16UN straight, 5-pin, 4 A/250 V max.**
With cable, Ø 5.9 mm (5 x 0.34 mm²)	L = 2 m	**XZCP1764L2**
	L = 5 m	**XZCP1764L5**
	L = 10 m	**XZCP1764L10**
Weight (kg)	L = 2 m	0.185
	L = 5 m	0.460
	L = 10 m	0.900

Limit switches

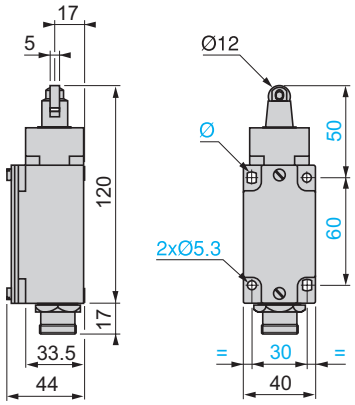
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Dimensions

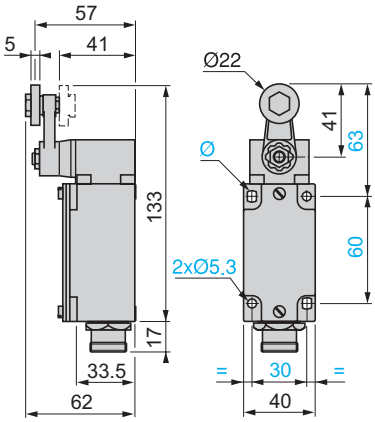
XCKJ161A



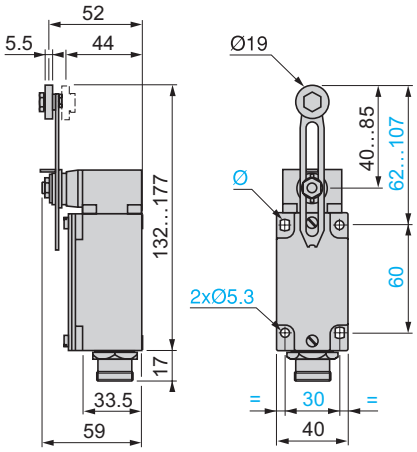
XCKJ167A



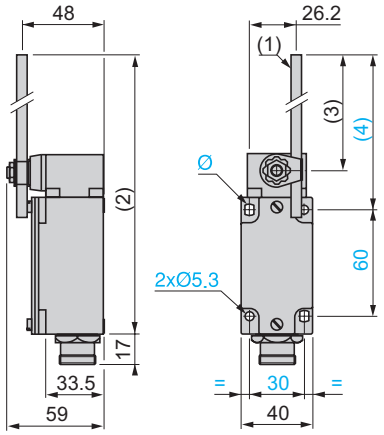
XCKJ1051●A



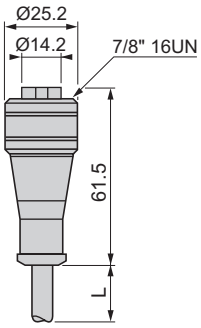
XCKJ10541A



XCKJ10559A



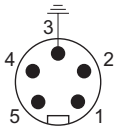
XZCP1764L●



(1) Ø 6 rod, length 200 mm.
(2) 282 max.
(3) 190 max.
(4) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.
L: *Cable length 2, 5 or 10 m.*

Connections

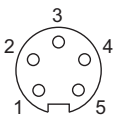
Limit switch XCKJ●●●●A



1 = 21
2 = 22
3 = ⏚
4 = 14
5 = 13



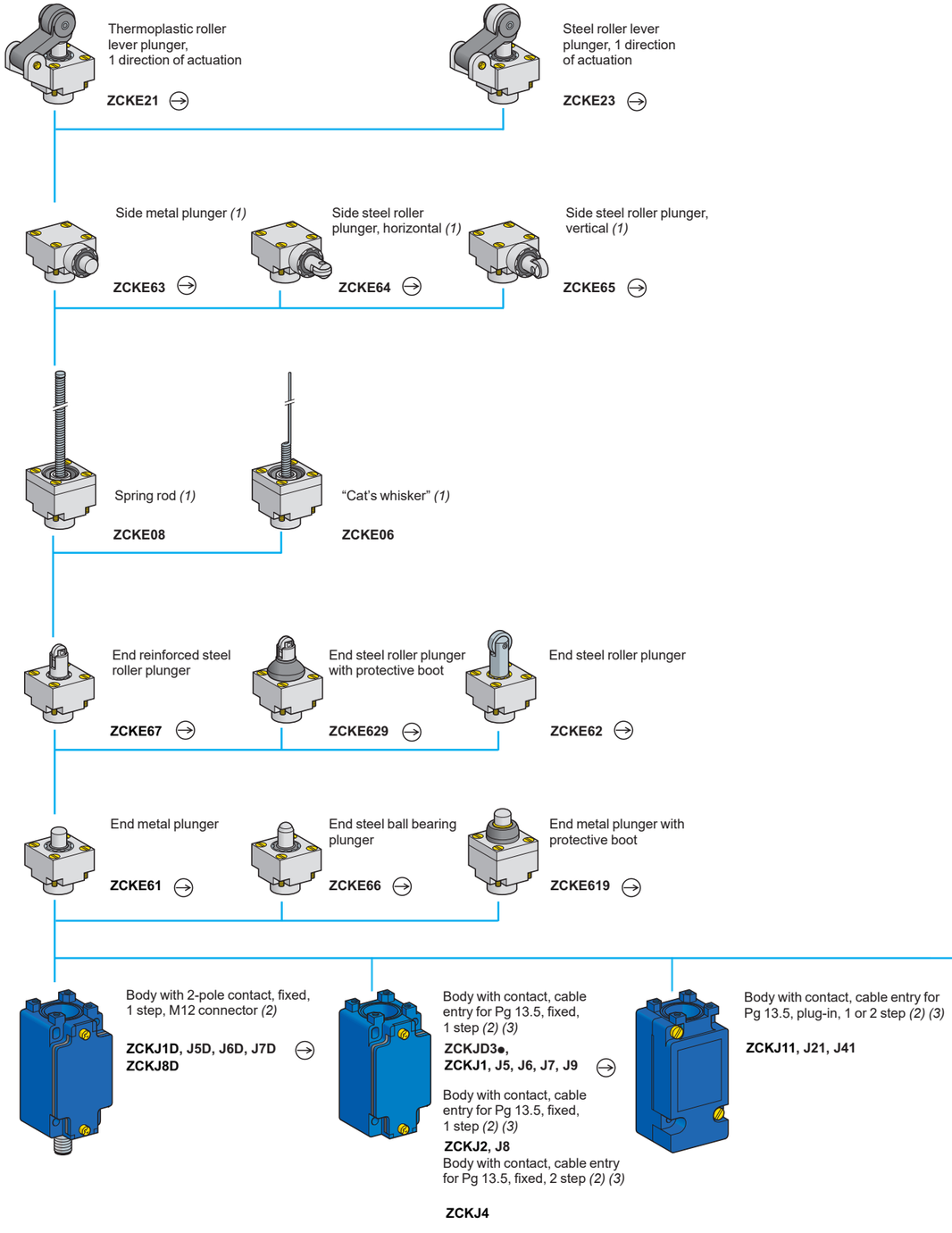
Pre-wired female connector XZCP1764L●



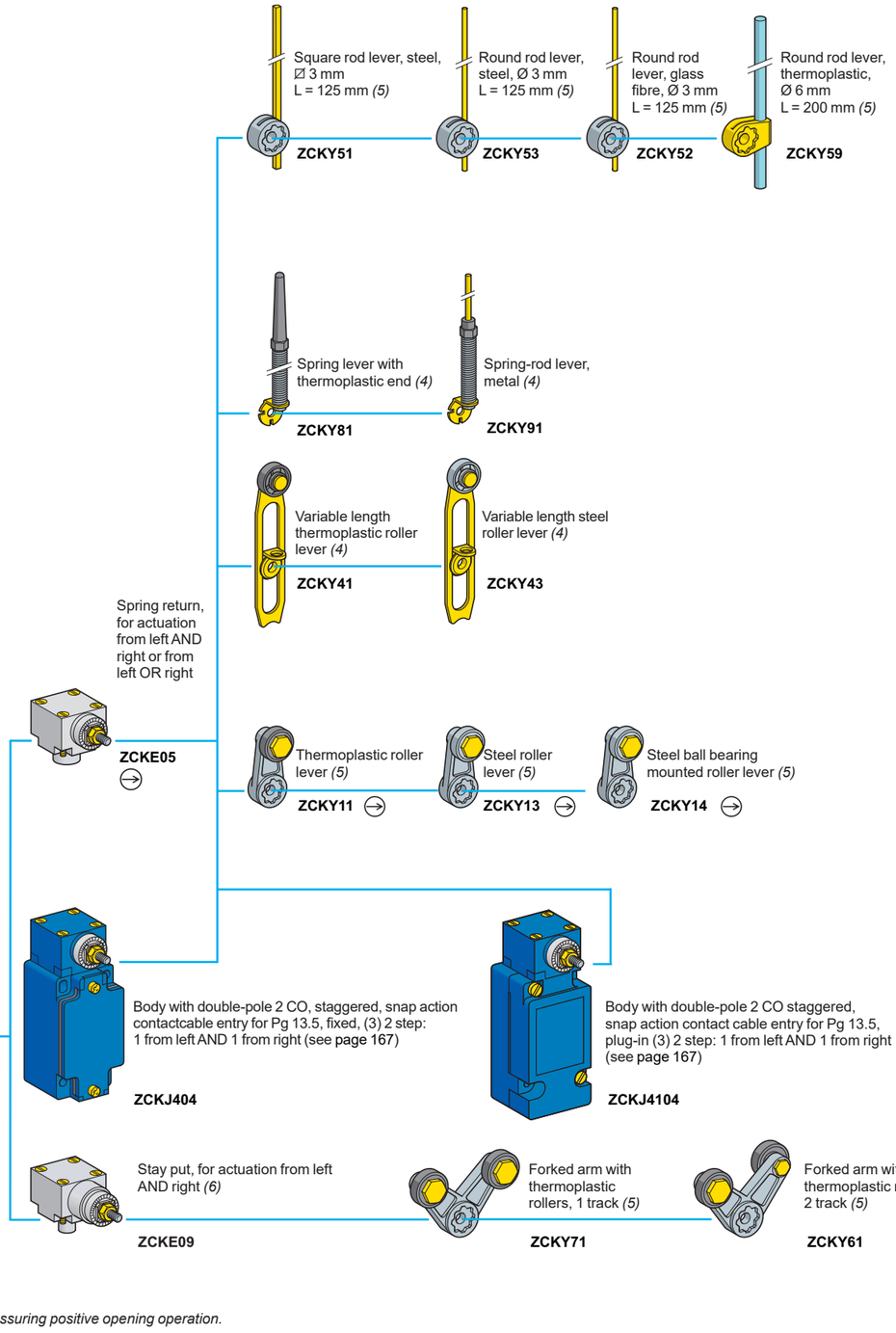
1 = black
2 = blue
3 = yellow/green ⏚
4 = brown
5 = white

Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Variable composition: standard bodies



(1) Cannot be used with bodies ZCKJ4 and ZCKJ41.
(2) For further information, see page 163.
*(3) For a cable entry tapped ISO M20 x 1.5, add **H29** to the reference. Example: ZCKJ1 becomes **ZCKJ1H29**.*
*For a cable entry tapped 1/2" NPT, add **H7** to the reference. Example: ZCKJ1 becomes **ZCKJ1H7**.*

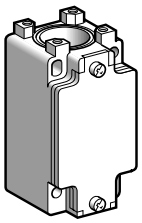


: head assuring positive opening operation.

