Limit switches
XC Standard range

Catalogue

YAGEO GROUP Brings you | Telemecanique Sensors

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Limit switches
XC Standard range

XC Basic

XC Standard, “Classic” format

XC Standard, EN 50041 format

XC Standard, industrial EN 50041 format

Limit switches
XC Standard range

Design/Applications	Miniature format	Miniature format for mobile equipments	Compact format, CENELEC EN 50047
	Metal, pre-cabled	Metal, pre-cabled	Plastic, 1 cable entry
			
Enclosure	Metal	Metal	Plastic, double insulated
Modularity	Head, body and connection modularity	Head and body modularity	Head, body and cable entry modularity
Conformity/Certifications	CE, UL, CSA, CCC, EAC	CE, UL, CSA	CENELEC EN 50047 UL, CSA, CCC, 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
Head	Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional Same heads for ranges XCMD, XCMV, XCKD, XCKP and XCKT		
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, 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,
Operating temperature	- 25 °C... + 70 °C, -40°C depending on heads		
Raccordement **Screw terminals**	–	–	1 entry for ISO M16 or M20, Pg 11, Pg 13.5 cable gland or 1/2" NPT, PF 1/2
Pre-cabled	Ø 7.5 PvR, CEI, halogen free, depending on model	Ø 6,4 PvR	–
Connector	Integral or remote M12 or remote 7/8"-16UN	M12, Deutsch DT04-4P or AMP Superseal 1.5	M12
Type reference	**XCMD**	**XCMV**	**XCKP**
Pages	28	50	78 and 82

Compact format, CENELEC EN 50047		Compact format, with reset	
Plastic, 2 cable entries	**Metal, 1 cable entry**	**Plastic, 1 cable entry**	**Plastic, 2 cable entries**
			
Plastic, double insulated	Metal	Plastic, double insulated	
Head and body modularity	Head, body and connection modularity	–	
CENELEC EN 50047, UL, CSA, CCC, EAC		CE, UL, CSA, EAC	
58 x 51 x 30	31 x 65 x 30	31 x 65 x 30	58 x 51 x 30
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)	
•	•	•	•
•	•	•	•
–	–	–	–
–	–	–	–
•	•	–	–
•	•	–	–
–	–	–	–
–	–	–	–
–	–	–	–
IP 66, IP 67, IK 04	IP 66, IP 67, IK 06	IP 66, IP 67, IK 04	
- 25 °C... + 70 °C			
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)
–			
–	M12	–	
XCKT	**XCKD**	**XCPR**	**XCTR**
90	84 and 88	100	102

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			114	114	130	142

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	CENELEC EN 50047, UL, CSA, CCC, EAC		CE, UL, CSA, CCC, EAC
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			
- 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	–		
XCMH	**XCKN**	**XCNT**	**XCNR**
68	106	108	112

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 same polarity contacts snap action	●	–	–	●
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)	- 25 °C... + 70 °C	- 25 °C... + 70 °C	- 40 °C... + 105 °C, - 40° C... + 125° C selon modèle
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
Type reference	**XC2J**	**XCR XCRT**	**XCKMR XCKVR**	**XEP**
Catalogue	Limit switches - XC Special range			

Overtravel limit switches
XF9 range

Design/Applications			**Overtravel limit switches for power circuits** **For hoisting applications**	
			Aluminium alloy case or sheet steel enclosure **2 or 3 cable entries**	
				
Enclosure			Aluminium alloy case	Sheet steel enclosure
Reset			Manual	Manual or automatic, depending on model
Conformity/Certifications			CSA, IEC 60158-1, NF C 63-110, VDE 0660, IEC 947-1, IEC 60947-4	
Body dimensions (w x h x d) in mm			Depending on model	
Head			Rotary movement	
Number of poles			4	3
Rated operational current (Ie)	For 2-pole scheme		50 A or 130 A, depending on model	–
	For 3-pole scheme on AC-3		25 A or 65 A, depending on model	115 A, 185 A or 265 A, depending on model
Conventional thermal current (Ithe) at θ ≤ 40 °C	For 2-pole scheme		80 A or 160 A, depending on model	–
	For 3-pole scheme		40 A or 80 A, depending on model	200 A, 275 A or 350 A, depending on model
Rated insulation voltage (Ui)	Conforming to IEC 60158-1, IEC 947-4, VDE 0110 Group C		500 V	660 V
	Conforming to CSA 22-2 n° 14		600 V	600 V
Rated breaking capacity	Conforming to IEC 60158-1 For 2-pole scheme	500 V	400 A or 1000 A, depending on model	1100 A, 1600 A or 2200 A, depending on model
		660 V	180 A or 630 A, depending on model	900 A, 1200 A or 1750 A, depending on model
Degree of protection			IP 54	IP 43
Operating temperature			- 25 °C... + 70 °C	- 25 °C... + 70 °C
Cable entry			2 tapped entries for n° 21 cable gland or 3 tapped entries for n° 29 cable gland, depending on model	2 entries incorporating n° 36 plastic cable gland
Type reference			**XF9D**	**XF9F**
Catalogue			Limit switches - XC Special range	

Safety detection solutions
XCS safety switches

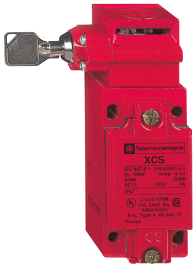
Switch type				
Applications		**XCS safety limit switches** **Protection of operators by stopping the machine when the gate is opened.** **All machines with quick rundown time.**		
Design		**Miniature format**	**Compact format**	
		Pre-cabled	**With 1 cable entry**	
				
Case		Metal	Plastic	Metal
Features		–		
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**
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**

Safety detection solutions
XCS safety switches

Switch type		**XCS key-operated safety switches**		
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 light industrial machines with quick rundown time** *(1)*.		
Design		**Miniature format**	**Compact format**	
		Pre-cabled	**With 1 or 2 cable entries**	
				
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**
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**	
		
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**

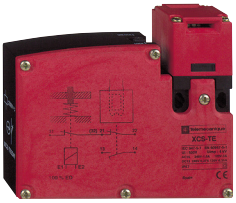
Safety detection solutions
XCS safety switches

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**
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**

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	–		
	Fixings – Reader	74…78		
	Fixings – 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**
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**

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

Principle

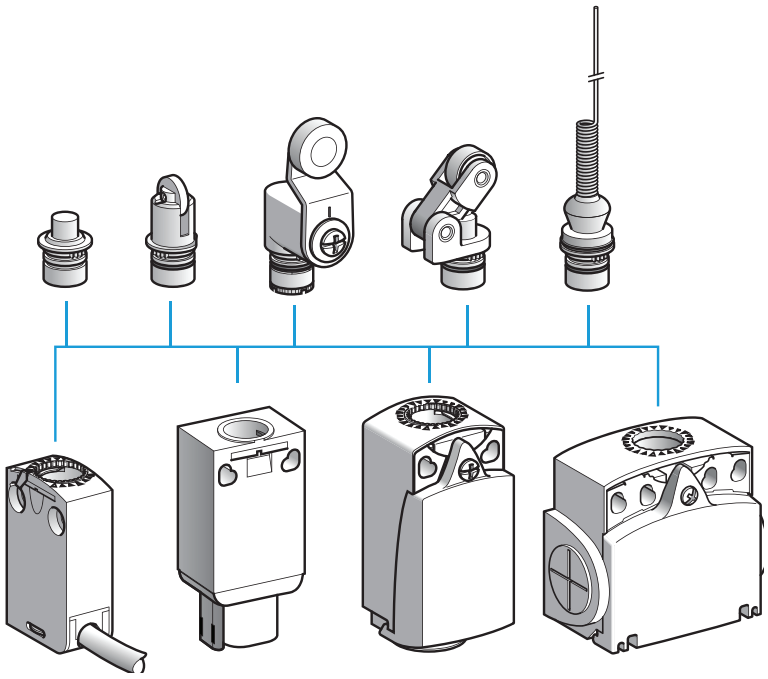
Variable composition principle

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

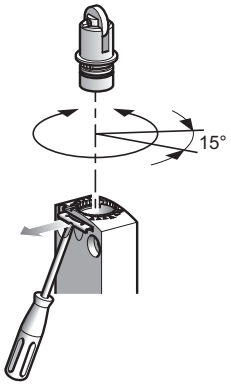
■ A worldwide detection first for improving productivity.
A complete offer for resolving the most commonly encountered detection problems:
- □ product selection simplified,
- □ product availability simplified,
- □ installation and setting-up simplified,
- □ maintenance simplified.

Heads

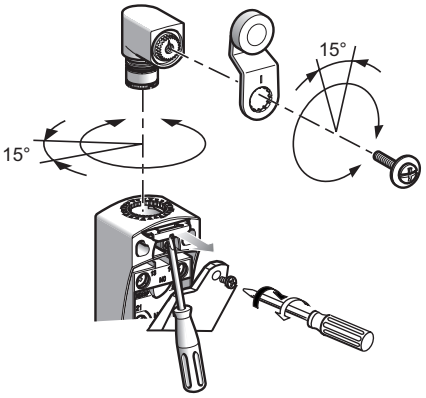
■ A single metal operating head type for the Miniature design XCMD and XCMV, and Compact design XCKD, XCKP and XCKT ranges.



■ 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.



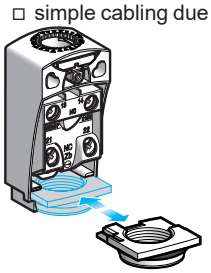
All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

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

Principle (continued)

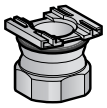
Cable entries

■ 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

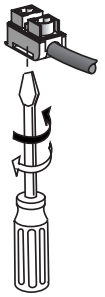


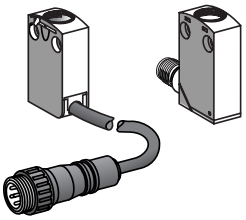
□ ISO M20 x 1.5
□ Pg 13.5
□ 1/2" NPT
□ PF 1/2 (G 1/2)

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

Connection components

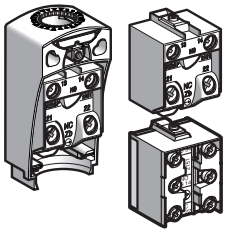
■ The miniature XCMD range allows interchanging of these pre-cabled connection components:
□ a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts,
□ 6 alternative cable lengths are available as standard.





■ 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

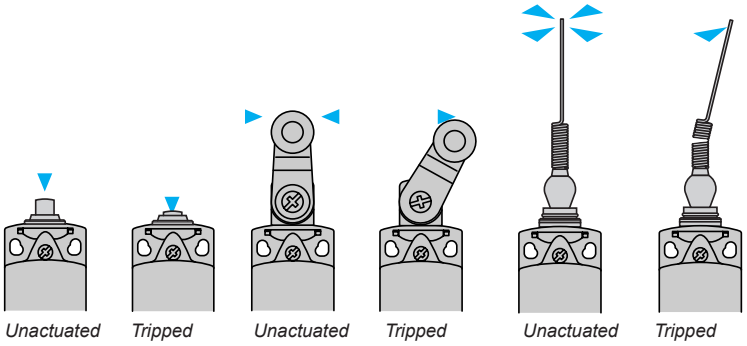
Limit switches are used in all automated installations and also in a wide variety of applications, due to the numerous advantages inherent to their technology.
They transmit data to the logic processing system regarding:
- presence/absence,
- passing,
- positioning,
- end of travel.

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

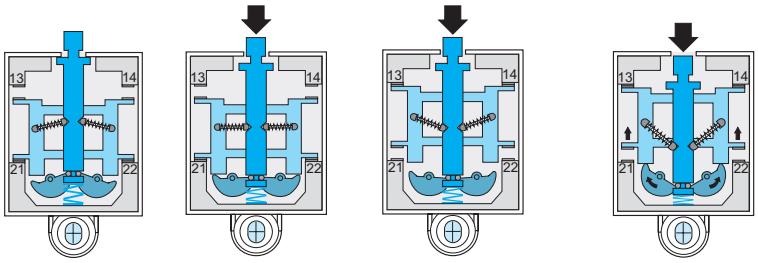
Rated value of a quantity	■ This replaces the term “nominal value”. ■ It is the fixed value for a specific function.
Utilisation categories:	■ AC-15 replaces AC-11: control of an electromagnet on AC, test 10 Ie/Ie. ■ AC-12: control of a resistive load on AC or static load isolated by opto-coupler. ■ 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.

Limit switches
XC range
General

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.

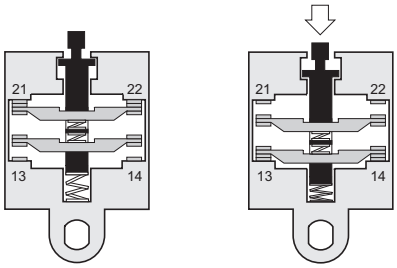


Unactuated state *Approach travel* *Contact change of state* *Positive opening*

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

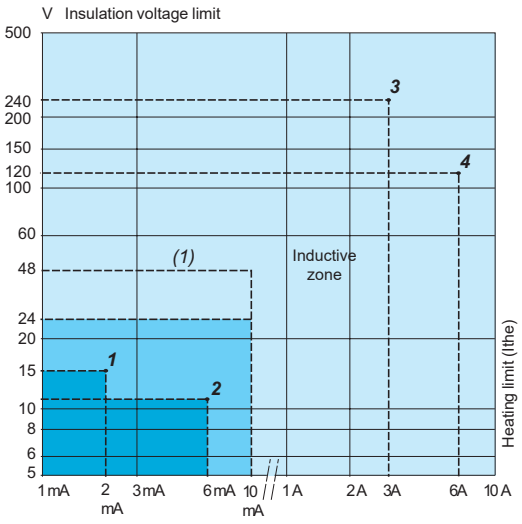
A300	240 V	3 A	B300	240 V	1.5 A
Q300	250 V	0.27 A	R300	250 V	0.13 A

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

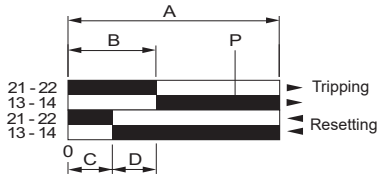
- The use of limit switches with programmable controllers is becoming more common.
- With small loads, limit switches offer the following levels of reliability:
  - failure rate of less than 1 for 100 million operating cycles using snap action contacts (contacts XE2SP),
  - failure rate of less than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

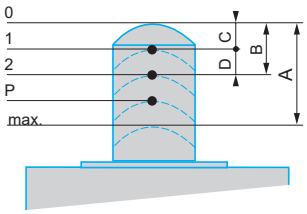


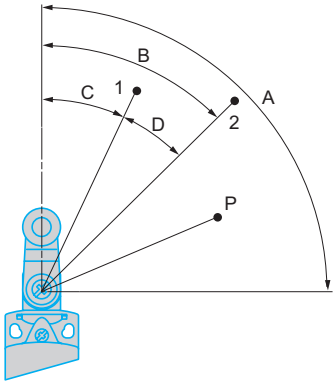
		Range of use
Standard contacts Continuous service (frequent switching)	XE2SP2151, P3151	
	XE2NP●●●●	
	Contacts of XCMD XE3●P●●●●	
Gold flashed contacts on resistive load	Occasional service Infrequent switching, ≤ 1 operating cycle/ day, and/or corrosive atmosphere	(1)

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

Contact blocks (continued)







Functional diagrams of snap action contacts

■ **Example: NC + NO**

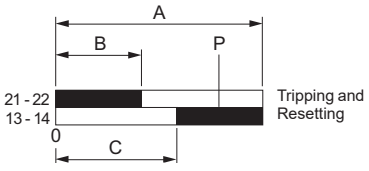
A - Maximum travel of operator in millimetres or degrees.
B - Tripping travel of contact.
C - Resetting travel of contact.
D - Differential travel = B - C.
P - Point from which positive opening is assured.