(4) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(6) Suitable for bodies with contacts ZCKJ1●, J2●, J31, J39.

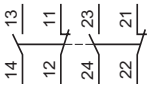
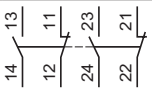
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: standard bodies

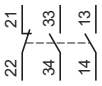
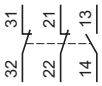
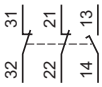
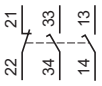


ZCKJ●

Fixed bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKJ1**	0.310
				ISO M20 x 1.5	**ZCKJ1H29**	0.310
				1/2" NPT	**ZCKJ1H7**	0.310
	2 CO simultaneous, snap action (XESP2021)		–	Pg 13.5	**ZCKJ2**	0.310
				ISO M20 x 1.5	**ZCKJ2H29**	0.310
				1/2" NPT	**ZCKJ2H7**	0.310
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKJ5**	0.310
				ISO M20 x 1.5	**ZCKJ5H29**	0.310
				1/2" NPT	**ZCKJ5H7**	0.310
	1 NO + 1 NC make before break, slow break (XE2NP2161)		⊖	Pg 13.5	**ZCKJ6**	0.310
				ISO M20 x 1.5	**ZCKJ6H29**	0.310
				1/2" NPT	**ZCKJ6H7**	0.310
	2 NC simultaneous, slow break (XE2NP2141)		⊖	Pg 13.5	**ZCKJ7**	0.310
				ISO M20 x 1.5	**ZCKJ7H29**	0.310
				1/2" NPT	**ZCKJ7H7**	0.310
	2 NO simultaneous, slow break (XE2NP2131)		–	Pg 13.5	**ZCKJ8**	0.310
				ISO M20 x 1.5	**ZCKJ8H29**	0.310
				1/2" NPT	**ZCKJ8H7**	0.310
	2 NC snap action (XE2SP2141)		⊖	Pg 13.5	**ZCKJ9**	0.310
				ISO M20 x 1.5	**ZCKJ9H29**	0.310
				1/2" NPT	**ZCKJ9H7**	0.310
2 step	2 CO staggered snap action (XESP2031)		–	Pg 13.5	**ZCKJ4**	0.310
				ISO M20 x 1.5	**ZCKJ4H29**	0.310
				1/2" NPT	**ZCKJ4H7**	0.310

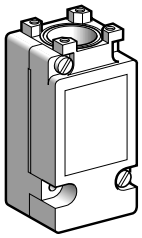
Fixed bodies with 3-pole contact

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
–	1 NC + 2 NO snap action (XE3SP2151)		⊖	Pg 13.5	**ZCKJD31**	0.310
				ISO M20 x 1.5	**ZCKJD31H29**	0.310
				1/2" NPT	**ZCKJD31H7**	0.310
	2 NC + 1 NO snap action (XE3SP2141)		⊖	Pg 13.5	**ZCKJD39**	0.310
				ISO M20 x 1.5	**ZCKJD39H29**	0.310
				1/2" NPT	**ZCKJD39H7**	0.310
	2 NC + 1 NO break before make, slow break (XE3NP2141)		⊖	Pg 13.5	**ZCKJD37**	0.310
				ISO M20 x 1.5	**ZCKJD37H29**	0.310
				1/2" NPT	**ZCKJD37H7**	0.310
	1 NC + 2 NO break before make, slow break (XE3NP2151)		⊖	Pg 13.5	**ZCKJD35**	0.310
				ISO M20 x 1.5	**ZCKJD35H29**	0.310
				1/2" NPT	**ZCKJD35H7**	0.310

(1) ⊖: NC contact with positive opening operation.

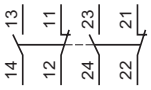
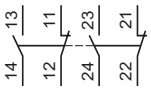
Limit switches

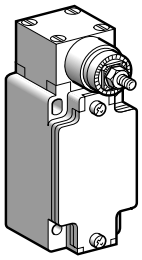
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: standard bodies



ZCKJ●1

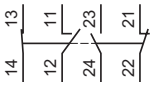
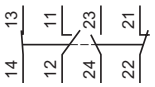
Plug-in bodies with contact

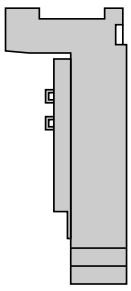
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO snap action		–	Pg 13.5	**ZCKJ11**	0.300
				ISO M20 x 1.5	**ZCKJ11H29**	0.300
				1/2" NPT	**ZCKJ11H7**	0.300
	Double-pole 2 CO simultaneous, snap action		–	Pg 13.5	**ZCKJ21**	0.300
				ISO M20 x 1.5	**ZCKJ21H29**	0.300
				1/2" NPT	**ZCKJ21H7**	0.300
2 step	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ41**	0.300
				ISO M20 x 1.5	**ZCKJ41H29**	0.300
				1/2" NPT	**ZCKJ41H7**	0.300



ZCKJ404

Bodies with contact, with rotary head (without operating lever)

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from left AND 1 from right (see page 167)	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ404**	0.455
				ISO M20 x 1.5	**ZCKJ404H29**	0.455
				1/2" NPT	**ZCKJ404H7**	0.455
Plug-in body						
2 step 1 from left AND 1 from right (see page 167)	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ4104**	0.465
				ISO M20 x 1.5	**ZCKJ4104H29**	0.465
				1/2" NPT	**ZCKJ4104H7**	0.465



ZCKJ0●

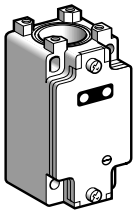
Plug-in housing only

Description	For use with	Contacts	Reference	Weight kg
Single-pole 1 CO with positive opening operation	ZCKJ11	Silver	**ZCKJ01**	0.150
Double-pole 2 CO with positive opening operation	ZCKJ21	Silver	**ZCKJ02**	0.160
Double-pole 2 CO staggered	ZCKJ41	Silver	**ZCKJ04**	0.160

(1) ⊖: NC contact with positive opening operation.

Limit switches

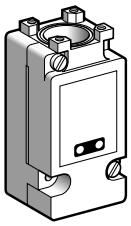
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body. Adaptable sub-assemblies: bodies with indicator light module



ZCKJ●●●

Fixed bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation *(1)*	Cable entry	Reference	Weight kg
With module comprising 1 LED, 24 V ⎓						
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKJ120**	0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKJ520**	0.320
With module comprising 2 LEDs, 24 V ⎓						
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKJ121**	0.320
				ISO M20 x 1.5	**ZCKJ121H29**	0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKJ521**	0.320
				ISO M20 x 1.5	**ZCKJ521H29**	0.320
With module comprising 2 LEDs, 110/240 V ∿						
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKJ134**	0.320
				ISO M20 x 1.5	**ZCKJ134H29**	0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKJ534**	0.320
				ISO M20 x 1.5	**ZCKJ534H29**	0.320



ZCKJ1●●●

Plug-in bodies with single-pole contact

Type	With contact block	Scheme	Positive operation *(1)*	Cable entry	Reference	Weight kg
With module comprising 2 LEDs, 24 V ⎓						
1 step	CO snap action		–	Pg 13.5	**ZCKJ1121**	0.340
				ISO M20 x 1.5	**ZCKJ1121H29**	0.340
With module comprising 2 LEDs, 110/240 V ∿						
1 step	CO snap action		–	Pg 13.5	**ZCKJ1134**	0.340
				ISO M20 x 1.5	**ZCKJ1134H29**	0.340

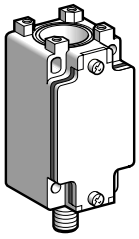
(1) ⊖: NC contact with positive opening operation.

Indicator light module characteristics

Type of indicator	1 LED or 2 LEDs	2 LEDs
Rated insulation voltage	50 V ⎓, conforming to IEC 60947-1	250 V ∿, conforming to IEC 60947-1
Current consumption	7 mA per LED	9 mA per LED
Rated operational voltage	24 V ⎓	110/240 V ∿
Voltage limits	20…30 V ⎓ (including ripple)	95…264 V ∿
Service life	100 000 hours	100 000 hours
Reverse polarity protection	Yes	–

Limit switches

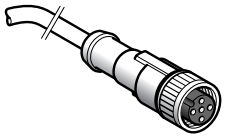
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body. Adaptable sub-assemblies: bodies with M12 connector



ZCKJ●D

Fixed bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation *(1)*	Reference	Weight kg
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	**ZCKJ1D**	0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	**ZCKJ5D**	0.320
	1 NO + 1 NC make before break, slow break (XE2NP2161)		⊖	**ZCKJ6D**	0.320
	2 NC simultaneous, slow break (XE2NP2141)		⊖	**ZCKJ7D**	0.320
	2 NO simultaneous, slow break (XE2NP2131)		–	**ZCKJ8D**	0.320



XZCP1164L●

Female pre-wired connectors

Description	Cable length	Reference	Weight kg
Female pre-wired connectors, M12, straight Ø 5,0 mm cable Conductor c.s.a: 5 x 0.34 mm² Nominal current : 4 A Nominal voltage: ∼ 30 V, ⎓ 36 V	1 m	**XZCP1164L2**	0.115
	5 m	**XZCP1164L5**	0.270
	10 m	**XZCP1164L10**	0.520

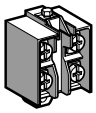
(1) NC contact with positive opening operation.