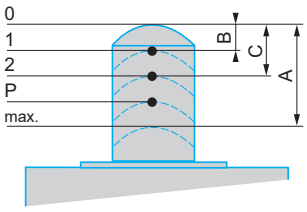
□ Linear movement (plunger)

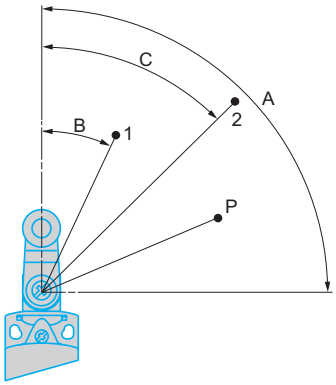
1 - Resetting point of contact.
2 - Tripping point of contact.
A - Maximum travel of operator in millimetres.
B - Tripping travel of contact.
C - Resetting travel of contact.
D - Differential travel = B - C.
P - Point from which positive opening is assured.

□ 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.

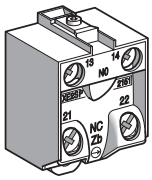
□ Linear movement (plunger)

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.

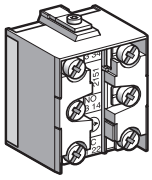
□ Rotary movement (lever)

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

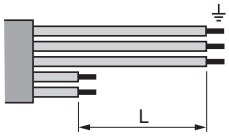


XE3●P screw clamp terminal connections

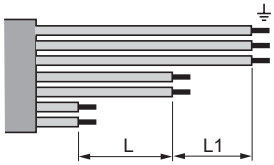
Mounting

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,

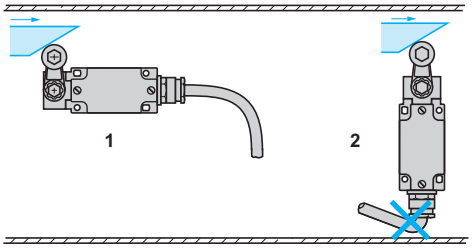


- □ for **XE3●P**, L = 14 mm, L1 = 11 mm.



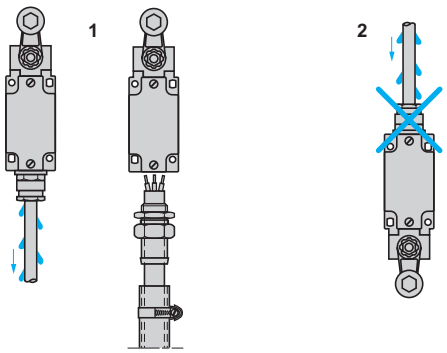
Sweep of connecting cable

1 *Recommended*
2 *To be avoided*



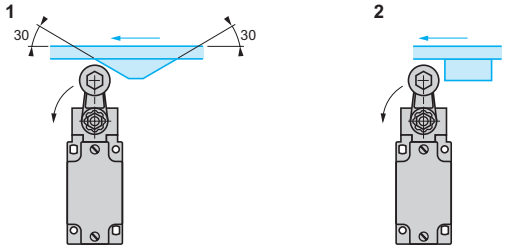
Position of cable gland

1 *Recommended*
2 *To be avoided*



Type of cam

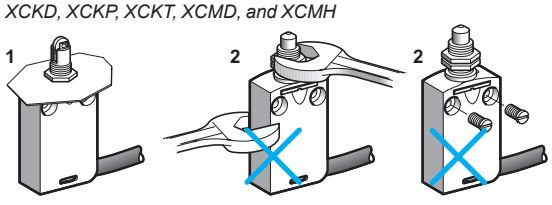
1 *Recommended*
2 *To be avoided*



Mounting and fixing limit switches by the head

1 *Recommended*
2 *Forbidden*

XCKD, XCKP, XCKT, XCMD, and XCMH



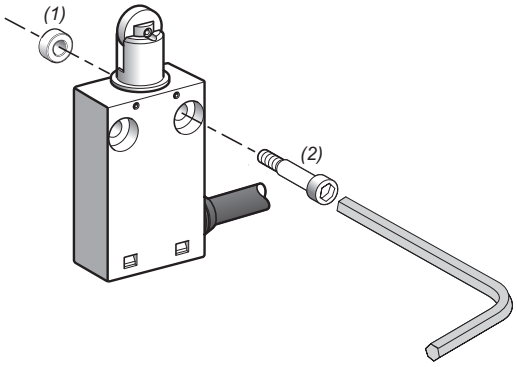
Setting-up

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, 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*

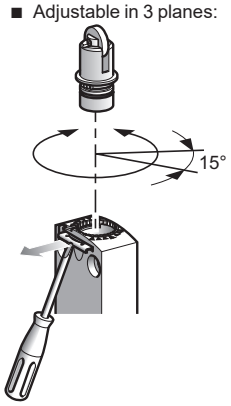
XCMH



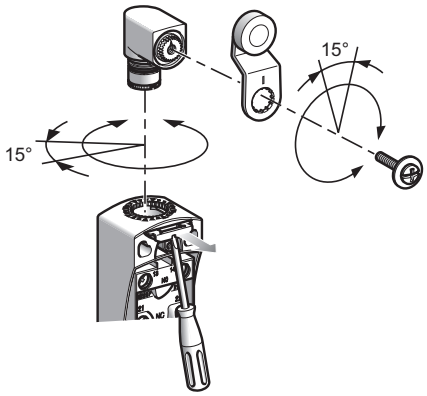
(1) 2 spacers supplied with the switch.
(2) 2 screws Ø 4mm (not included).

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.

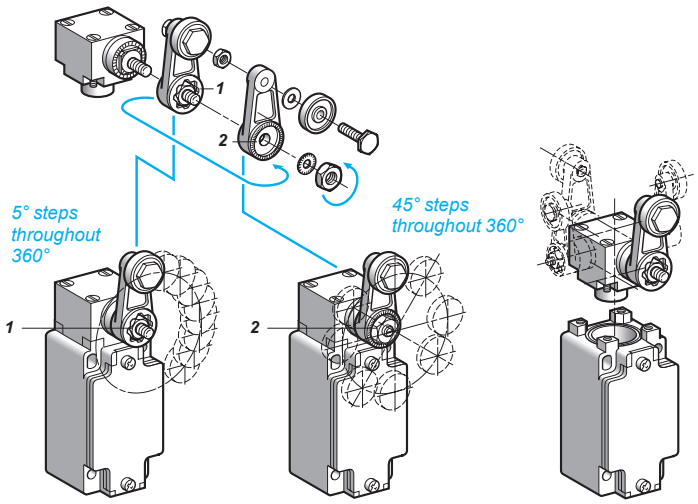


All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

XCKJ

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

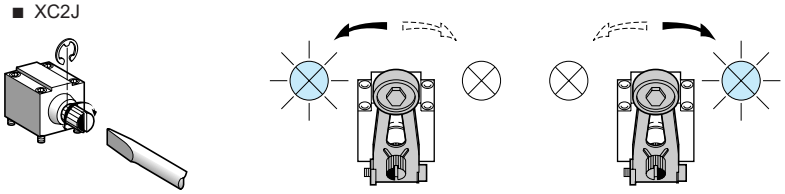
1 *Reversed* α = 5°
2 *Forward* α = 45°



Setting-up (continued)

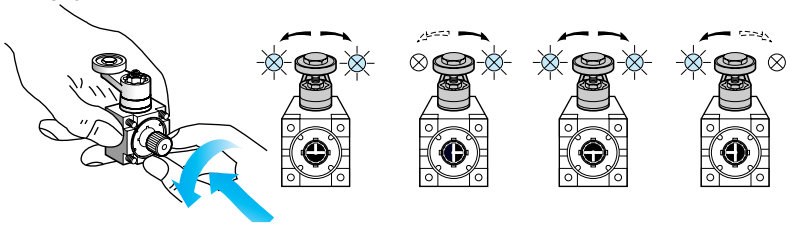
Direction of actuation programming

■ XC2J



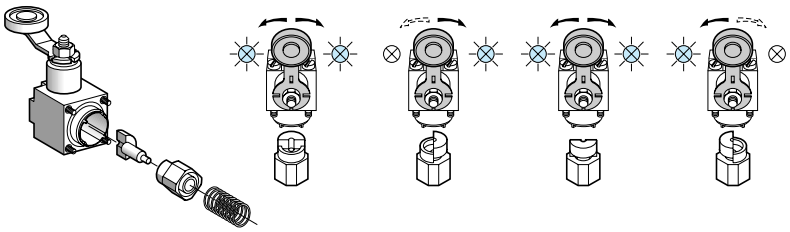
Head ZC2JE05

■ XCKJ



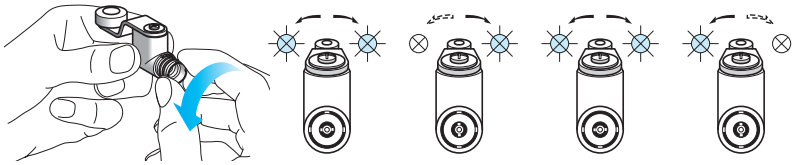
Head ZCKE05

■ XCKS



Head ZCKD05

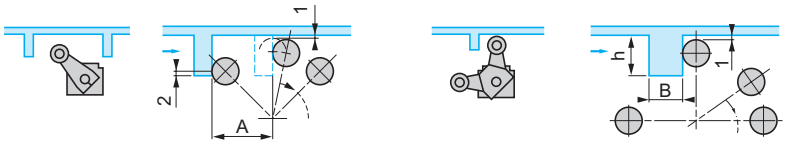
■ XCKD, XCKP, XCKT and XCMD



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

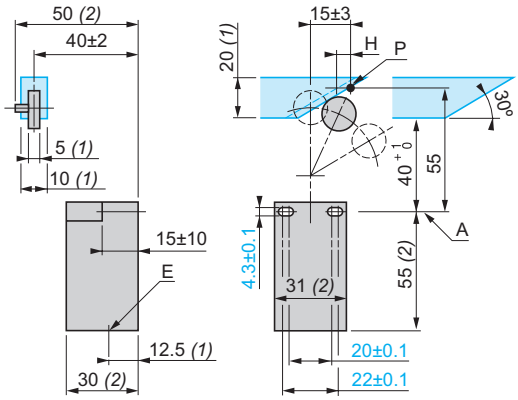
The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the first type of limit switch.

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

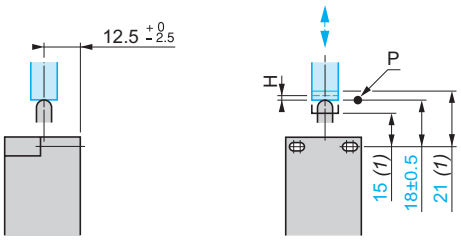
(1) Minimum value
(2) Maximum value

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

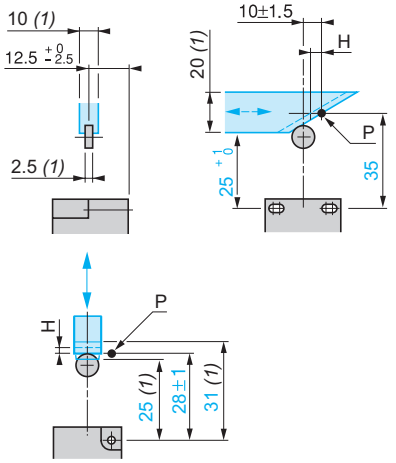
Form A, with roller lever



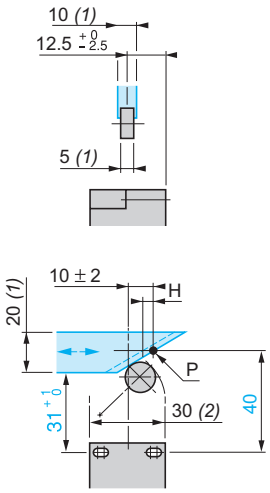
Form B, with end plunger (rounded)



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.

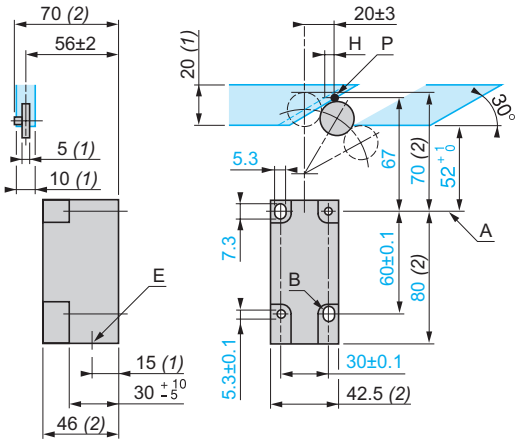
It defines 6 variants of devices (forms A, B, C, D, F, G). Limit switches XCKJ and XCKS conform to standard EN 50041.