Limit switches

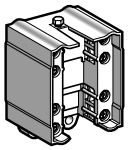
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: contact blocks



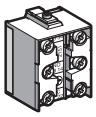
XE2SP21●1



XE2NP21●1

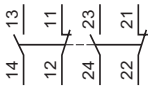
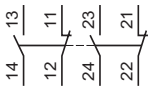
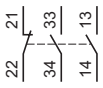
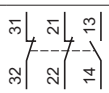
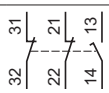
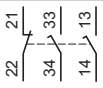


XESP20●1



XE3●P21●1

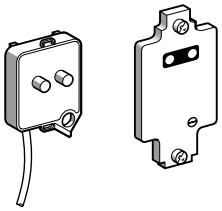
Contact blocks

Type of contact	Scheme	For bodies	Positive operation *(1)*	Reference	Weight kg
2-pole contact					
1 NC + 1 NO snap action		ZCKJ1 ZCKJ1D	⊖	**XE2SP2151**	0.020
1 NC + 1 NO break before make, slow break		ZCKJ5 ZCKJ5D	⊖	**XE2NP2151**	0.020
2 CO simultaneous snap action		ZCKJ2	–	**XESP2021**	0.045
2 CO staggered, snap action		ZCKJ4	–	**XESP2031**	0.045
1 NO + 1 NC make before break, slow break		ZCKJ6 ZCKJ6D	⊖	**XE2NP2161**	0.020
2 NC simultaneous, slow break		ZCKJ7 ZCKJ7D	⊖	**XE2NP2141**	0.020
2 NO simultaneous, slow break		ZCKJ8 ZCKJ8D	–	**XE2NP2131**	0.020
2 NC snap action		ZCKJ9	⊖	**XE2SP2141**	0.020
3-pole contact					
1 NC + 2 NO snap action		ZCKJD31	⊖	**XE3SP2151**	0.035
2 NC + 1 NO snap action		ZCKJD39	⊖	**XE3SP2141**	0.035
2 NC + 1 NO break before make, slow break		ZCKJD37	⊖	**XE3NP2141**	0.035
1 NC + 2 NO break before make, slow break		ZCKJD35	⊖	**XE3NP2151**	0.035

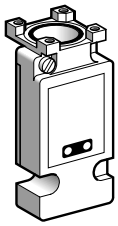
(1) ⊖: NC contact with positive opening operation.

Limit switches

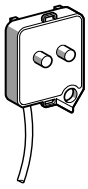
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: add-ons



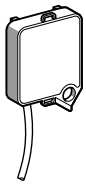
ZCKZ0●●



ZCKJ01●●



ZCKJ90●



ZCKJ82A

Covers + indicator light module

For use with	Number and type of indicators	Voltage	Reference	Weight kg
Fixed body	1 LED	24 V ⎓	**ZCKZ020**	0.060
	2 LEDs	24 V ⎓	**ZCKZ021**	0.060
	2 LEDs	110/240 V ∿	**ZCKZ034**	0.060
Plug-in body	2 LEDs	24 V ⎓	**ZCKJ0121**	0.200
	2 LEDs	110/240 V ∿	**ZCKJ0134**	0.200

Indicator light modules

For use with	Number and type of indicators	Voltage	Reference	Weight kg
Fixed body	1 LED	24 V ⎓	**ZCKJ902**	0.030
	2 LEDs	24 V ⎓	**ZCKJ906**	0.030
	2 LEDs	110/240 V ∿	**ZCKJ904**	0.030

Module with resistor for machine diagnostics

For use with	Resistor value	Reference	Weight kg
Fixed body (ZCKJ1 only)	15 kΩ, 1/4 W	**ZCKJ82A**	0.030

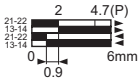
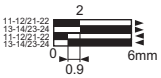
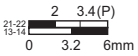
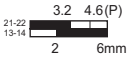
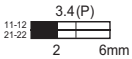
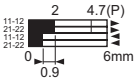
Other versions — Covers + indicator light module for other supply voltages. Please consult our Customer Care Centre.

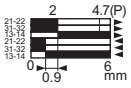
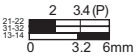
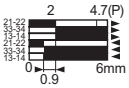
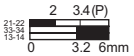
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

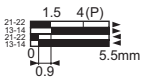
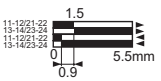
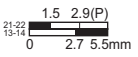
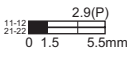
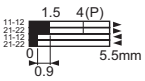
Function diagrams (positive operation assured only if the associated sub-assemblies are ⊖)

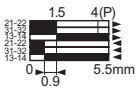
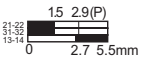
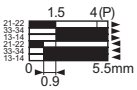
Heads ZCKE61, ZCKE619, ZCKE66 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6●	ZCKJ7●	ZCKJ8●	ZCKJ9
						

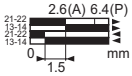
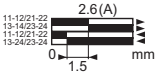
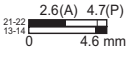
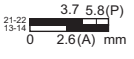
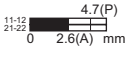
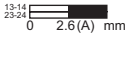
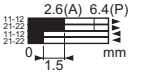
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

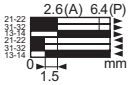
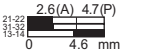
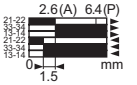
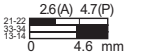
Head ZCKE63 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

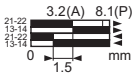
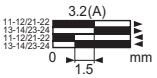
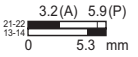
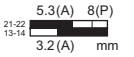
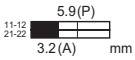
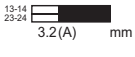
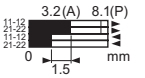
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

Heads ZCKE64, ZCKE65 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

Heads ZCKE67, ZCKE629 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35

Heads ZCKE21, ZCKE23 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9

ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35

Heads ZCKE06, ZCKE08 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9

ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35

ZCKJ4●

Unactuated	1st step	2nd step

Contact operation

■ closed
□ open

(A) = cam displacement
(P) = positive opening point

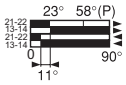
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

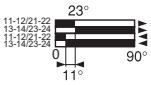
Function diagrams (positive operation assured only if the associated sub-assemblies are ⊖)

Head ZCKE05 with body

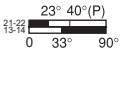
ZCKJ1●



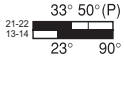
ZCKJ2●



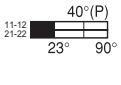
ZCKJ5●



ZCKJ6



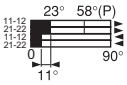
ZCKJ7



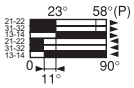
ZCKJ8



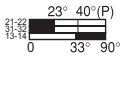
ZCKJ9



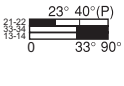
ZCKJD39



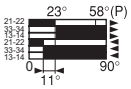
ZCKJD37



ZCKJD39

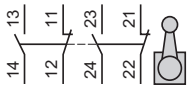


ZCKJD31

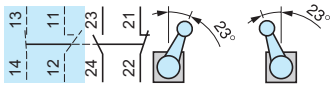


ZCKJ4●

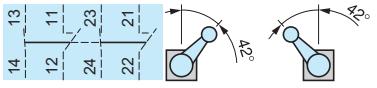
Unactuated



1st step, actuated from left or right

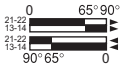


2nd step, actuated from left or right

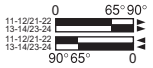


Head ZCKE09 with body

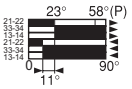
ZCKJ1●



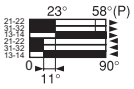
ZCKJ2●



ZCKJD31

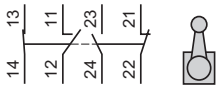


ZCKJD39

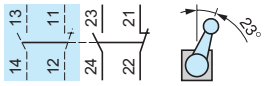


ZCKJ404, J4104 (body with head)

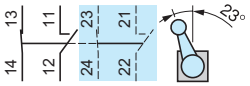
Unactuated



Actuated from left



Actuated from right

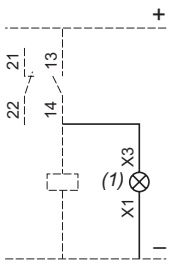


Contact operation — closed / open — (P) = positive opening point

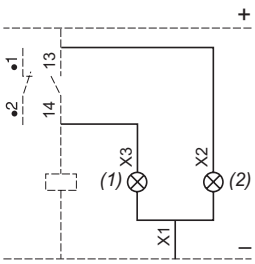
Wiring schemes

Indicator light modules

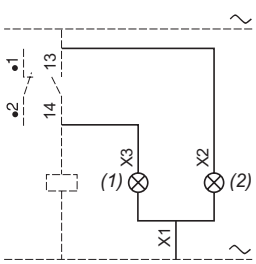
1 LED, 24 V ⎓



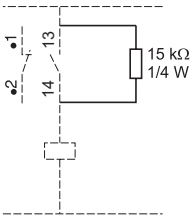
2 LEDs, 24 V ⎓



2 LEDs, 110/240 V ∿

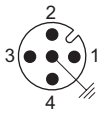


Module with resistor



(1) Orange indicator
(2) Green indicator

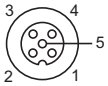
ZCKJ●D



1 - 2 = NC
3 - 4 = NO
5 = ⏚
4 A / 24 V max.



Pre-wired connectors XZCP1164●



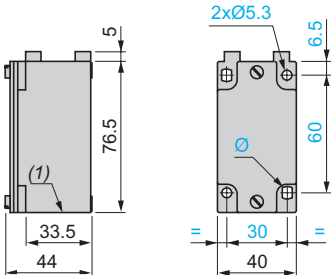
1 = brown
2 = white/black
3 = blue
4 = black
5 = yellow/green

Limit switches

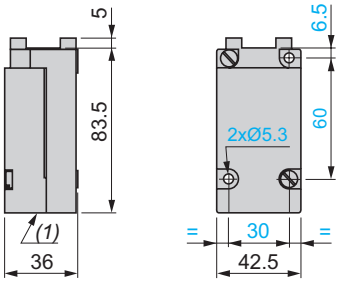
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

Bodies

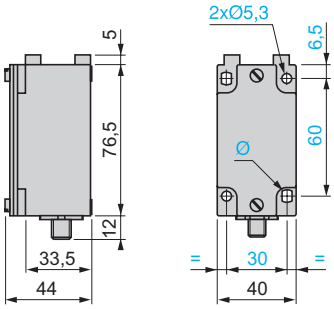
ZCKJ1, J2, J5, J4, J●2●, J●3●, J6, J7, J8, J9
ZCKJ1H29, J2H29, J5H29, J4H29, J●2●H29, J●3●H29, J6H29, J7H29, J8H29, J9H29
ZCKJ1H7, J2H7, J5H7, J4H7, J●2●H7, J●3●H7, J6H7, J7H7, J8H7, J9H7



ZCKJ11, J21, J41, J11●●
ZCKJ11H29, J21H29, J41H29, J11●●H29
ZCKJ11H7, J21H7, J41H7, J11●●H7

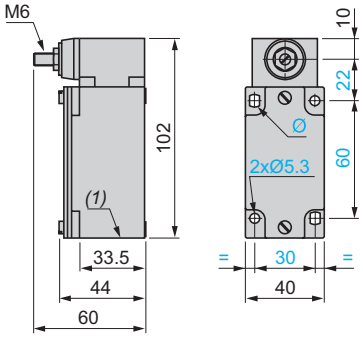


ZCKJ1D, J5D, J6D, J7D, J8D

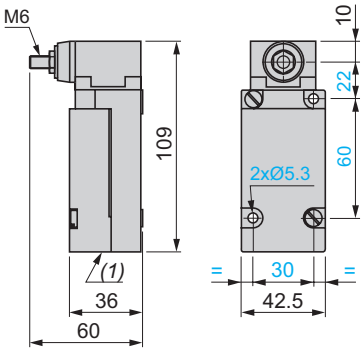


Bodies with rotary head mounted

ZCKJ404, ZCKJ404H29, ZCKJ404H7

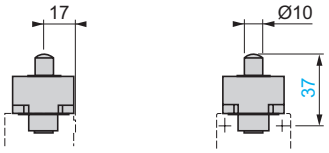


ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

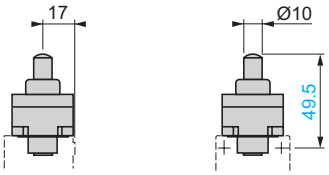


Plunger heads

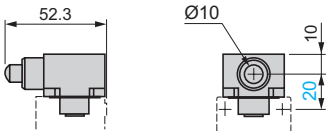
ZCKE61



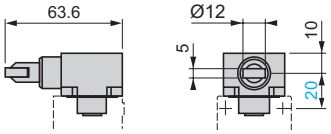
ZCKE619



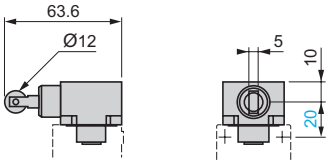
ZCKE63



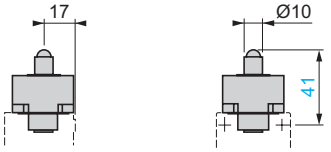
ZCKE64



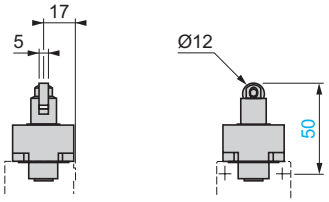
ZCKE65



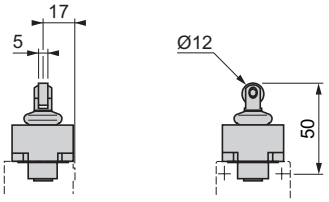
ZCKE66



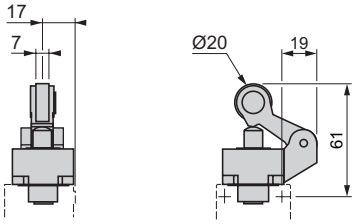
ZCKE62, ZCKE67



ZCKE629



ZCKE21, ZCKE23



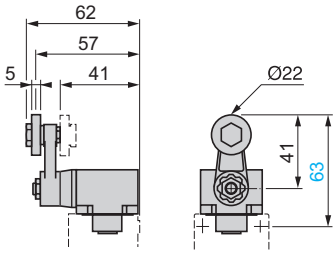
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
Ø: 2 elongated holes Ø 5.3 x 7.3.

Limit switches

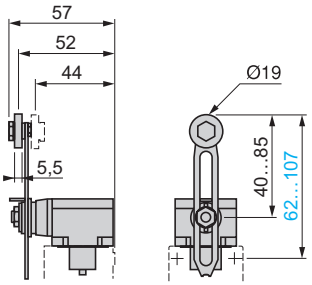
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

Rotary head ZCKE05 with operating lever

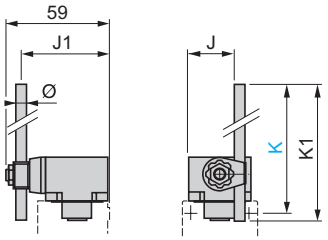
ZCKY11, ZCKY13, ZCKY14



ZCKY41, ZCKY43

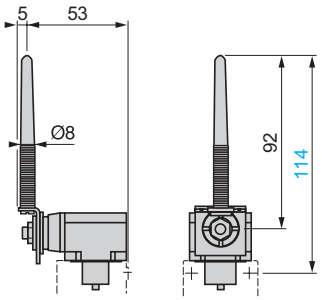


ZCKY51, ZCKY52, ZCKY53, ZCKY59

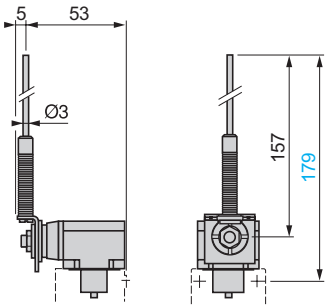


	J	J1	K max.	K1	Ø
ZCKY51	20	49	137	123	Ø 3
ZCKY52	20	49	137	125	Ø 3
ZCKY53	20	49	137	125	Ø 3
ZCKY59	26.2	48	212	200	Ø 6

ZCKY81

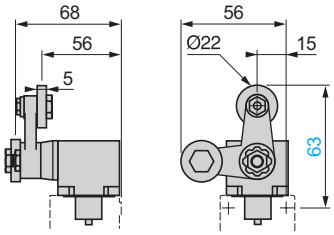


ZCKY91

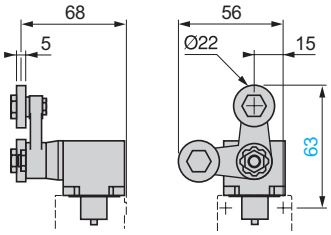


Rotary head ZCKE09 with operating lever

ZCKY61

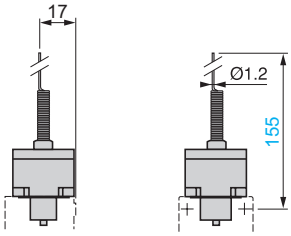


ZCKY71

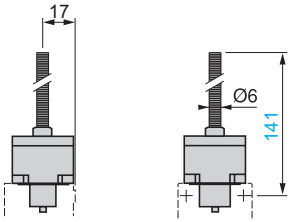


Multi-directional heads

ZCKE06

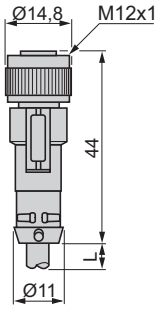


ZCKE08



Note: *operating lever spindle threaded M6.*

Pre-wired connectors XZCP1164L●

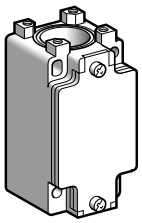


L = 2, 5 or 10 m.

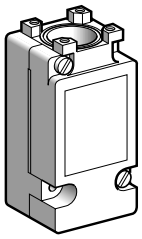
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

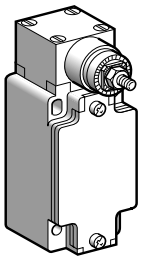
Adaptable sub-assemblies for low temperature applications (- 40°C)



ZCKJ1



ZCKJ11



ZCKJ4046

Bodies with contacts for plunger or rotary head

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed bodies						
1 step	2-pole NC + NO snap action (XE2SP2151)	13 21 / 14 22	⊖	Pg 13.5	**ZCKJ1**	0.310
				ISO M20 x 1.5	**ZCKJ1H29**	0.310
				1/2" NPT	**ZCKJ1H7**	0.310
	Double-pole 2 CO simultaneous, snap action (XESP2021)	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ2**	0.310
				ISO M20 x 1.5	**ZCKJ2H29**	0.310
				1/2" NPT	**ZCKJ2H7**	0.310
	2-pole NC + NO break before make, slow break (XE2NP2151)	13 21 / 14 22	⊖	Pg 13.5	**ZCKJ5**	0.310
				ISO M20 x 1.5	**ZCKJ5H29**	0.310
				1/2" NPT	**ZCKJ5H7**	0.310
	2-pole NO + NC make before break, slow break (XE2NP2161)	21 13 / 22 14	⊖	Pg 13.5	**ZCKJ6**	0.310
				ISO M20 x 1.5	**ZCKJ6H29**	0.310
				1/2" NPT	**ZCKJ6H7**	0.310
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	11 21 / 12 22	⊖	Pg 13.5	**ZCKJ7**	0.310
				ISO M20 x 1.5	**ZCKJ7H29**	0.310
				1/2" NPT	**ZCKJ7H7**	0.310
	2-pole NO + NO simultaneous, slow break (XE2NP2131)	13 23 / 14 24	–	Pg 13.5	**ZCKJ8**	0.310
				ISO M20 x 1.5	**ZCKJ8H29**	0.310
				1/2" NPT	**ZCKJ8H7**	0.310
	2-pole NC + NC snap action (XE2SP2141)	11 21 / 12 22	⊖	Pg 13.5	**ZCKJ9**	0.310
				ISO M20 x 1.5	**ZCKJ9H29**	0.310
				1/2" NPT	**ZCKJ9H7**	0.310
2 step	Double-pole 2 CO staggered, snap action (XESP2031)	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ4**	0.310
				ISO M20 x 1.5	**ZCKJ4H29**	0.310
				1/2" NPT	**ZCKJ4H7**	0.310
Plug-in bodies						
1 step	Single-pole CO snap action	13 11 / 14 12	–	Pg 13.5	**ZCKJ11**	0.300
				ISO M20 x 1.5	**ZCKJ11H29**	0.300
				1/2" NPT	**ZCKJ11H7**	0.300
	Double-pole 2 CO simultaneous snap action	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ21**	0.300
				ISO M20 x 1.5	**ZCKJ21H29**	0.300
				1/2" NPT	**ZCKJ21H7**	0.300
2 step	Double-pole 2 CO staggered, snap action	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ41**	0.300
				ISO M20 x 1.5	**ZCKJ41H29**	0.300
				1/2" NPT	**ZCKJ41H7**	0.300