(1) Minimum value
(2) Maximum value

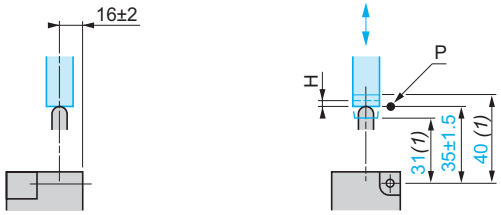
A: reference axis
B: optional elongated holes
H: differential travel
P: tripping point
E: cable entry

Za: tripping zone
Sa: tripping threshold

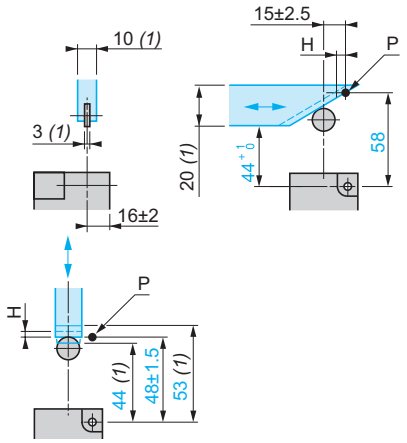
Form A, with roller lever



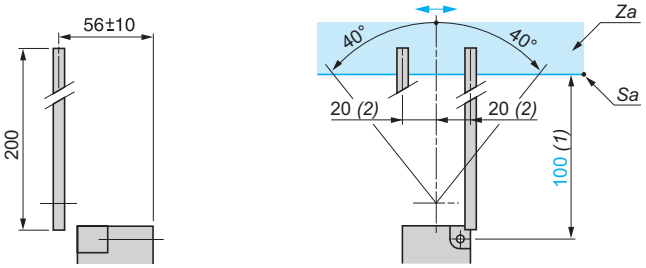
Form B, with end plunger (rounded)



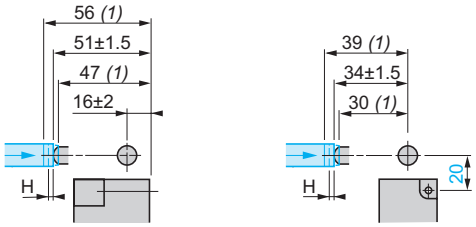
Form C, with end roller plunger



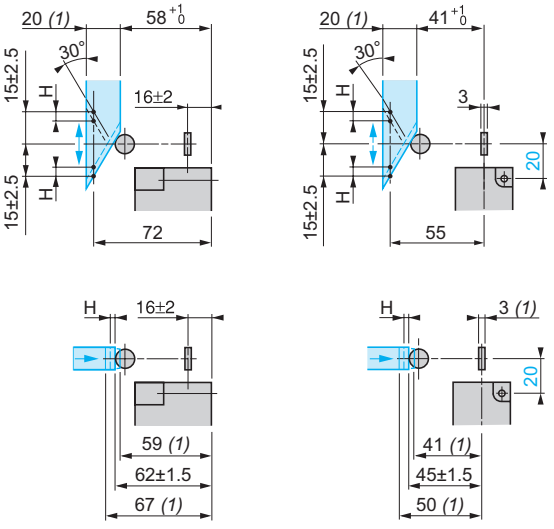
Form D, with rod lever



Form F, with side plunger (rounded)



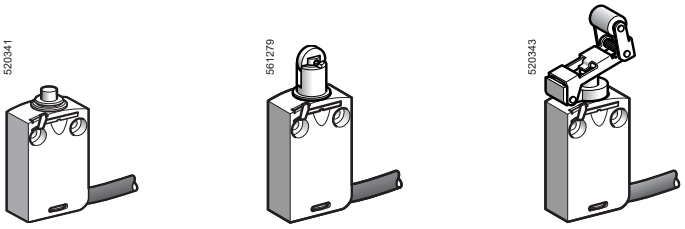
Form G, with side roller plunger



Limit switches
XC Standard range
Miniature design, metal, XCMD

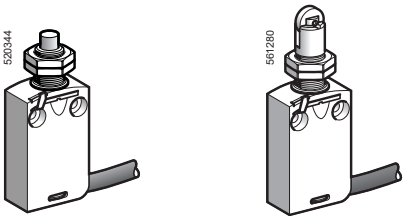
■ XCMD
pre-cabled

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



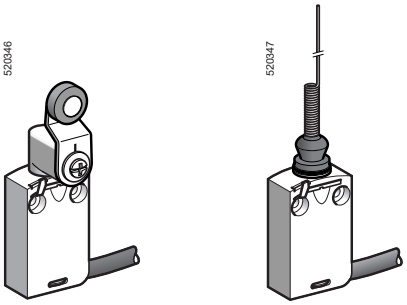
Complete switches: page 28. Variable composition: page 30

□ 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

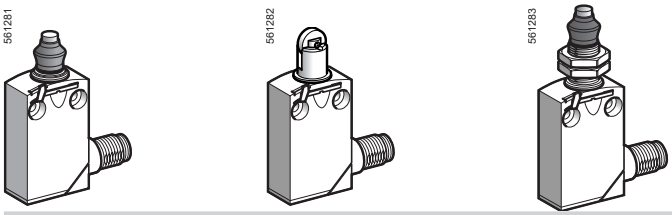


Complete switches: page 29. Variable composition: page 31

■ XCMD
with connector

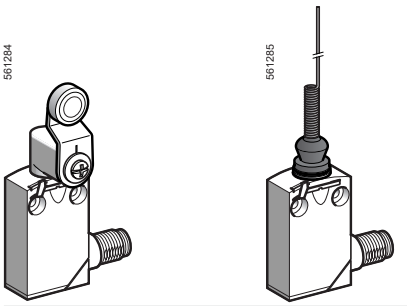
□ With head for linear movement (plunger)

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

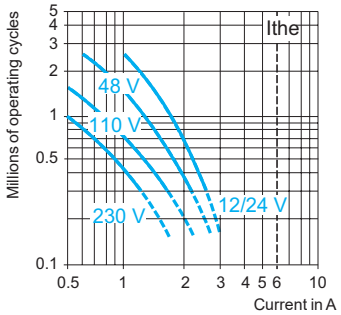
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Contact block characteristics

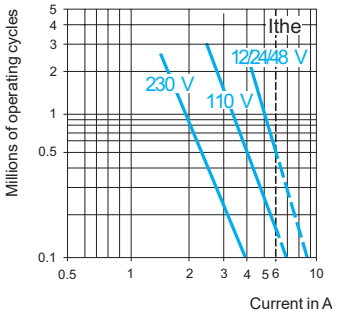
Rated operational characteristics	Switches with 2 contacts	**~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A)** **⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1**
	Switches with 3 and 4 contacts	**~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A)** **⎓ DC-13; R300 (Ue = 250 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 (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-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 ⎓

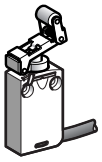
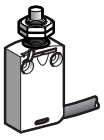
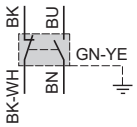
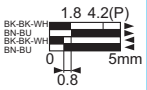
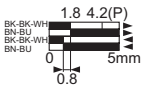
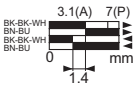
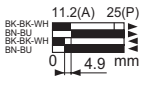
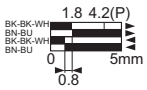
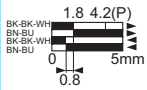
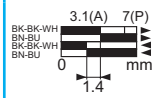
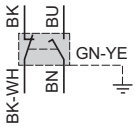
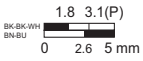
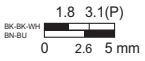
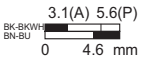
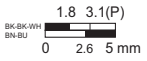
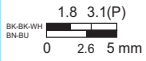
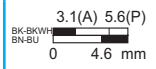
Power broken in W for 5 million operating cycles

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

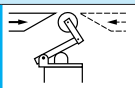
Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	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** 	–	**XCMD25F0L1** 	**XCMD25G1L1** 	**XCMD25F2L1** 
Weight (kg)	0.180	0.180	0.185	–	0.195	0.220	0.205

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

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

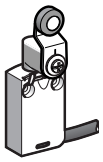
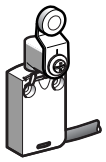
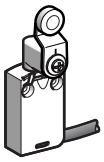
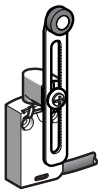
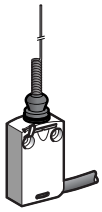
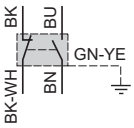
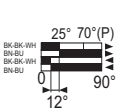
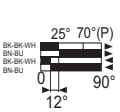
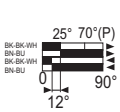
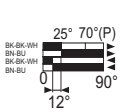
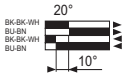
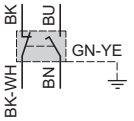
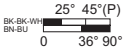
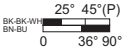
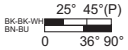
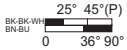
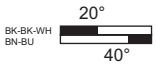
⊖ *NC contact with positive opening operation*

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

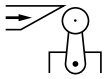
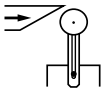
Switch actuation	On end	By 30° cam		On end	By 30° cam	
Type of actuation						
Maximum actuation speed	0.5 m/s				0.1 m/s	
Mechanical durability	10 million operating cycles					
Minimum force or torque For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N	
Minimum force or torque For positive opening	42.5 N	35 N	12.5 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

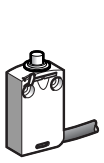
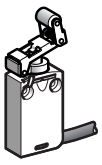
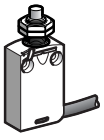
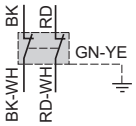
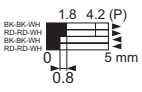
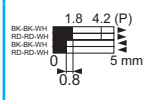
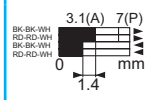
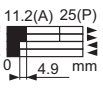
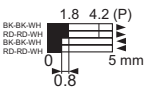
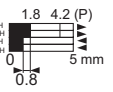
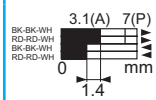
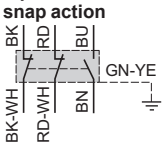
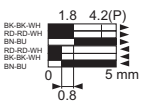
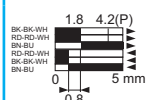
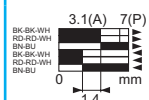
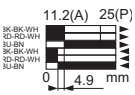
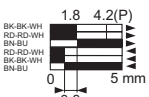
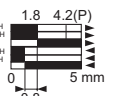
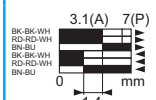
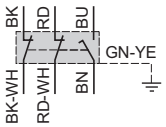
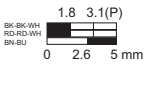
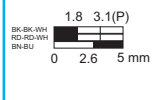
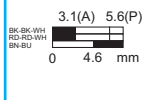
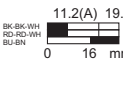
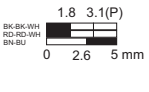
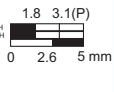
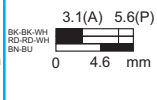
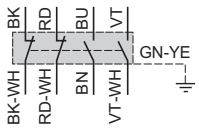
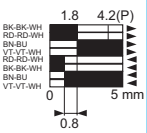
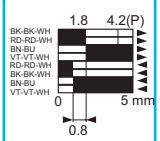
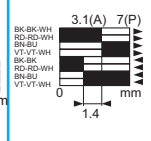
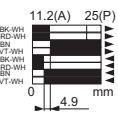
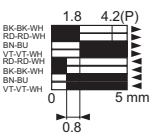
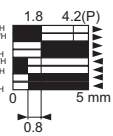
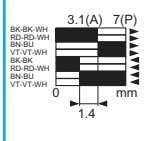
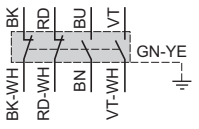
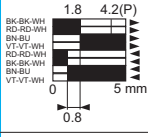
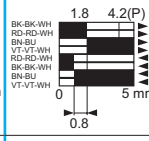
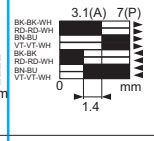
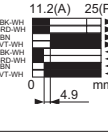
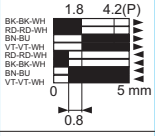
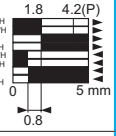
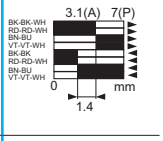
Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" *(1)*
References					
2-pole NC + NO snap action 	**XCMD2115L1** 	**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		

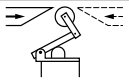
(1) Value taken with actuation by moving part at 100 mm from the fixing.

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

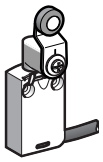
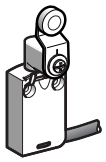
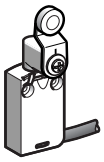
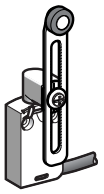
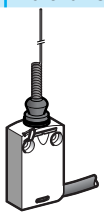
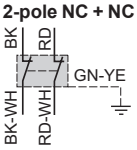
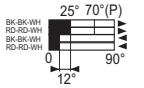
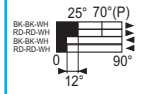
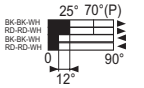
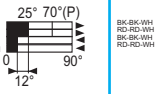
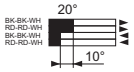
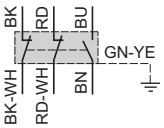
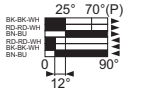
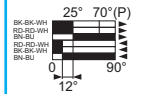
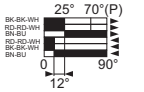
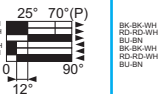
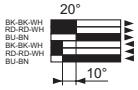
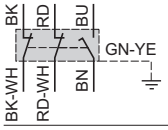
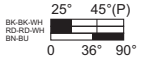
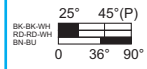
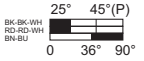
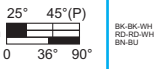
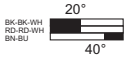
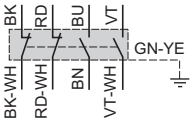
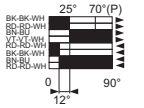
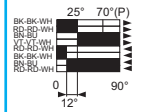
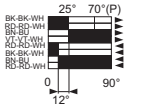
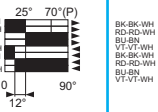
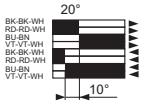
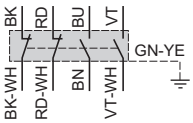
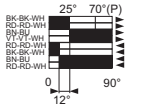
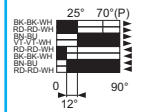
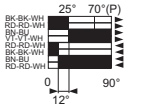
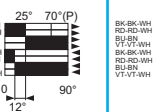
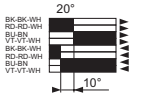
Contact operation: ■ *closed* □ *open* — *(A) = cam displacement* *(P) = positive opening point* — ⊖ *NC contact with positive opening operation*

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

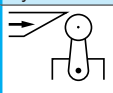
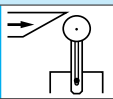
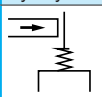
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		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)

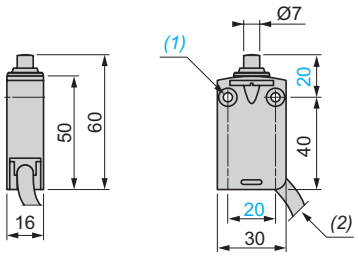
Switch actuation		By 30° cam	By any moving part
Type of actuation		 	
Maximum actuation speed		1.5 m/s	1 m/s
Mechanical durability		10 million operating cycles	5
Minimum force or torque	For tripping	0.1 N.m	
	For positive opening	0.5 N.m	–
Cabling		PvR cable, 5 x 0.75 mm² length 1 m for 2-pole contact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

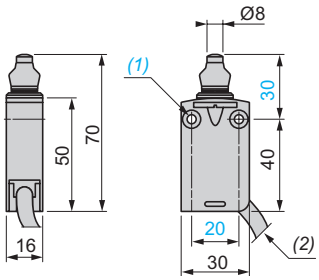
Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Pre-cabled

Dimensions

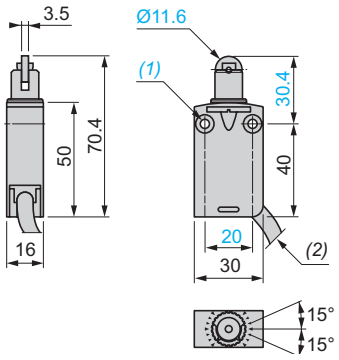
XCMD2●10L1



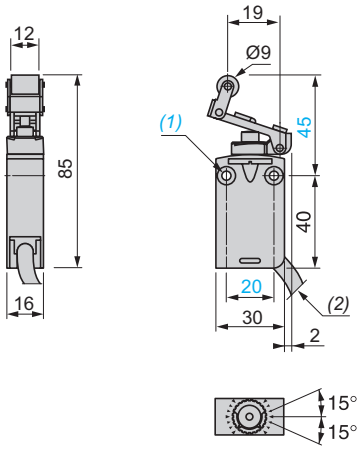
XCMD2●11L1



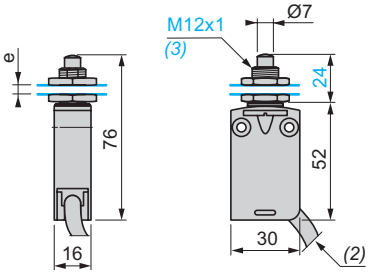
XCMD2●02L1



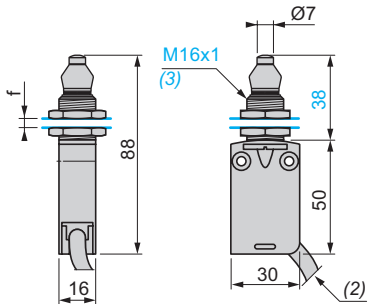
XCMD2●24L1



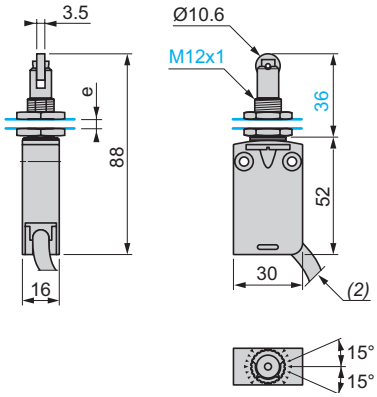
XCMD2●F0L1



XCMD2●G1L1



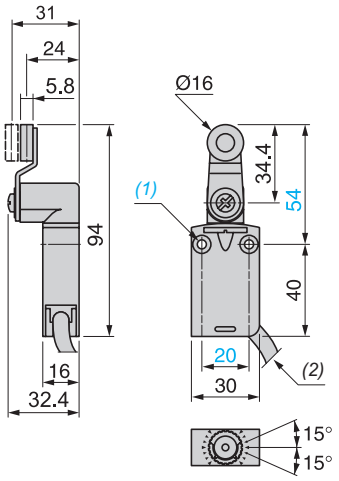
XCMD2●F2L1



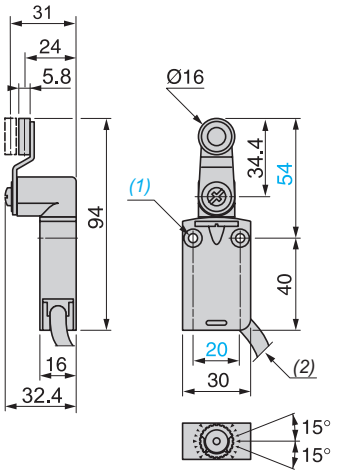
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
(3) Fixing nut thickness 3.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm
f: 8 mm max, panel cut-out Ø 16.5 mm

Dimensions *(continued)*

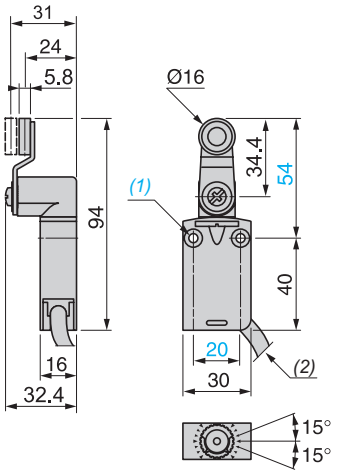
XCMD2●15L1



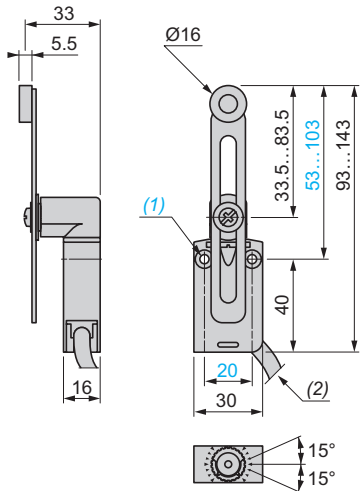
XCMD2●16L1



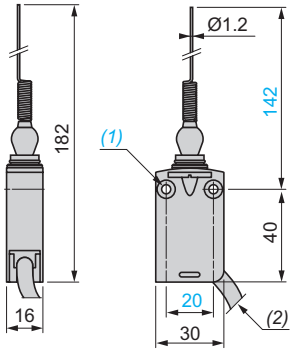
XCMD2●17L1



XCMD2●45L1

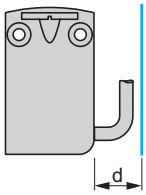


XCMD2●06L1



Mounting: distance required for connection

XCMD2●●●L1



d: 20 mm min.

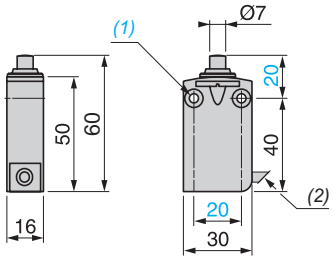
***Note**: For modular switches ZCMD4D, ZCMD4DL● and ZCMC4DL●: d: 35 mm min.*

(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

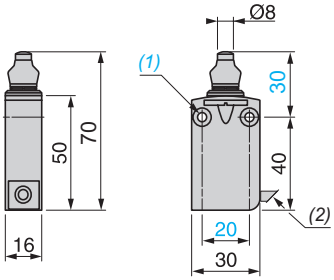
Limit switches
XC Standard range
Miniature design, metal, XCMD
Modular units
Pre-cabled

Dimensions

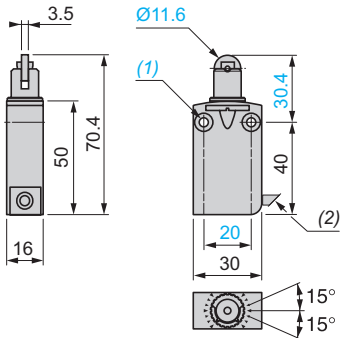
ZCMD●●L1 + ZCE10,
ZCMD4DL1 + ZCE10,
ZCMD41L1 + ZCE10



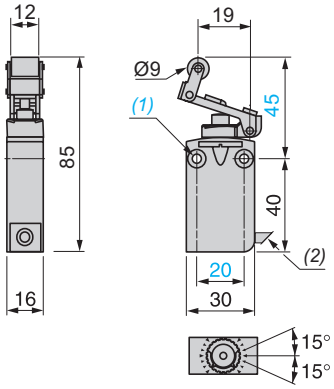
ZCMD●●L1 + ZCE11,
ZCMD4DL1 + ZCE11,
ZCMD41L1 + ZCE11



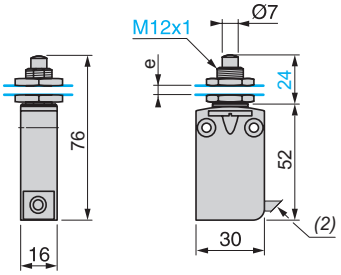
ZCMD●●L1 + ZCE02,
ZCMD4DL1 + ZCE02,
ZCMD41L1 + ZCE02



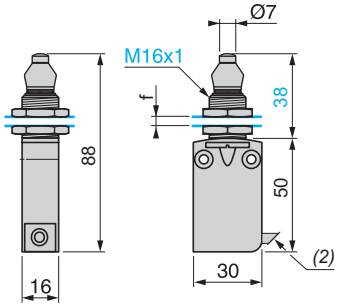
ZCMD●●L1 + ZCE24,
ZCMD4DL1 + ZCE24,
ZCMD41L1 + ZCE24



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



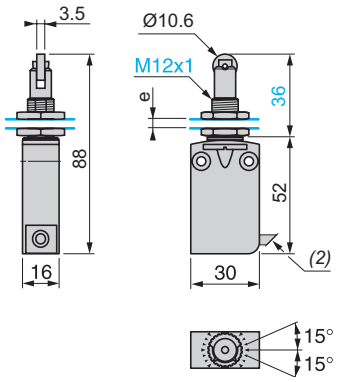
ZCMD●●L1 + ZCEG1,
ZCMD4DL1 + ZCEG1,
ZCMD41L1 + ZCEG1



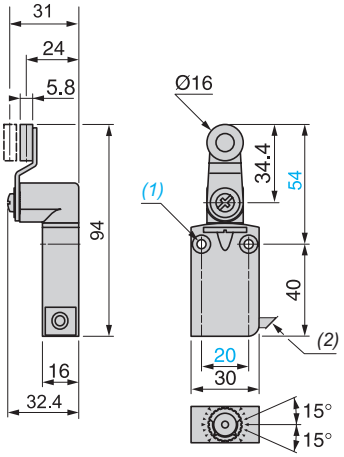
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions *(continued)*

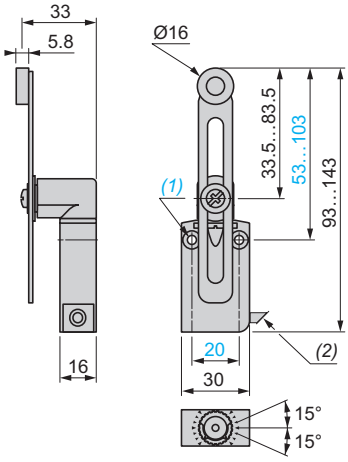
**ZCMD●●L1 + ZCEF2,
ZCMD4DL1 + ZCEF2,
ZCMD41L1 + ZCEF2**



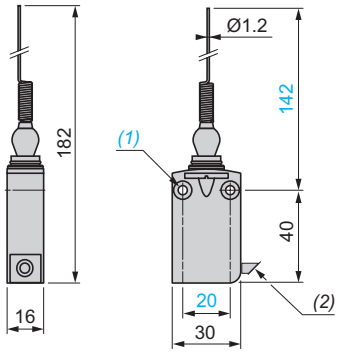
**ZCMD●●L1 + ZCE01 + ZCY15/16/17 ,
ZCMD4DL1 + ZCE01 + ZCY15/16/17,
ZCMD41L1 + ZCE01 +
ZCY15/16/17**



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

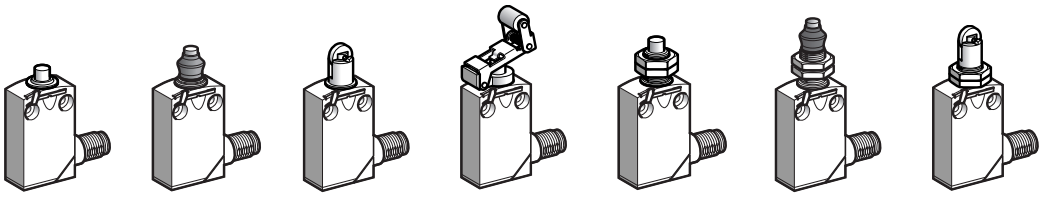
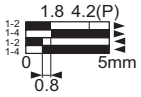
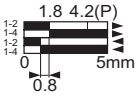
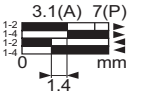
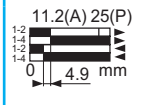
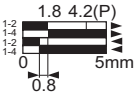
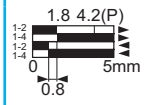
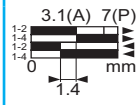
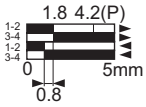
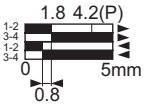
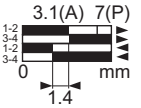
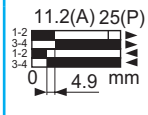
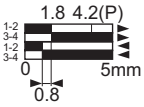
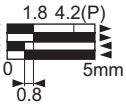
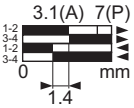


**ZCMD●●L1 + ZCE06,
ZCMD4DL1 + ZCE06,
ZCMD41L1 + ZCE06**

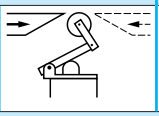


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
(2) External diameter of cable 7.5 mm
e: 8 mm max, panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max, panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