Bodies with contacts With spring return rotary head (without operating lever)

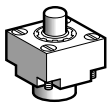
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ4046**	0.455
				ISO M20 x 1.5	**ZCKJ4046H29**	0.455
				1/2" NPT	**ZCKJ4046H7**	0.455
Plug-in body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ41046**	0.465
				ISO M20 x 1.5	**ZCKJ41046H29**	0.465
				1/2" NPT	**ZCKJ41046H7**	0.465

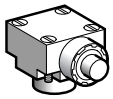
(1) ⊖: head assuring positive opening operation.

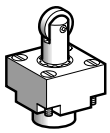
Limit switches

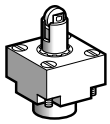
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

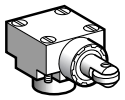
Adaptable sub-assemblies for low temperature applications (- 40°C)

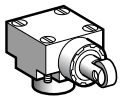

ZCKE616

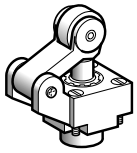

ZCKE636

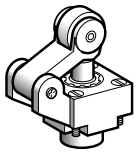

ZCKE626

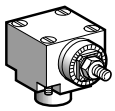

ZCKE676

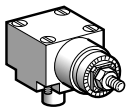

ZCKE646

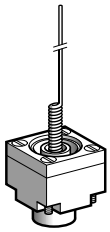

ZCKE656

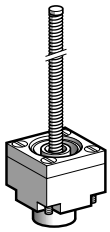

ZCKE216


ZCKE236


ZCKE056


ZCKE096


ZCKE066


ZCKE086

Plunger heads

Type of operator		Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
For actuation on end						
End plunger metal		ZCKJ●, ZCKJ●●	0.5 m/s	⊖	**ZCKE616**	0.140
Side plunger metal		ZCKJ●, ZCKJ●●, except ZCKJ4 and J41	0.5 m/s	⊖	**ZCKE636**	0.200
For actuation by 30° cam						
Roller plunger steel		ZCKJ●, ZCKJ●●	1 m/s	⊖	**ZCKE626**	0.155
End reinforced roller plunger steel		ZCKJ●, ZCKJ●●	1 m/s	⊖	**ZCKE676**	0.155
Side roller plunger steel	Horizontal	ZCKJ●, ZCKJ●●, except ZCKJ4 and J41	0.6 m/s	⊖	**ZCKE646**	0.205
	Vertical	ZCKJ●, ZCKJ●●, except ZCKJ4 and J41	0.6 m/s	⊖	**ZCKE656**	0.205
Roller lever plunger (1 direction of actuation)	Thermoplastic	ZCKJ●, ZCKJ●●	1.5 m/s	⊖	**ZCKE216**	0.185
	Steel	ZCKJ●, ZCKJ●●	1.5 m/s	⊖	**ZCKE236**	0.195

Rotary heads (without operating lever)

Type	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
Spring return, for actuation from left **AND** right or from left **OR** right (see page 25)	ZCKJ●, ZCKJ●●	1.5 m/s by 30° cam	⊖	**ZCKE056**	0.165
Stay put, for actuation from left **AND** right (see page 25)	ZCKJ1, J11 ZCKJ2, J21	0.5 m/s	–	**ZCKE096**	0.190

Multi-directional heads

Type of operator	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
For actuation by any moving part					
"Cat's whisker"	ZCKJ●, ZCKJ●●, except ZCKJ4 and ZCKJ41	1 m/s in any direction	–	**ZCKE066**	0.115
Spring rod	ZCKJ●, ZCKJ●●, except ZCKJ4 and ZCKJ41	0.5 m/s in any direction	–	**ZCKE086**	0.125

(1) ⊖: head assuring positive opening operation.

Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

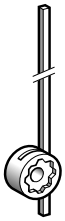
Adaptable sub-assemblies for low temperature applications (- 40°C)



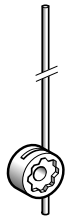
ZCKY1●



ZCKY4●



ZCKY51



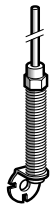
ZCKY5●



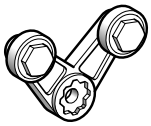
ZCKY59



ZCKY81



ZCKY91



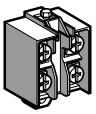
ZCKY71



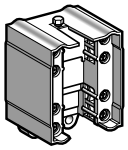
ZCKY61



XE2SP21●1



XE2NP21●1

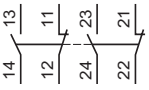
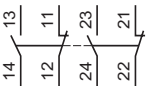


XES P20●1

Operating levers for rotary heads

Description		Positive operation (1)	Reference	Weight kg
For actuation by 30° cam				
Roller lever (2)	Thermoplastic	⊖	**ZCKY11**	0.025
	Steel	⊖	**ZCKY13**	0.035
	Steel, ball bearing mounted	⊖	**ZCKY14**	0.030
Variable length roller lever (3)	Thermoplastic	–	**ZCKY41**	0.030
	Steel	–	**ZCKY43**	0.040
For actuation by any moving part				
Square rod (2)	Ø 3 mm steel, L = 125 mm	–	**ZCKY51**	0.025
Round rod (2)	Ø 3 mm steel, L = 125 mm	–	**ZCKY53**	0.025
	Ø 3 mm glass fibre, L = 125 mm	–	**ZCKY52**	0.020
	Ø 6 mm thermoplastic, L = 200 mm	–	**ZCKY59**	0.030
Spring lever (3)		–	**ZCKY81**	0.020
Spring-metal rod lever (3)		–	**ZCKY91**	0.025
For actuation by specific cam (only for operation with head **ZCKE096**)				
Forked arm with rollers (2) thermoplastic	1 track	–	**ZCKY71**	0.035
	2 track	–	**ZCKY61**	0.035

2-pole and double-pole contact blocks

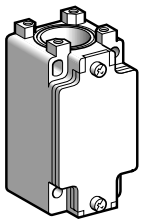
Type of contact	Scheme	For body	Positive operation (1)	Reference	Weight kg
NC + NO snap action		ZCKJ1	⊖	**XE2SP2151**	0.020
NC + NO break before make, slow break		ZCKJ5	⊖	**XE2NP2151**	0.020
2 CO simultaneous, snap action		ZCKJ2	–	**XESP2021**	0.045
2 CO staggered, snap action		ZCKJ4	–	**XESP2031**	0.045
NC + NO make before break, slow break		ZCKJ6	⊖	**XE2NP2161**	0.020
NC + NC simultaneous, slow break		ZCKJ7	⊖	**XE2NP2141**	0.020
NO + NO simultaneous, slow break		ZCKJ8	–	**XE2NP2131**	0.020
NC + NC snap action		ZCKJ9	⊖	**XE2SP2141**	0.020

(1) ⊖: NC contact with positive opening operation or sub-assembly assuring positive opening operation.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Adjustable throughout 360° in 5° steps.

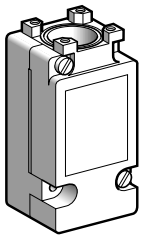
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

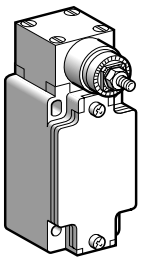
Adaptable sub-assemblies for high temperature applications (+ 120°C)



ZCKJ●

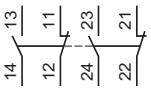
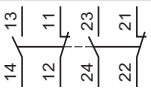
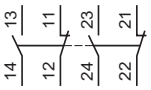
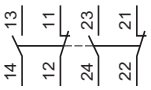


ZCKJ●15

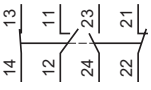
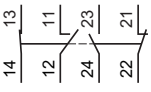


ZCKJ4045

Bodies with contacts — For plunger or rotary head

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed bodies						
1 step	2-pole NC + NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKJ1**	0.310
				ISO M20 x 1.5	**ZCKJ1H29**	0.310
				1/2" NPT	**ZCKJ1H7**	0.310
	Double-pole 2 CO simultaneous, snap action (XESP20215)		–	Pg 13.5	**ZCKJ25**	0.310
				ISO M20 x 1.5	**ZCKJ25H29**	0.310
				1/2" NPT	**ZCKJ25H7**	0.310
	2-pole NC + NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	**ZCKJ5**	0.310
				ISO M20 x 1.5	**ZCKJ5H29**	0.310
				1/2" NPT	**ZCKJ5H7**	0.310
	2-pole NO + NC make before break, slow break (XE2NP2161)		⊖	Pg 13.5	**ZCKJ6**	0.310
				ISO M20 x 1.5	**ZCKJ6H29**	0.310
				1/2" NPT	**ZCKJ6H7**	0.310
	2-pole NC + NC simultaneous, slow break (XE2NP2141)		⊖	Pg 13.5	**ZCKJ7**	0.310
				ISO M20 x 1.5	**ZCKJ7H29**	0.310
				1/2" NPT	**ZCKJ7H7**	0.310
	2-pole NO + NO simultaneous, slow break (XE2NP2131)		–	Pg 13.5	**ZCKJ8**	0.310
				ISO M20 x 1.5	**ZCKJ8H29**	0.310
				1/2" NPT	**ZCKJ8H7**	0.310
	2-pole NC + NC snap action (XE2SP2141)		⊖	Pg 13.5	**ZCKJ9**	0.310
				ISO M20 x 1.5	**ZCKJ9H29**	0.310
				1/2" NPT	**ZCKJ9H7**	0.310
2 step	Double-pole 2 CO staggered, snap action (XESP20315)		–	Pg 13.5	**ZCKJ45**	0.310
				ISO M20 x 1.5	**ZCKJ45H29**	0.310
				1/2" NPT	**ZCKJ45H7**	0.310
Plug-in bodies						
1 step	Single-pole CO snap action		–	Pg 13.5	**ZCKJ115**	0.300
				ISO M20 x 1.5	**ZCKJ115H29**	0.300
				1/2" NPT	**ZCKJ115H7**	0.300
	Double-pole 2 CO simultaneous, snap action		–	Pg 13.5	**ZCKJ215**	0.300
				ISO M20 x 1.5	**ZCKJ215H29**	0.300
				1/2" NPT	**ZCKJ215H7**	0.300
2 step	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ415**	0.300
				ISO M20 x 1.5	**ZCKJ415H29**	0.300
				1/2" NPT	**ZCKJ415H7**	0.300

Bodies with contacts — With spring return rotary head (without operating lever)

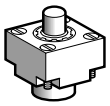
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left **AND** 1 from the right	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ4045**	0.455
				ISO M20 x 1.5	**ZCKJ4045H29**	0.455
				1/2" NPT	**ZCKJ4045H7**	0.455
Plug-in body						
2 step 1 from the left **AND** 1 from the right	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ41045**	0.465
				ISO M20 x 1.5	**ZCKJ41045H29**	0.465
				1/2" NPT	**ZCKJ41045H7**	0.465

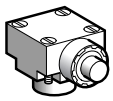
(1) ⊖: head assuring positive opening operation.

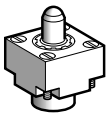
Limit switches

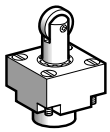
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

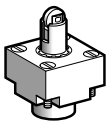
Adaptable sub-assemblies for high temperature applications (+ 120°C)

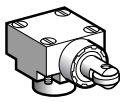

ZCKE615

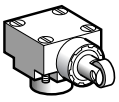

ZCKE635

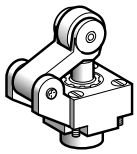

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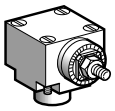

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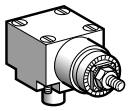

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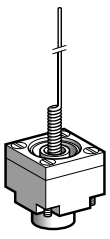

ZCKE645

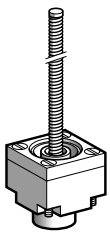

ZCKE655


ZCKE235


ZCKE055


ZCKE095


ZCKE065


ZCKE085

Plunger heads

Type of operator		Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
For actuation on end						
End plunger	Metal	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	0.5 m/s	⊖	**ZCKE615**	0.140
Side plunger	Metal	ZCKJ1, J2, ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9	0.5 m/s	⊖	**ZCKE635**	0.200
For actuation by 30° cam						
End ball bearing plunger	Steel	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	0.1 m/s	⊖	**ZCKE665**	0.150
End roller plunger	Steel	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	1 m/s	⊖	**ZCKE625**	0.155
End reinforced roller plunger	Steel	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	1 m/s	⊖	**ZCKE675**	0.155
Side roller plunger	Steel Horizontal	ZCKJ1, J2, ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9	0.6 m/s	⊖	**ZCKE645**	0.205
	Steel Vertical	ZCKJ1, J2, ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9	0.6 m/s	⊖	**ZCKE655**	0.205
Roller lever plunger (1 direction of actuation)	Steel	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	1.5 m/s	⊖	**ZCKE235**	0.195
	Thermoplastic	ZCKJ1, J2, J4, ZCKJ115, J215, J415, ZCKJ5, J6, J7, J8, J9	1.5 m/s	⊖	**ZCKE215**	0.185

Rotary heads (without operating lever)

Type	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
Spring return, for actuation from left **AND** right or from left **OR** right (see page 25)	ZCKJ1, J2, J4, ZCKJ115, J215, ZCKJ415, ZCKJ5, J6, J7, J8, J9	1.5 m/s by 30° cam	⊖	**ZCKE055**	0.165
Stay put, actuation from left **AND** right (see page 25)	ZCKJ1, J2, ZCKJ115, J215	0.5 m/s	–	**ZCKE095**	0.190

Multi-directional heads

Type of operator	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
For actuation by any moving part					
"Cat's whisker"	ZCKJ1, J2, ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9	1 m/s in any direction	–	**ZCKE065**	0.115
Spring rod	ZCKJ1, J2, ZCKJ115, J215, ZCKJ5, J6, J7, J8, J9	0.5 m/s in any direction	–	**ZCKE085**	0.125

(1) ⊖: head assuring positive opening operation.

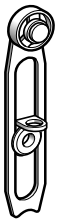
Limit switches

XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body

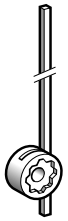
Adaptable sub-assemblies for high temperature applications (+ 120°C)



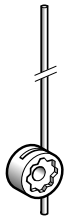
ZCKY1●



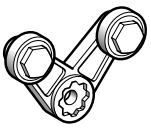
ZCKY43



ZCKY51



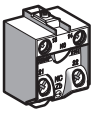
ZCKY5●



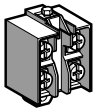
ZCKY715



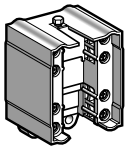
ZCKY615



XE2SP21●1



XE2NP21●1



XESP20●15

Operating levers for rotary heads

Description		Positive operation (1)	Reference	Weight kg
For actuation by 30° cam				
Roller lever (2)	Thermoplastic	⊖	**ZCKY115**	0.025
	Steel	⊖	**ZCKY13**	0.035
	Steel, ball bearing mounted	⊖	**ZCKY14**	0.030
Variable length roller lever (3)	Thermoplastic	–	**ZCKY415**	0.030
	Steel	–	**ZCKY43**	0.040
For actuation by any moving part				
Square rod (2)	⍁ 3 mm steel, L = 125 mm	–	**ZCKY51**	0.025
Round rod (2)	Ø 3 mm steel, L = 125 mm	–	**ZCKY53**	0.025
	Ø 3 mm glass fibre, L = 125 mm	–	**ZCKY52**	0.020
For actuation by specific cam (only for operation with head ZCKE095)				
Forked arm with rollers (2) thermoplastic	1 track	–	**ZCKY715**	0.035
	2 track	–	**ZCKY615**	0.035

2-pole and double-pole contact blocks

Type of contact	Scheme	For bodies	Positive operation (1)	Reference	Weight kg
NC + NO snap action	13 21 / 14 22	ZCKJ1	⊖	**XE2SP2151**	0.020
NC + NO break before make, slow break	13 21 / 14 22	ZCKJ5	⊖	**XE2NP2151**	0.020
2 CO simultaneous, snap action	13 11 23 21 / 14 12 24 22	ZCKJ25	–	**XESP20215**	0.045
2 CO staggered, snap action	13 11 23 21 / 14 12 24 22	ZCKJ45	–	**XESP20315**	0.045
NC + NO make before break, slow break	21 13 / 22 14	ZCKJ6	⊖	**XE2NP2161**	0.020
NC + NC simultaneous, slow break	11 21 / 12 22	ZCKJ7	⊖	**XE2NP2141**	0.020
NO + NO simultaneous, slow break	13 23 / 14 24	ZCKJ8	–	**XE2NP2131**	0.020
NC + NC snap action	11 21 / 12 22	ZCKJ9	⊖	**XE2SP2141**	0.020

(1) ⊖: NC contact with positive opening operation or sub-assembly assuring positive opening operation.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Adjustable throughout 360° in 5° steps.