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

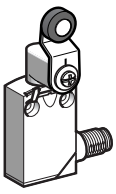
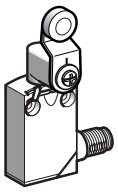
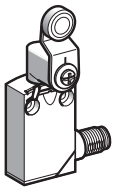
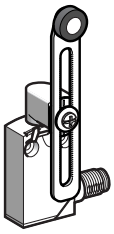
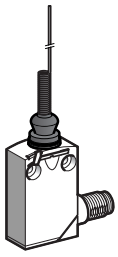
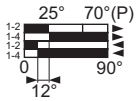
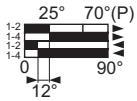
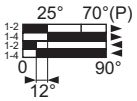
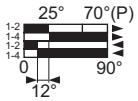
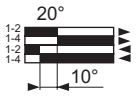
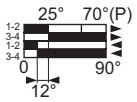
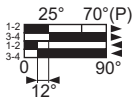
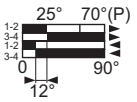
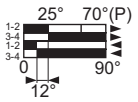
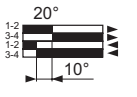
Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	*Metal end plunger with elastomer boot (1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	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)

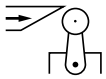
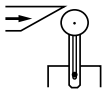
Switch actuation	On end	By 30° cam		On end	By 30° cam
Type of actuation					
Maximum actuation speed	0.5 m/s				0.1 m/s
Mechanical durability	10 million operating cycles				
Minimum force or torque For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Positive operation	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, metal, XCMD
Complete units
Connector

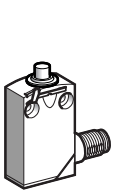
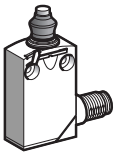
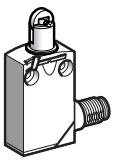
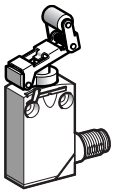
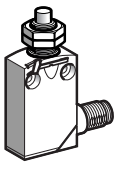
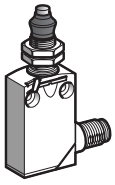
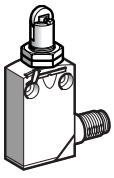
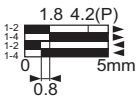
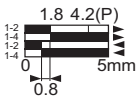
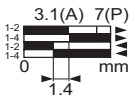
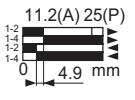
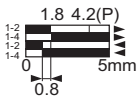
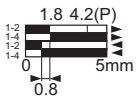
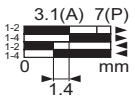
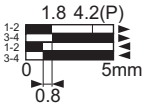
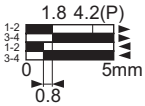
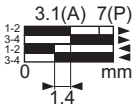
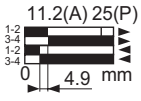
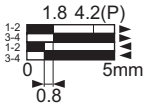
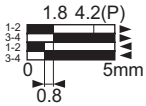
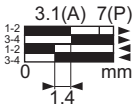
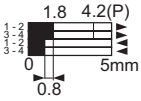
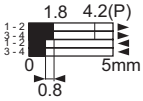
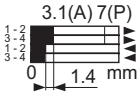
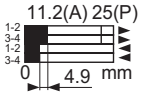
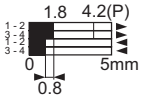
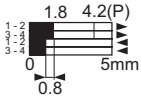
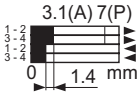
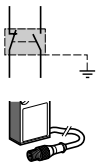
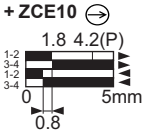
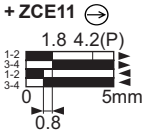
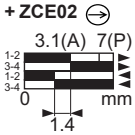
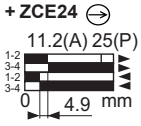
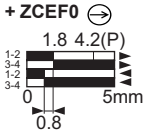
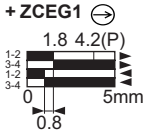
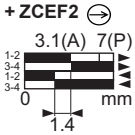
Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	*"Cat's whisker" (1)*
References					
 **Single-pole CO snap action With integral 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)

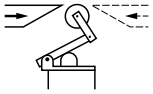
Switch actuation		By 30° cam		By any moving part
Type of actuation				
Maximum actuation speed		1.5 m/s		1 m/s
Mechanical durability		10 million operating cycles		5
Minimum force or torque	For tripping	0.1 N.m		
	For positive opening	0.5 N.m		–
Positive operation		Although their design is identical to 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, metal, XCMD
Modular units
Connector

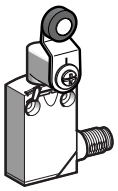
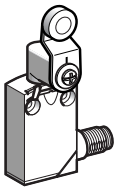
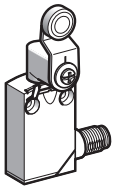
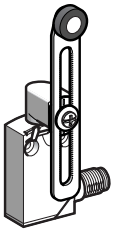
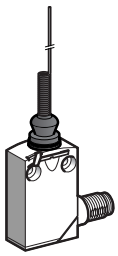
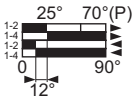
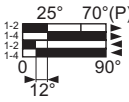
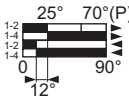
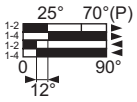
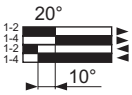
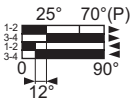
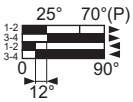
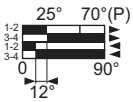
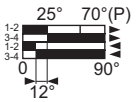
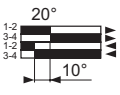
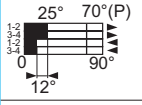
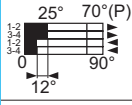
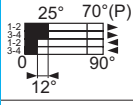
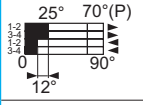
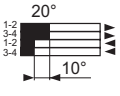
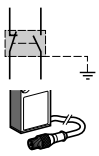
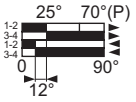
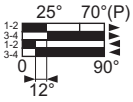
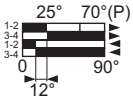
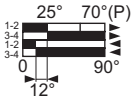
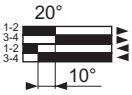
Type of head	Plunger (fixing by the body)				Plunger (fixing by the body)		
							
Type of operator	Metal end plunger	*Metal end plunger with elastomer boot (1)*	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot *(1)*	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** ⊖ 
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)

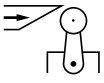
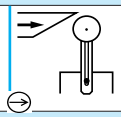
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1 m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Positive 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, 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** 
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

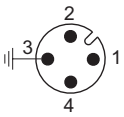
References of suitable pre-wired female connectors

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
With cable	L = 2 m	**XZCP1169L2**	**XZCP1164L2**	**XZCP1264L2**
	L = 5 m	**XZCP1169L5**	**XZCP1164L5**	**XZCP1264L5**
	L = 10 m	**XZCP1169L10**	**XZCP1164L10**	**XZCP1264L10**
Weight (kg)		0.105	0.115	0.115

Connections

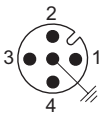
XCMD with connector

4-pin, M12



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

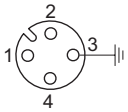
5-pin, M12



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

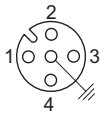
XZCP pre-wired female connectors

4-pin, M12



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

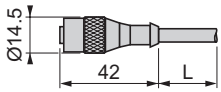
5-pin, M12



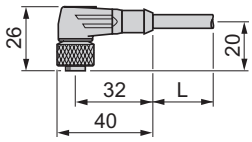
1 = brown
2 = white
3 = blue
4= black
⏚ = yellow/green

Dimensions

XZCP116●L●



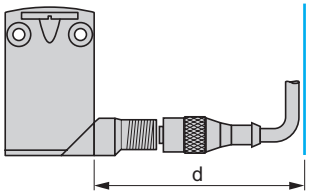
XZCP1264L●



L: cable length 2, 5 or 10 m.

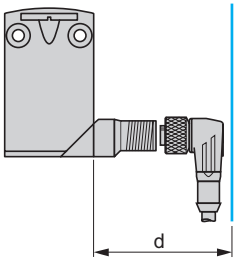
Distances required for plug-in connectors

M12 straight connector



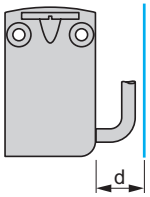
d : *mini 65 mm, recommended 69 mm*

M12 elbowed connector



d : *mini 42 mm, recommended 45 mm*

Connector on flying lead

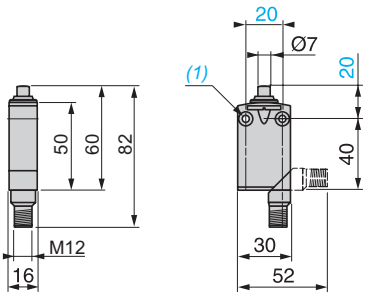


d : *mini 20 mm*

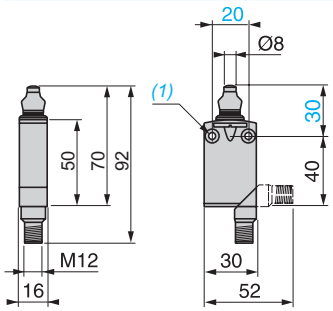
Limit switches
XC Standard range
Miniature design, metal, XCMD
Complete units
Connector

Dimensions

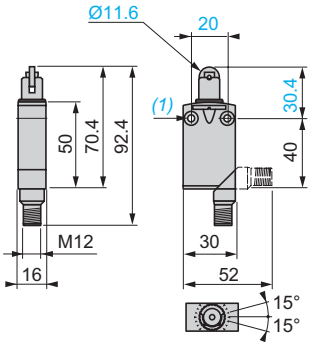
XCMD2110M12 and XCMD2110C12



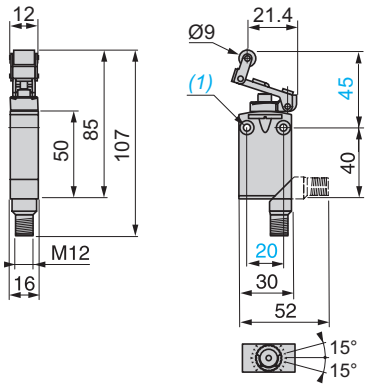
XCMD2111M12 and XCMD2111C12



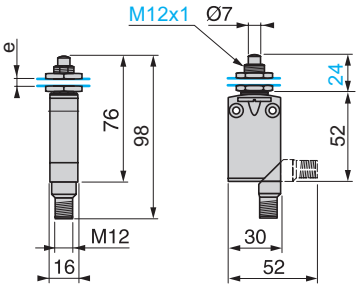
XCMD2102M12 and XCMD2102C12



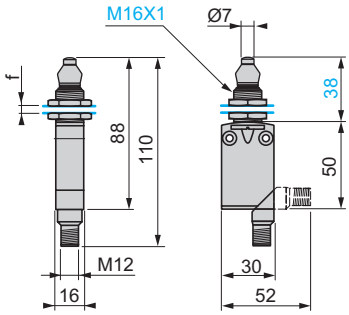
XCMD2124M12 and XCMD2124C12



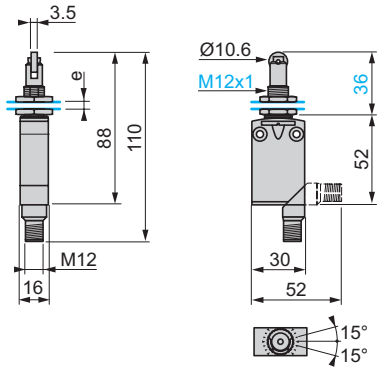
XCMD21F0M12 and XCMD21F0C12



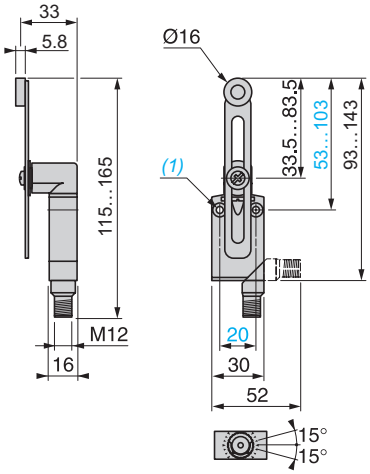
XCMD21G1M12 and XCMD21G1C12



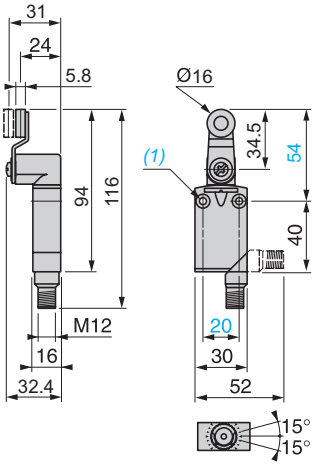
XCMD21F2M12 and XCMD21F2C12



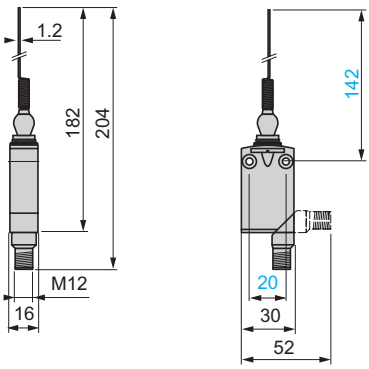
XCMD2145M12 and XCMD2145C12



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



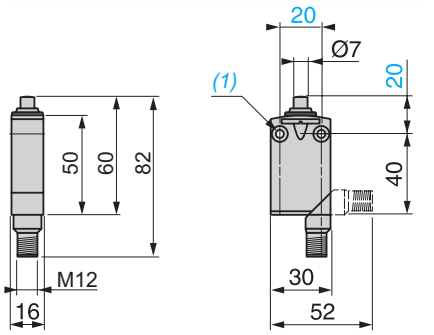
XCMD2106M12 and XCMD2106C12



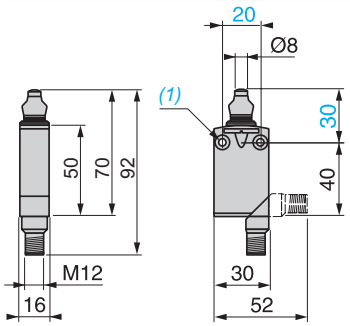
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions *(continued)*

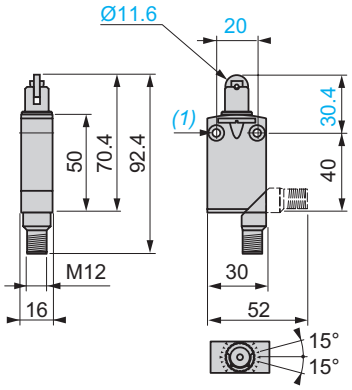
ZCMD21M12 + ZCE10
ZCMD2●C12 + ZCE10
ZCMD21L08●●● + ZCE10