Limit switches
XC Standard range
Product reference index

D

DE9RA1012 100, 112, 113
DE9RA1212 145
DE9RA2012 145

X

XALZ09 100
XCKD2101G11 100
XCKD2101M12 100
XCKD2101P16 100
XCKD2102M12 92
XCKD2102P16 88
XCKD2106M12 93
XCKD2106P16 89
XCKD2110M12 92
XCKD2110P16 88
XCKD2111M12 92
XCKD2111P16 88
XCKD2118M12 93
XCKD2118P16 89
XCKD2121M12 92
XCKD2121P16 88
XCKD2127M12 92
XCKD2127P16 88
XCKD2128M12 92
XCKD2128P16 88
XCKD2139M12 93
XCKD2139P16 89
XCKD2145M12 93
XCKD2145P16 89
XCKD2149M12 93
XCKD2149P16 89
XCKD21H0M12 93
XCKD21H0P16 89
XCKD21H2M12 93
XCKD21H2P16 89
XCKD2501G11 100
XCKD2501P16 100
XCKD2502P16 88
XCKD2506P16 89
XCKD2510P16 88
XCKD2511P16 88
XCKD2518P16 89
XCKD2521P16 88
XCKD2527P16 88
XCKD2528P16 88
XCKD2539P16 89
XCKD2545P16 89
XCKD2549P16 89
XCKD25H0P16 89
XCKD25H2P16 89
XCKJ10511A 156
XCKJ10511D 154
XCKJ10511H29 150
XCKJ10513A 156
XCKJ10513D 154
XCKJ10513H29 150
XCKJ10541A 156
XCKJ10541D 154
XCKJ10541H29 150
XCKJ10559A 156
XCKJ10559D 154
XCKJ10559H29 150
XCKJ110511H29 152
XCKJ110513H29 152
XCKJ110541H29 152
XCKJ110559H29 152
XCKJ1161H29 152
XCKJ1167H29 152
XCKJ161A 156
XCKJ161D 154
XCKJ161H29 150
XCKJ167A 156
XCKJ167D 154
XCKJ167H29 150
XCKJ50511H29 150
XCKJ50513H29 150
XCKJ50541H29 150
XCKJ50559H29 150
XCKJ561H29 150
XCKJ567H29 150
XCKL102 124
XCKL106 124
XCKL110 124
XCKL115 124
XCKL121 124
XCKL502 124
XCKL506 124
XCKL510 124
XCKL515 124
XCKL521 124
XCKM102H29 122
XCKM106H29 122
XCKM110H29 122
XCKM115H29 122
XCKM121H29 122
XCKM502H29 122
XCKM506H29 122
XCKM510H29 122
XCKM515H29 122
XCKM521H29 122
XCKML102 126
XCKML102H29 126
XCKML110 126
XCKML110H29 126
XCKML115 126
XCKML115H29 126
XCKML121 126
XCKML121H29 126
XCKML502 126
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XCKN2710P20 110
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XCKN2721P20 110
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XCKP2101G11 100
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XCKP2102P16 82
XCKP2106P16 83
XCKP2110M12 86
XCKP2110P16 82
XCKP2111M12 86
XCKP2111P16 82
XCKP2118M12 87
XCKP2118P16 83
XCKP2121M12 86
XCKP2121P16 82
XCKP2127M12 86
XCKP2127P16 82
XCKP2128M12 86
XCKP2128P16 82
XCKP2139M12 87
XCKP2139P16 83
XCKP2145M12 87
XCKP2145P16 83
XCKP2149M12 87
XCKP2149P16 83
XCKP21H0M12 87
XCKP21H0P16 83
XCKP21H2M12 87
XCKP21H2P16 83
XCKP2501G11 100
XCKP2501P16 100
XCKP2502P16 82
XCKP2506P16 83
XCKP2510P16 82
XCKP2511P16 82
XCKP2518P16 83
XCKP2521P16 82
XCKP2527P16 82
XCKP2528P16 82
XCKP2539P16 83
XCKP2545P16 83
XCKP2549P16 83
XCKP25H0P16 83
XCKP25H2P16 83
XCKS101H29 138
XCKS102H29 138
XCKS131H29 138
XCKS133H29 138
XCKS139H29 138
XCKS141H29 138
XCKS143H29 138
XCKS149H29 138
XCKS159H29 138
XCKS501H29 138
XCKS502H29 138
XCKS531H29 138
XCKS533H29 138
XCKS539H29 138
XCKS541H29 138
XCKS543H29 138
XCKS549H29 138
XCKS559H29 138
XCKT2101G11 100
XCKT2101P16 100
XCKT2102P16 94
XCKT2106P16 94
XCKT2110P16 94
XCKT2111P16 94
XCKT2118P16 95
XCKT2121P16 94
XCKT2139P16 95
XCKT2145P16 95
XCKT21H0P16 95
XCKT21H2P16 95
XCKT2501G11 100
XCKT2501P16 100
XCKZ09 132
XCMD2101C12 49
XCMD2101L1 49
XCMD2101M12 49
XCMD2102AM4 54
XCMD2102C12 36
XCMD2102L1 28
XCMD2102M12 36
XCMD2106C12 37
XCMD2106L1 29
XCMD2106M12 37
XCMD2110AM4 54
XCMD2110C12 36
XCMD2110L1 28
XCMD2110M12 36
XCMD2111C12 36
XCMD2111L1 28
XCMD2111M12 36
XCMD2115AM4 54
XCMD2115C12 37
XCMD2115L1 29
XCMD2115M12 37
XCMD2116C12 37
XCMD2116L1 29
XCMD2116M12 37
XCMD2117C12 37
XCMD2117L1 29
XCMD2117M12 37
XCMD2124C12 36
XCMD2124L1 28
XCMD2124M12 36
XCMD2145C12 37
XCMD2145L1 29
XCMD2145M12 37
XCMD21F0C12 36
XCMD21F0L1 28
XCMD21F0M12 36
XCMD21F2C12 36
XCMD21F2L1 28
XCMD21F2M12 36
XCMD21G1C12 36
XCMD21G1L1 28
XCMD21G1M12 36
XCMD2501L1 49
XCMD2502AM4 54
XCMD2502L1 28
XCMD2506L1 29
XCMD2510AM4 54
XCMD2510L1 28
XCMD2511L1 28
XCMD2515AM4 54
XCMD2515L1 29
XCMD2516L1 29
XCMD2517L1 29
XCMD2524L1 28
XCMD2545L1 29
XCMD25F0L1 28
XCMD25F2L1 28
XCMD25G1L1 28
XCMH2102L1 70
XCMH2102L2 70
XCMH2102L3 70
XCMH2102L5 70
XCMH2102L6 70
XCMH2102L7 70
XCMH2102L8 70
XCMH2102L9 70
XCMH2102LA1 70
XCMH2103L1 70
XCMH2103L2 70
XCMH2103L3 70
XCMH2103L5 70
XCMH2103L8 70
XCMH2106L1 72
XCMH2106L2 72
XCMH2107L1 72
XCMH2107L2 72
XCMH2107L3 72
XCMH2110L1 70
XCMH2110L2 70
XCMH2110L3 70
XCMH2110LA1 70
XCMH2115L1 71
XCMH2115L1L0 71
XCMH2115L2 71
XCMH2115L2L0 71
XCMH2115L3 71
XCMH2115L3L0 71
XCMH2115L8 71
XCMH2115LA1 71
XCMH211AL05 70
XCMH211AL1 70
XCMH2121L1 70
XCMH2121L1R0 71
XCMH2121L2 70
XCMH2121L5 70
XCMH2145L1 72
XCMH2145L2 72
XCMH2159L1 72
XCMH2159L2 72
XCMH21F0L1 71
XCMH21F0L2 71
XCMH21F2L1 71
XCMH21F2L2 71
XCMH2902L1 70
XCMH2902L5 70
XCMH2903L1 70
XCMH2910L1 70
XCMH2910L2 70
XCMH2910L3 70
XCMN2102L1 78
XCMN2103L1 78
XCMN2106L1 79
XCMN2107L1 79
XCMN2110L1 78
XCMN2115L1 79
XCMN2121L1 78

Limit switches
XC Standard range
Product reference index

XCMN2145L1 79
XCMN2159L1 79
XCMN21F0L1 78
XCMN21F2L1 78
XCMN21F3L1 78
XCMV2102D44 53
XCMV2102M12 55
XCMV2110D44 53
XCMV2110M12 55
XCMV2115D44 53
XCMV2115M12 55
XCMV2502D44 53
XCMV2502M12 55
XCMV2510D44 53
XCMV2510M12 55
XCMV2515D44 53
XCMV2515M12 55
XCMZ06 49
XCMZ07 49 100
XCNR2102P20 118
XCNR2110P20 118
XCNR2118P20 118
XCNR2121P20 118
XCNR2127P20 118
XCNR2502P20 118
XCNR2510P20 118
XCNR2518P20 118
XCNR2521P20 118
XCNR2527P20 118
XCNR2718P20 118
XCNR2727P20 118
XCNR2918P20 118
XCNR2927P20 118
XCNT2102P16 112
XCNT2103P16 112
XCNT2106P16 113
XCNT2108P16 113
XCNT2110P16 112
XCNT2118P16 113
XCNT2121P16 112
XCNT2139P16 113
XCNT2145P16 113
XCNT2149P16 113
XCNT2502P16 112
XCNT2503P16 112
XCNT2506P16 113
XCNT2508P16 113
XCNT2510P16 112
XCNT2518P16 113
XCNT2521P16 112
XCNT2539P16 113
XCNT2545P16 113
XCNT2549P16 113
XCNT2702P16 112
XCNT2703P16 112
XCNT2706P16 113
XCNT2708P16 113
XCNT2710P16 112
XCNT2718P16 113
XCNT2721P16 112
XCNT2739P16 113
XCNT2745P16 113
XCNT2749P16 113
XCPR2102P20 104
XCPR2110P20 104
XCPR2118P20 104
XCPR2119P20 104
XCPR2121P20 104
XCPR2127P20 104
XCPR2502P20 104
XCPR2510P20 104
XCPR2518P20 104
XCPR2519P20 104
XCPR2521P20 104
XCPR2527P20 104
XCPR2902P20 104
XCPR2910P20 104
XCPR2918P20 104
XCPR2921P20 104
XCPR2927P20 104
XCTR2102P16 106
XCTR2110P16 106
XCTR2118P16 106
XCTR2121P16 106
XCTR2502P16 106
XCTR2510P16 106
XCTR2518P16 106
XCTR2521P16 106
XE2NP2131 101 132 145 164 172 175
XE2NP2141 101 132 145 164 172 175
XE2NP2151 101 132 145 164 172 175
XE2NP2161 101 132 145 164 172 175
XE2NP3131 101
XE2NP3141 101
XE2NP3151 101
XE2NP3161 101
XE2SP2141 101 132 145 164 172 175
XE2SP2151 101 132 145 164 172 175
XE2SP3151 101
XE3NP2141 101 132 145 164
XE3NP2151 101 132 145 164
XE3SP2141 101 132 145 164
XE3SP2151 101 132 145 164
XESP2021 164 172
XESP20215 175
XESP2031 164 172
XESP20315 175
XESP3021 145
XZCP1164L10 40 154 163
XZCP1164L2 40 154 163
XZCP1164L5 40 154 163
XZCP1169L10 40
XZCP1169L2 40
XZCP1169L5 40
XZCP1264L10 40 154
XZCP1264L2 40 154
XZCP1264L5 40 154
XZCP1764L10 156
XZCP1764L2 156
XZCP1764L5 156
XZCP1771L10 40
XZCP1771L2 40
XZCP1771L5 40