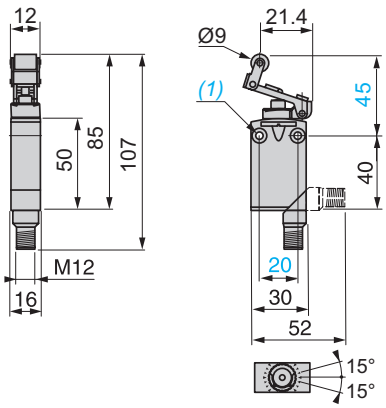
ZCMD21M12 + ZCE11
ZCMD2●C12 + ZCE11
ZCMD21L08●●● +ZCE11



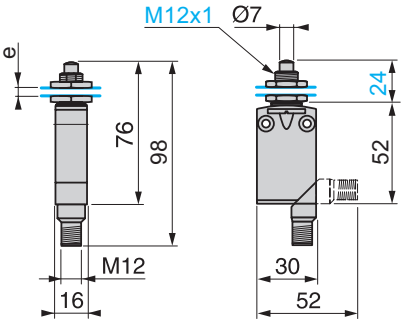
ZCMD21M12 + ZCE02
ZCMD2●C12 + ZCE02
ZCMD21L08●●● + ZCE02



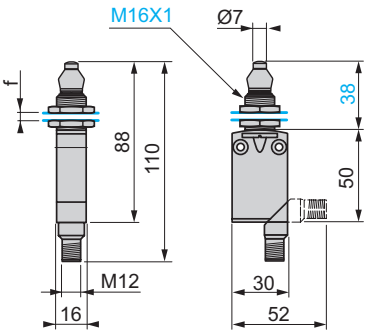
ZCMD21M12 + ZCE24
ZCMD2●C12 + ZCE24
ZCMD21L08●●● + ZCE24



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



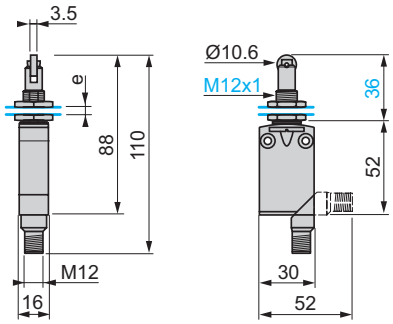
ZCMD21M12 + ZCEG1
ZCMD2●C12 + ZCEG1
ZCMD21L08●●● + ZCEG1



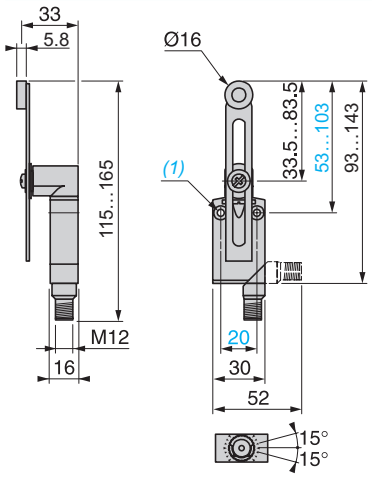
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

Dimensions *(continued)*

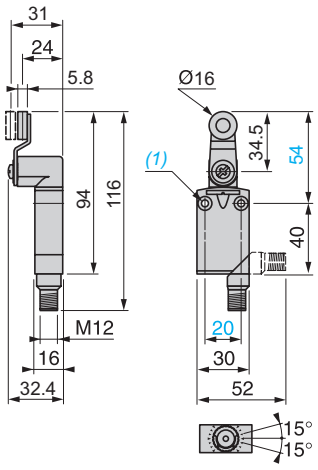
ZCMD21M12 + ZCEF2
ZCMD2●C12 + ZCEF2
ZCMD21L08●●● + ZCEF2



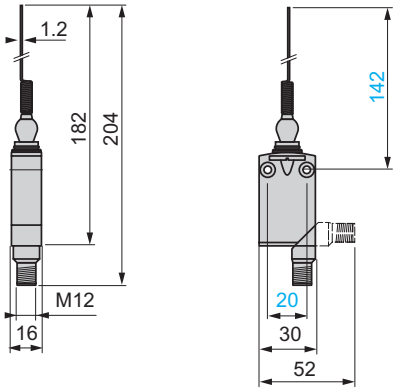
ZCMD21M12 + ZCE01 + ZCY45
ZCMD2●C12 + ZCE01 + ZCY45
ZCMD21L08●●● + ZCE01 + ZCY45



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

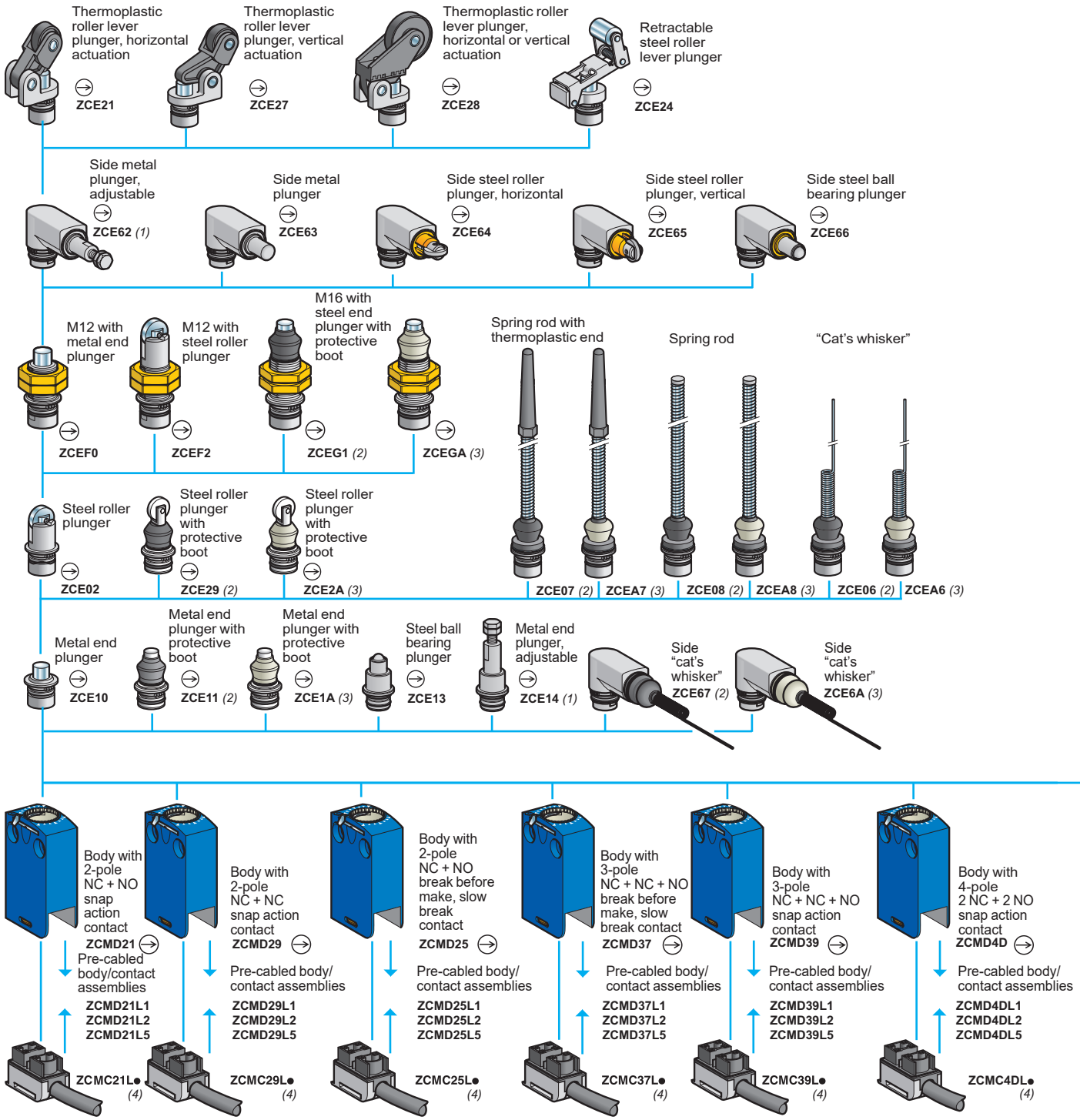


ZCMD21M12 + ZCE06
ZCMD2●C12 + ZCE06
ZCMD21L08●●● + ZCE06

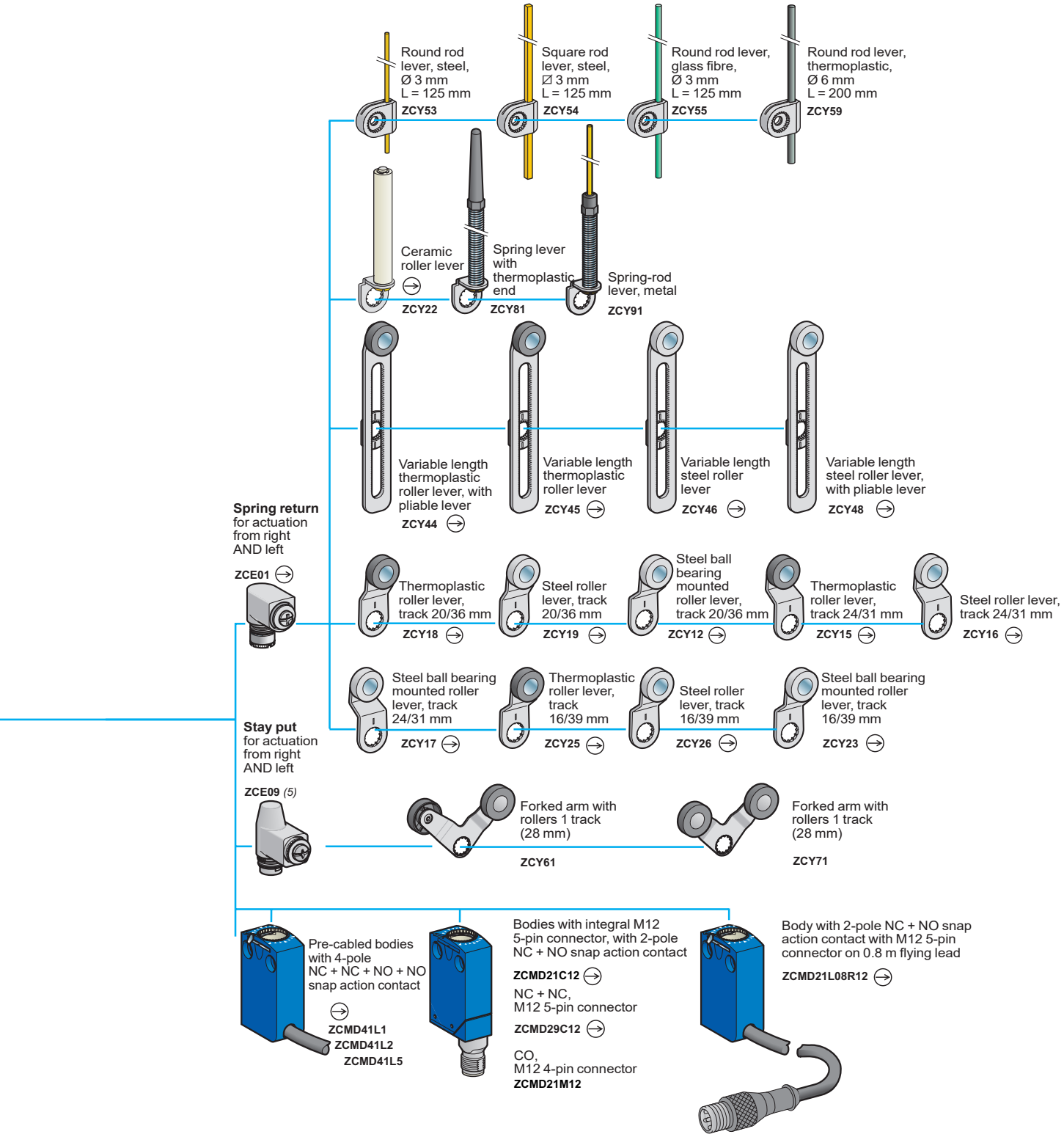


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm.
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm.

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

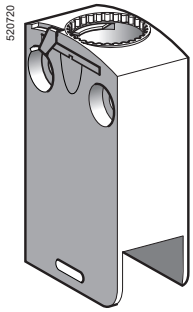


(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm.
(2) Nitrile boot for indoor use.
(3) Silicone boot for outdoor use.
(4) Connection components: replace the "●" in the reference with the required cable length in metres (1, 2, 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●.*



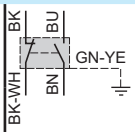
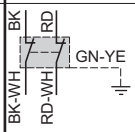
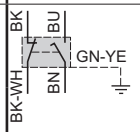
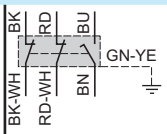
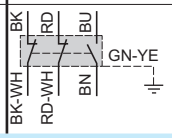
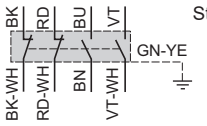
(5) Suitable with bodies: ZCMD21, ZCMD29, ZCMD39, ZCMD41, ZCMD4D, ZCMD21C12, ZCMD21M12, ZCMD29C12 or ZCMD21L08●●●.

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



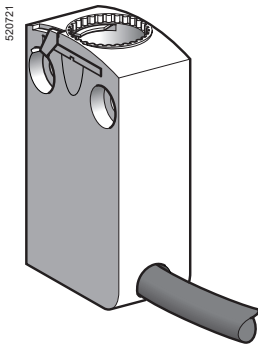
ZCMD6●
ZCMD7●
ZCMD4D

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
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
NC + NC + NO snap action	⊖		Standard	**ZCMD39**	0.055
4-pole					
2 NC + 2 NO snap action	⊖		Standard	**ZCMD4D**	0.055

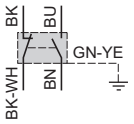
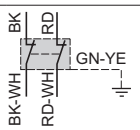
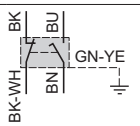
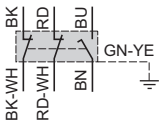
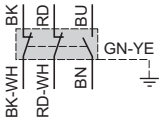
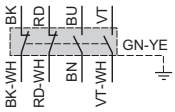
(1) ⊖ bodies with contacts assuring positive opening operation.

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

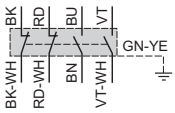


ZCMD●●L●

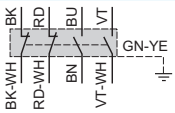
Body/contact assemblies with removable cable

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)

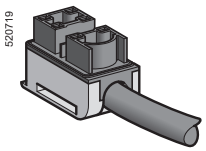
4-pole					
2 NC + 2 NO snap action	⊖		1	**ZCMD41L1**	0.160
			2	**ZCMD41L2**	0.250
			5	**ZCMD41L5**	0.520

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.

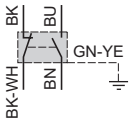
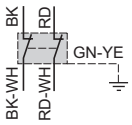
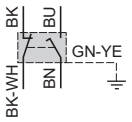
Limit switches
XC Standard range
Miniature design, metal, XCMD
Connection components



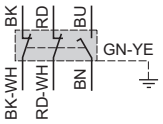
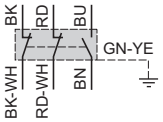
ZCMC2●L●●
ZCMC3●L●●

Pre-cabled connection components with PVC cable

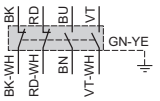
2-pole

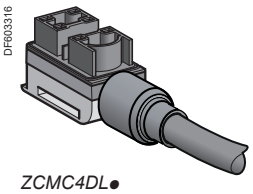
NC + NO snap action		1	**ZCMC21L1**	0.100
		2	**ZCMC21L2**	0.190
		3	**ZCMC21L3**	0.280
		5	**ZCMC21L5**	0.460
		7	**ZCMC21L7**	0.700
		10	**ZCMC21L10**	0.970
NC + NC snap action		1	**ZCMC29L1**	0.100
		2	**ZCMC29L2**	0.190
		3	**ZCMC29L3**	0.280
		5	**ZCMC29L5**	0.460
		7	**ZCMC29L7**	0.700
		10	**ZCMC29L10**	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		5	**ZCMC37L5**	0.460
NC + NC + NO snap action		2	**ZCMC39L2**	0.190
		5	**ZCMC39L5**	0.460

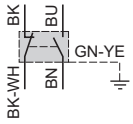
4-pole

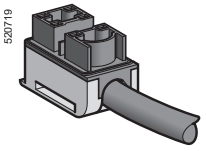
2 NC + 2 NO snap action		1	**ZCMC4DL1**	0.100
		2	**ZCMC4DL2**	0.190
		5	**ZCMC4DL5**	0.460



ZCMC4DL●

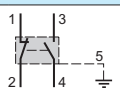
Pre-cabled connection components with CEI cable
(Connitato Elettrotecnico Italiano) *(1)*

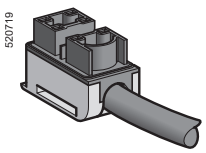
Type of contact	Scheme	Length of CEI cable in metres	Reference	Weight kg
2-pole				
NC + NO snap action		2	**ZCMC21E2**	0.190
		3	**ZCMC21E3**	0.280
		5	**ZCMC21E5**	0.460



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 snap action	⊖		1	**ZCMC21T1**	0.130
			2	**ZCMC21T2**	0.250
			5	**ZCMC21T5**	0.520

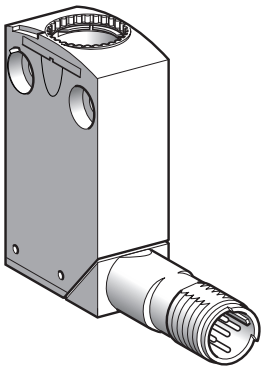


ZCMC21T●

(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.

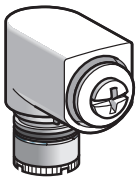
Limit switches
XC Standard range
Miniature design, metal, XCMD
Separate parts

562245



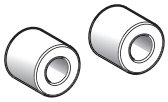
ZCMD61●●●

602838



ZCE05

566637

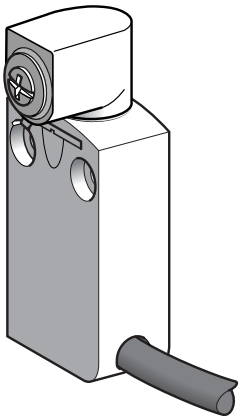


XCMZ06

566638

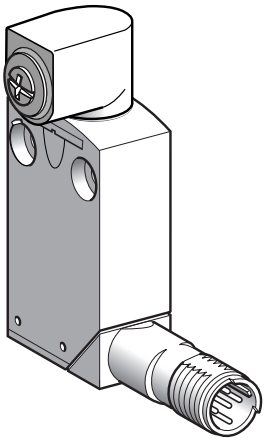
XCMZ07

562246



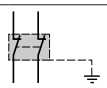
XCMD2●01L1

562247



XCMD2101●12

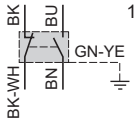
Bodies with gold contacts, connector

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

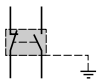
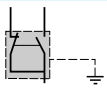
Accessories

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

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

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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

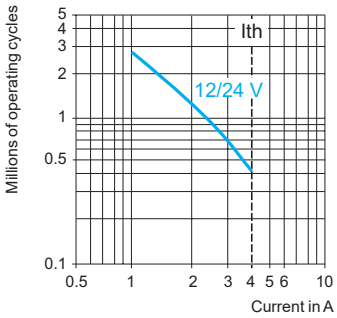
Electrical durability

- 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

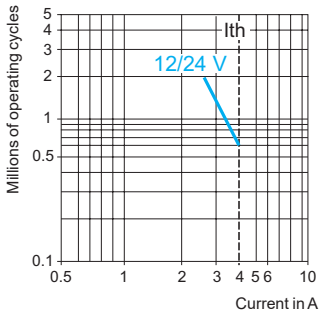
AC supply
∼ 50/60 Hz
inductive circuit

XCMV snap-action (NC+NO contact)

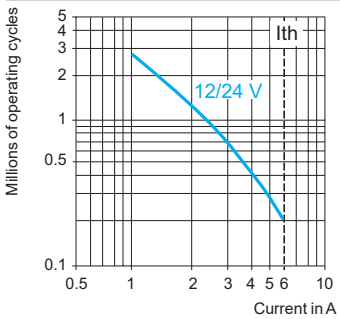
Switches with M12 connector

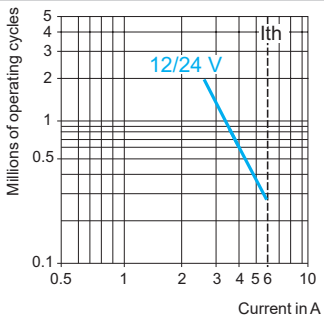


XCMV slow-break (NC+NO contact)



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





DC supply ⎓

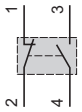
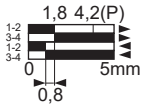
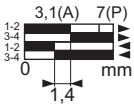
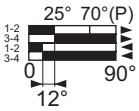
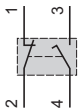
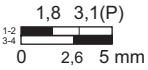
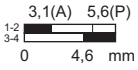
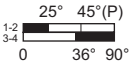
Power broken in W for 0.1 million operating cycles

Voltage	V	24
	A	2

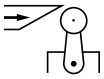
Power broken in W for 1.3 million operating cycles

Voltage	V	24
	A	0.5

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

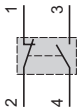
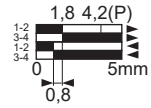
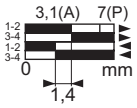
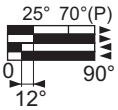
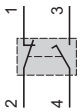
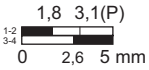
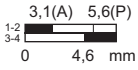
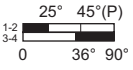
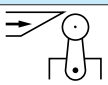
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)
			
Form conforming to EN 50047	B	C	A
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(1)*
Positive operation	⊖	⊖	⊖
References of complete units with male Deutsch DT04-4P connector			
2-pole NC + 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 52)

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

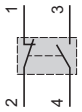
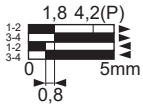
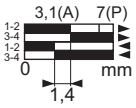
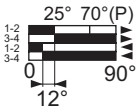
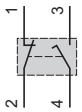
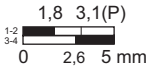
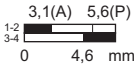
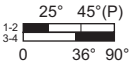
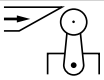
(1) Can be adjusted throughout 360° in 15° steps.

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

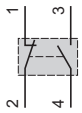
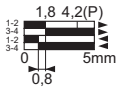
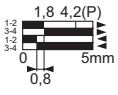
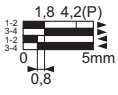
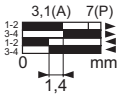
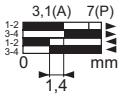
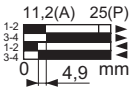
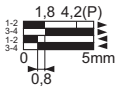
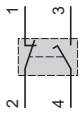
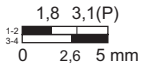
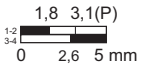
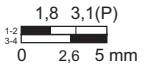
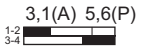
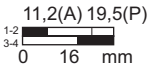
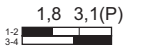
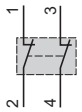
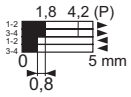
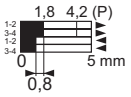
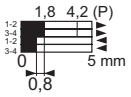
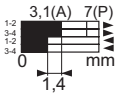
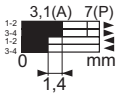
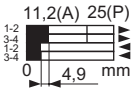
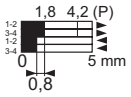
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)
			
Form conforming to EN 50047	B	C	A
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever *(1)*
Positive operation	⊖	⊖	⊖
References of complete units with M12 connector			
2-pole NC + NO snap action 	**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 52)**			
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.

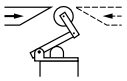
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)
							
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

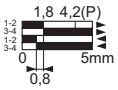
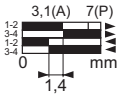
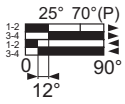
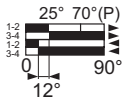
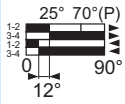
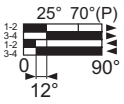
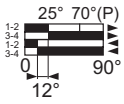
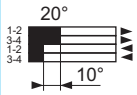
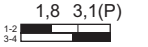
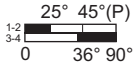
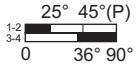
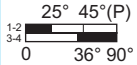
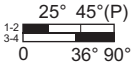
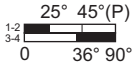
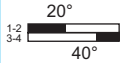
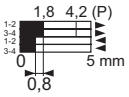
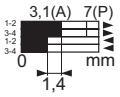
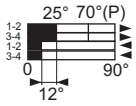
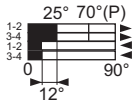
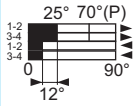
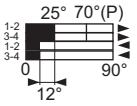
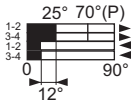
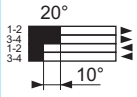
References of modular units (body with male Deutsch DT04-4P connector and removable terminal block)

2-pole NC + NO snap action 	**ZCMV21D44 + ZCE10** ⊖ 	**ZCMV21D44 + ZCE106** ⊖ 	**ZCMV21D44 + ZCE11** ⊖ 	**ZCMV21D44 + ZCE02** ⊖ 	**ZCMV21D44 + ZCE026** ⊖ 	**ZCMV21D44 + ZCE24** ⊖ 	**ZCMV21D44 + ZCEF0** ⊖ 
2-pole NC + NO break before make, slow break 	**ZCMV25D44 + ZCE10** ⊖ 	**ZCMV25D44 + ZCE106** ⊖ 	**ZCMV25D44 + ZCE11** ⊖ 	**ZCMV25D44 + ZCE02** ⊖ 	**ZCMV25D44 + ZCE026** ⊖ 	**ZCMV25D44 + ZCE24** ⊖ 	**ZCMV25D44 + ZCEF0** ⊖ 
2-pole NC + NC snap action 	**ZCMV29D44 + ZCE10** ⊖ 	**ZCMV29D44 + ZCE106** ⊖ 	**ZCMV29D44 + ZCE11** ⊖ 	**ZCMV29D44 + ZCE02** ⊖ 	**ZCMV29D44 + ZCE026** ⊖ 	**ZCMV29D44 + ZCE24** ⊖ 	**ZCMV29D44 + ZCEF0** ⊖ 
Contact operation			*(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		Deutsch DT04-4P connector			

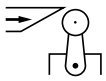
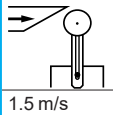
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
							
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)*
ZCMV21D44 + ZCEG1 	**ZCMV21D44 + ZCEF2** 	**ZCMV21D44 + ZCE01 + ZCY15** 	**ZCMV21D44 + ZCE016 + ZCY15** 	**ZCMV21D44 + ZCE01 + ZCY16** 	**ZCMV21D44 + ZCE01 + ZCY17** 	**ZCMV21D44 + ZCE01 + ZCY45** 	**ZCMV21D44 + ZCE06** 
ZCMV25D44 + ZCEG1 	**ZCMV25D44 + ZCEF2** 	**ZCMV25D44 + ZCE01 + ZCY15** 	**ZCMV25D44 + ZCE016 + ZCY15** 	**ZCMV25D44 + ZCE01 + ZCY16** 	**ZCMV25D44 + ZCE01 + ZCY17** 	**ZCMV25D44 + ZCE01 + ZCY45** 	**ZCMV25D44 + ZCE06** 
ZCMV29D44 + ZCEG1 	**ZCMV29D44 + ZCEF2** 	**ZCMV29D44 + ZCE01 + ZCY15** 	**ZCMV29D44 + ZCE016 + ZCY15** 	**ZCMV29D44 + ZCE01 + ZCY16** 	**ZCMV29D44 + ZCE01 + ZCY17** 	**ZCMV29D44 + ZCE01 + ZCY45** 	**ZCMV29D44 + ZCE06** 

closed
open

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

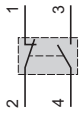
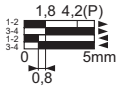
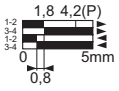
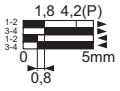
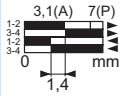
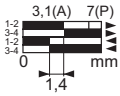
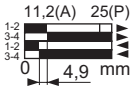
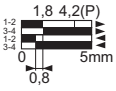
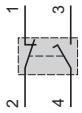
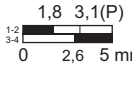
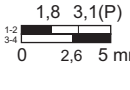
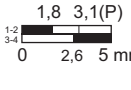
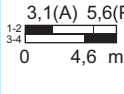
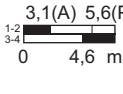
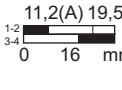
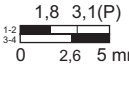
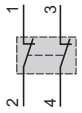
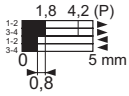
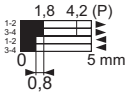
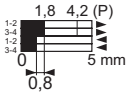
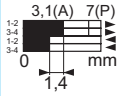
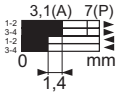
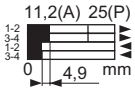
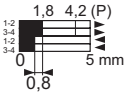
NC contact with positive opening operation