Z

ZCD21 98
ZCD25 98
ZCD26 98
ZCD27 88 89 98
ZCD28 98
ZCD29 88 89 98
ZCD29M12 92 93
ZCD31 98
ZCD35 98
ZCD37 88 89 98
ZCD39 88 89 98
ZCDEP16 88 89
ZCDEP16ZCE06 89
ZCE01 31 39 57 58 60 62 83 87 89 93 95
ZCE016 58
ZCE02 57 60 62 62 82 86 88 92 94
ZCE026 57 58 60 62
ZCE05 49 10
ZCE06 30 39 57 58 60 62 83 87 89 93 94
ZCE10 30 38 57 58 60 62 82 86 88 92 94
ZCE106 57 58 60 62
ZCE11 30 38 57 58 60 62 82 86 88 92 94
ZCE21 82 86 88 92 94
ZCE24 30 38 57 58 60 62 82 86 88 92 94
ZCE28 82 86 88 92
ZCEF0 30 38 57 58 60 62
ZCEF2 30 38 57 58 60 62
ZCEG1 30 38 57 58 60 62
ZCEH0 83 87 89 93 95
ZCEH2 83 87 89 93 95
ZCKD01 139
ZCKD02 122 124 139
ZCKD06 122 124
ZCKD10 122 124
ZCKD15 122 124
ZCKD21 122 124
ZCKD31 139
ZCKD39 139
ZCKD41 139
ZCKD49 139
ZCKD59 139
ZCKE05 150
ZCKE055 174
ZCKE056 171
ZCKE065 174
ZCKE066 171
ZCKE085 174
ZCKE086 171
ZCKE095 174
ZCKE096 171
ZCKE215 174
ZCKE216 171
ZCKE235 174
ZCKE236 171
ZCKE61 150
ZCKE615 174
ZCKE616 171
ZCKE625 174
ZCKE626 171
ZCKE635 174
ZCKE636 171
ZCKE645 174
ZCKE646 171
ZCKE655 174
ZCKE656 171
ZCKE665 174
ZCKE67 150
ZCKE675 174
ZCKE676 171
ZCKJ01 161
ZCKJ0121 165
ZCKJ0134 165

Limit switches
XC Standard range
Product reference index

ZCKJ02 161
ZCKJ04 161
ZCKJ1 160 170 173
ZCKJ11 161 170
ZCKJ1121 162
ZCKJ1121H29 162
ZCKJ1134 162
ZCKJ1134H29 162
ZCKJ115 173
ZCKJ115H29 173
ZCKJ115H7 173
ZCKJ11H29 161 170
ZCKJ11H7 161 170
ZCKJ120 162
ZCKJ121 162
ZCKJ121H29 162
ZCKJ134 162
ZCKJ134H29 162
ZCKJ1D 163
ZCKJ1H29 160 170 173
ZCKJ1H7 160 170 173
ZCKJ2 160 170
ZCKJ21 161 170
ZCKJ215 173
ZCKJ215H29 173
ZCKJ215H7 173
ZCKJ21H29 161 170
ZCKJ21H7 161 170
ZCKJ25 173
ZCKJ25H29 173
ZCKJ25H7 173
ZCKJ2H29 160 170
ZCKJ2H7 160 170
ZCKJ4 160 170
ZCKJ404 161
ZCKJ4045 173
ZCKJ4045H29 173
ZCKJ4045H7 173
ZCKJ4046 170
ZCKJ4046H29 170
ZCKJ4046H7 170
ZCKJ404H29 161
ZCKJ404H7 161
ZCKJ41 161 170
ZCKJ4104 161
ZCKJ41045 173
ZCKJ41045H29 173
ZCKJ41045H7 173
ZCKJ41046 170
ZCKJ41046H29 170
ZCKJ41046H7 170
ZCKJ4104H29 161
ZCKJ4104H7 161
ZCKJ415 173
ZCKJ415H29 173
ZCKJ415H7 173
ZCKJ41H29 161 170
ZCKJ41H7 161 170
ZCKJ45 173
ZCKJ45H29 173
ZCKJ45H7 173
ZCKJ4H29 160 170
ZCKJ4H7 160 170
ZCKJ5 160 170 173
ZCKJ520 162
ZCKJ521 162
ZCKJ521H29 162
ZCKJ534 162
ZCKJ534H29 162
ZCKJ5D 163
ZCKJ5H29 160 170 173
ZCKJ5H7 160 170 173
ZCKJ6 160 170 173
ZCKJ6D 163
ZCKJ6H29 160 170 173
ZCKJ6H7 160 170 173
ZCKJ7 160 170 173
ZCKJ7D 163
ZCKJ7H29 150 160 17 173
ZCKJ7H7 160 170 173
ZCKJ8 160 170 173
ZCKJ82A 165
ZCKJ8D 163
ZCKJ8H29 160 170 173
ZCKJ8H7 160 170 173
ZCKJ9 160 170 173
ZCKJ902 165
ZCKJ904 165
ZCKJ906 165
ZCKJ9H29 150 160 170 173
ZCKJ9H7 160 170 173
ZCKJD31 160
ZCKJD31H29 160
ZCKJD31H7 160
ZCKJD35 160
ZCKJD35H29 160
ZCKJD35H7 160
ZCKJD37 160
ZCKJD37H29 150 160
ZCKJD37H7 160
ZCKJD39 160
ZCKJD39H29 150 160
ZCKJD39H7 160
ZCKL1 130
ZCKL1H7 130
ZCKL5 130
ZCKL5H7 130
ZCKL6 130
ZCKL6H7 130
ZCKL7 124 130
ZCKL7H7 130
ZCKL8 130
ZCKL8H7 130
ZCKLD31 131
ZCKLD31H7 131
ZCKLD35 131
ZCKLD35H7 131
ZCKLD37 124 131
ZCKLD37H7 131
ZCKLD39 124 131
ZCKLD39H7 131
ZCKM1 130
ZCKM1H29 130
ZCKM1H7 130
ZCKM5 130
ZCKM5H29 130
ZCKM5H7 130
ZCKM6 130
ZCKM6H29 130
ZCKM6H7 130
ZCKM7 130
ZCKM7H29 122 130
ZCKM7H7 130
ZCKM8 130
ZCKM8H29 130
ZCKM8H7 130
ZCKM9 130
ZCKM9H29 122 130
ZCKMD31 131
ZCKMD31H29 131
ZCKMD31H7 131
ZCKMD35 131
ZCKMD35H29 131
ZCKMD35H7 131
ZCKMD37 131
ZCKMD37H29 122 131
ZCKMD37H7 131
ZCKMD39 131
ZCKMD39H29 122 131
ZCKMD39H7 131
ZCKS1 144
ZCKS1H29 144
ZCKS2 144
ZCKS2H29 144
ZCKS404 144
ZCKS404H29 144
ZCKS5 144
ZCKS5H29 144
ZCKS6 144
ZCKS6H29 144
ZCKS7 144
ZCKS7H29 139 144
ZCKS8 144
ZCKS8H29 144
ZCKS9 144
ZCKS9H29 139 144
ZCKSD31 144
ZCKSD31H29 144
ZCKSD35 144
ZCKSD35H29 144
ZCKSD37 144
ZCKSD37H29 139 144
ZCKSD39 144
ZCKSD39H29 139 144
ZCKY11 150 172
ZCKY115 175
ZCKY13 150 172 175
ZCKY14 172 175
ZCKY41 150 172
ZCKY415 175
ZCKY43 172 175
ZCKY51 172 175
ZCKY52 172 175
ZCKY53 172 175
ZCKY59 150 172
ZCKY61 172
ZCKY615 175
ZCKY71 172
ZCKY715 175
ZCKY81 172
ZCKY91 172
ZCKZ020 165
ZCKZ021 165
ZCKZ034 165
ZCMC21E1 48
ZCMC21E10 48
ZCMC21E2 48
ZCMC21E3 48
ZCMC21E5 48
ZCMC21E7 48
ZCMC21L1 48
ZCMC21L10 48
ZCMC21L2 48
ZCMC21L3 48
ZCMC21L5 48
ZCMC21L7 48
ZCMC21T1 48
ZCMC21T2 48
ZCMC21T5 48
ZCMC25L1 48
ZCMC25L10 48
ZCMC25L2 48
ZCMC25L3 48
ZCMC25L5 48
ZCMC25L7 48
ZCMC25T06 48
ZCMC29L1 48
ZCMC29L10 48
ZCMC29L2 48
ZCMC29L3 48
ZCMC29L5 48
ZCMC29L7 48
ZCMC37L1 48
ZCMC37L2 48
ZCMC37L5 48
ZCMC39L1 48
ZCMC39L2 48
ZCMC39L5 48
ZCMC4DL1 48
ZCMC4DL2 48
ZCMC4DL5 48
ZCMD21 46
ZCMD21AM4 58
ZCMD21C12 38 39
ZCMD21L08R12 38 39
ZCMD21L08U78 38 39
ZCMD21L1 47
ZCMD21L2 47
ZCMD21L5 47
ZCMD21M12 38 39
ZCMD25 46
ZCMD25AM4 58
ZCMD25L1 47
ZCMD25L2 47
ZCMD25L5 47
ZCMD29 46
ZCMD29AM4 58
ZCMD29C12 38 39
ZCMD29L1 30 31 47
ZCMD29L2 47
ZCMD37 46

ZCMD37L1 30 31 47
ZCMD37L2 47
ZCMD37L5 47
ZCMD39 46
ZCMD39L1 30 31 47
ZCMD39L2 47
ZCMD39L5 47
ZCMD41L1 30 31 47
ZCMD41L2 47
ZCMD41L5 47
ZCMD4D 46
ZCMD4DL1 30 31 47
ZCMD4DL2 47
ZCMD4DL5 47
ZCMD61 46
ZCMD61C12 49
ZCMD61M12 49
ZCMD65 46
ZCMD69 46
ZCMD69C12 49
ZCMD77 46
ZCMD79 46
ZCMD81L1 47
ZCMD81L2 47
ZCMD81L5 47
ZCMV21D44 57
ZCMV21M12 60
ZCMV21v 60
ZCMV25D44 57
ZCMV25M12 60
ZCMV29D44 57
ZCMV29M12 60
ZCMV41L03 62
ZCP21 98
ZCP21D44 98
ZCP25 98
ZCP26 98
ZCP27 82 83 98
ZCP28 98
ZCP29 82 83 98
ZCP29M12 86 87
ZCP31 98
ZCP35 98
ZCP37 82 83 98
ZCP39 82 83 98
ZCPED44 98
ZCPEP16 82 83
ZCT21G11 99
ZCT21N12 99
ZCT21P16 99
ZCT25G11 99
ZCT25N12 99
ZCT25P16 94 95 99
ZCT26G11 99
ZCT26N12 99
ZCT26P16 94 95 99
ZCT27G11 99
ZCT27N12 99
ZCT27P16 94 95 99
ZCT28G11 99
ZCT28N12 99
ZCT28P16 94 95 99
ZCY15 31 39 57 58 60 62
ZCY16 31 39 57 58 60 62
ZCY17 31 39 57 58 60 62
ZCY18 83 87 89 93 95
ZCY39 83 87 89 93 95
ZCY45 31 39 83 87 89 93 94 95 57 58 60 62
ZCY49 83 87 89 93

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