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	–
Deutsch DT04-4P connector				

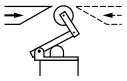
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)
							
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

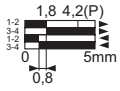
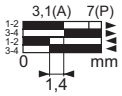
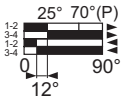
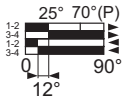
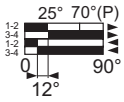
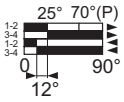
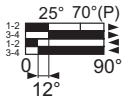
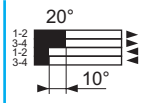
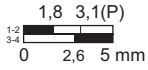
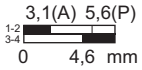
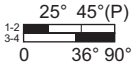
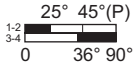
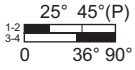
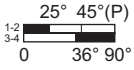
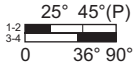
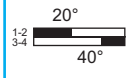
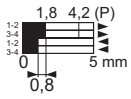
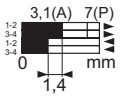
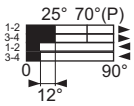
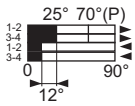
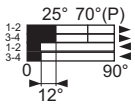
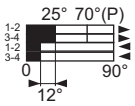
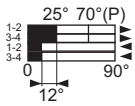
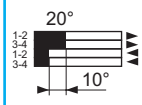
References of modular units (body with male AMP Superseal 1.5 connector and removable terminal block)

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 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		Male AMP Superseal 1.5 connector			

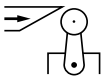
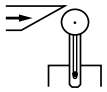
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
							
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)*
ZCMD21AM4 + ZCEG1 ⊖	**ZCMD21AM4 + ZCEF2** ⊖	**ZCMD21AM4 + ZCE01 + ZCY15** ⊖	**ZCMD21AM4 + ZCE016 + ZCY15** ⊖	**ZCMD21AM4 + ZCE01 + ZCY16** ⊖	**ZCMD21AM4 + ZCE01 + ZCY17** ⊖	**ZCMD21AM4 + ZCE01 + ZCY45** ⊖	**ZCMD21AM4 + ZCE06**
							
ZCMD25AM4 + ZCEG1 ⊖	**ZCMD25AM4 + ZCEF2** ⊖	**ZCMD25AM4 + ZCE01 + ZCY15** ⊖	**ZCMD25AM4 + ZCE016 + ZCY15** ⊖	**ZCMD25AM4 + ZCE01 + ZCY16** ⊖	**ZCMD25AM4 + ZCE01 + ZCY17** ⊖	**ZCMD25AM4 + ZCE01 + ZCY45** ⊖	**ZCMD25AM4 + ZCE06**
							
ZCMD29AM4 + ZCEG1 ⊖	**ZCMD29AM4 + ZCEF2** ⊖	**ZCMD29AM4 + ZCE01 + ZCY15** ⊖	**ZCMD29AM4 + ZCE016 + ZCY15** ⊖	**ZCMD29AM4 + ZCE01 + ZCY16** ⊖	**ZCMD29AM4 + ZCE01 + ZCY17** ⊖	**ZCMD29AM4 + ZCE01 + ZCY45** ⊖	**ZCMD29AM4 + ZCE06**
							

closed
open

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

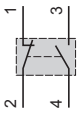
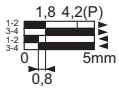
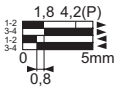
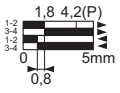
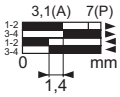
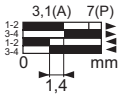
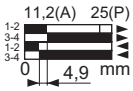
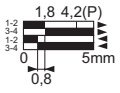
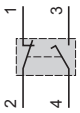
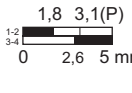
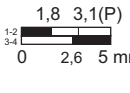
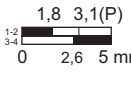
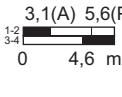
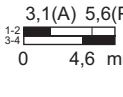
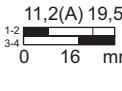
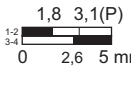
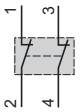
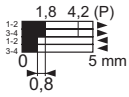
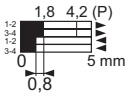
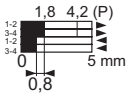
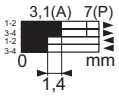
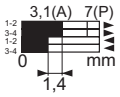
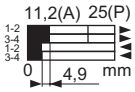
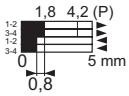
⊖ *NC contact with positive opening operation*

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	–
Male AMP Superseal 1.5 connector				

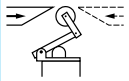
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)
							
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

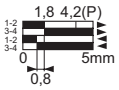
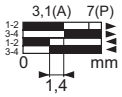
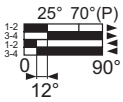
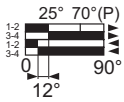
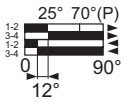
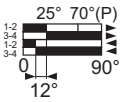
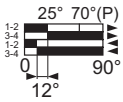
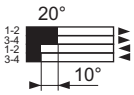
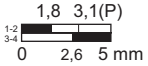
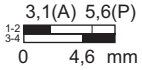
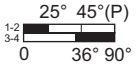
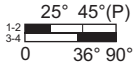
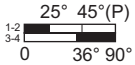
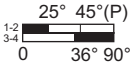
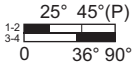
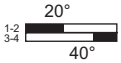
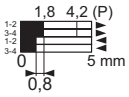
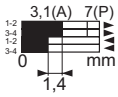
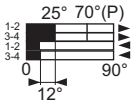
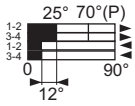
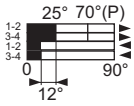
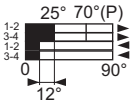
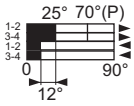
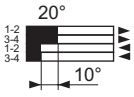
References of modular units (body with male M12 connector and removable terminal block)

2-pole "NC + NO" snap action	**ZCMV21M12 + ZCE10** ⊖	**ZCMV21M12 + ZCE106** ⊖	**ZCMV21M12 + ZCE11** ⊖	**ZCMV21M12 + ZCE02** ⊖	**ZCMV21M12 + ZCE026** ⊖	**ZCMV21M12 + ZCE24** ⊖	**ZCMV21M12 + ZCEF0** ⊖
							
2-pole NC + NO break before make, slow break	**ZCMV25M12 + ZCE10** ⊖	**ZCMV25M12 + ZCE106** ⊖	**ZCMV25M12 + ZCE11** ⊖	**ZCMV25M12 + ZCE02** ⊖	**ZCMV25M12 + ZCE026** ⊖	**ZCMV25M12 + ZCE24** ⊖	**ZCMV25M12 + ZCEF0** ⊖
							
2-pole NC + NC snap action	**ZCMV29M12 + ZCE10** ⊖	**ZCMV29M12 + ZCE106** ⊖	**ZCMV29M12 + ZCE11** ⊖	**ZCMV29M12 + ZCE02** ⊖	**ZCMV29M12 + ZCE026** ⊖	**ZCMV29M12 + ZCE24** ⊖	**ZCMV29M12 + 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 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		M12 connector			

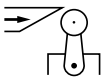
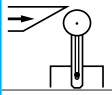
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
							
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)*
ZCMV21M12 + ZCEG1 	**ZCMV21v + ZCEF2** 	**ZCMV21M12 + ZCE01 + ZCY15** 	**ZCMV21M12 + ZCE016 + ZCY15** 	**ZCMV21M12 + ZCE01 + ZCY16** 	**ZCMV21M12 + ZCE01 + ZCY17** 	**ZCMV21M12 + ZCE01 + ZCY45** 	**ZCMV21M12 + ZCE06** 
ZCMV25M12 + ZCEG1 	**ZCMV25M12 + ZCEF2** 	**ZCMV25M12 + ZCE01 + ZCY15** 	**ZCMV25M12 + ZCE016 + ZCY15** 	**ZCMV25M12 + ZCE01 + ZCY16** 	**ZCMV25M12 + ZCE01 + ZCY17** 	**ZCMV25M12 + ZCE01 + ZCY45** 	**ZCMV25M12 + ZCE06** 
ZCMV29M12 + ZCEG1 	**ZCMV29M12 + ZCEF2** 	**ZCMV29M12 + ZCE01 + ZCY15** 	**ZCMV29M12 + ZCE016 + ZCY15** 	**ZCMV29M12 + ZCE01 + ZCY16** 	**ZCMV29M12 + ZCE01 + ZCY17** 	**ZCMV29M12 + ZCE01 + ZCY45** 	**ZCMV29M12 + ZCE06** 

closed
open

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

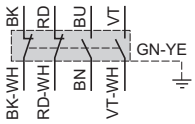
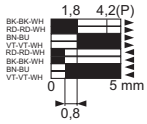
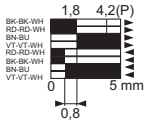
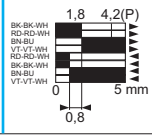
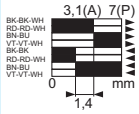
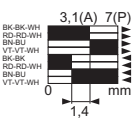
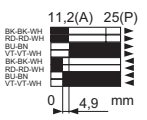
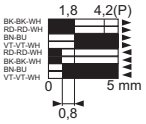
NC contact with positive opening operation

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	–
M12 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)
							
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 ⊖
							

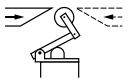
Contact operation

■ *closed*
□ *open*

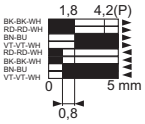
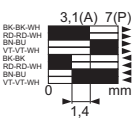
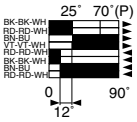
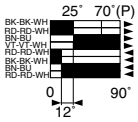
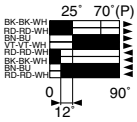
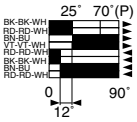
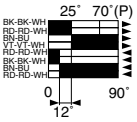
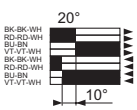
(A) = cam displacement
(P) = positive opening point

⊖ *NC contact with positive opening operation*

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			

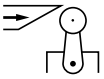
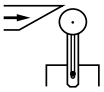
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

Plunger (fixing by the head)		Rotary (fixing by the body)					Multi-directional
							
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)*
ZCMV41L03 + ZCEG1 ⊖	**ZCMV41L03 + ZCEF2** ⊖	**ZCMV41L03 + ZCE01 + ZCY15** ⊖	**ZCMV41L03 + ZCE016 + ZCY15** ⊖	**ZCMV41L03 + ZCE01 + ZCY16** ⊖	**ZCMV41L03 + ZCE01 + ZCY17** ⊖	**ZCMV41L03 + ZCE01 + ZCY45** ⊖	**ZCMV41L03 + ZCE06**
							

closed
open

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

⊖ *NC contact with positive opening operation*

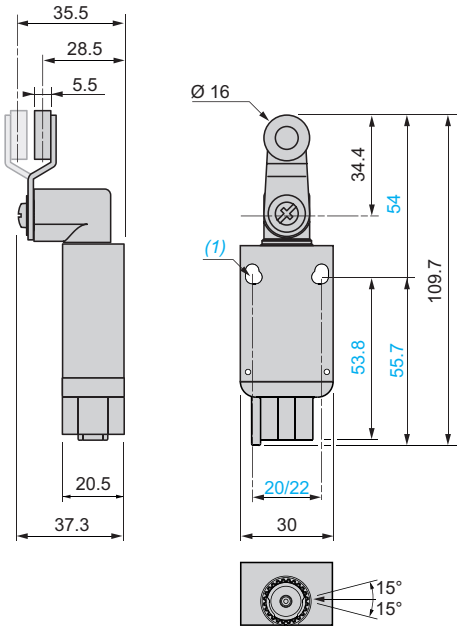
On end	By 30° cam			By any moving part
				
0.5 m/s	0.1 m/s	1.5 m/s	1.5 m/s	1 m/s
10 million operating cycles			10 million	5 million
8.5 N	7 N.m	0.1 N.m	0.1 N.m	0.1 N.m
42.5 N	35 N.m	0.5 N.m	0.5 N.m	–
PvR cable, length 30 cm				

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

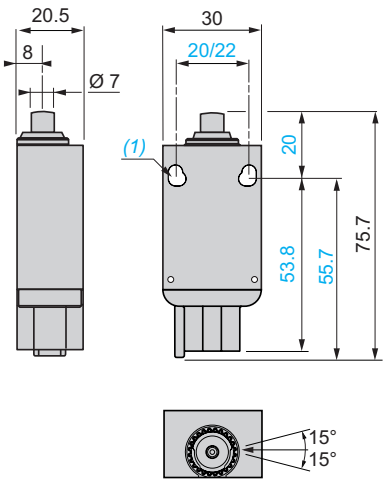
Dimensions

Switches with Deutsch DT04-4P connector

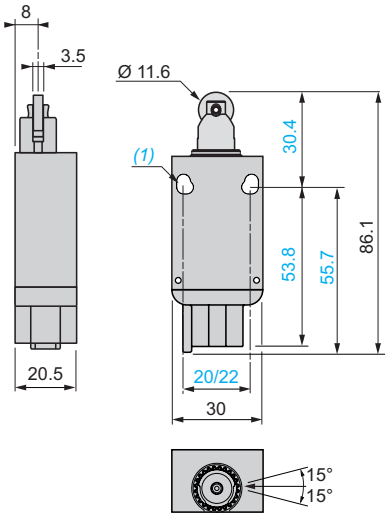
XCMV2115D44, XCMV2515D44



XCMV2110D44, XCMV2510D44

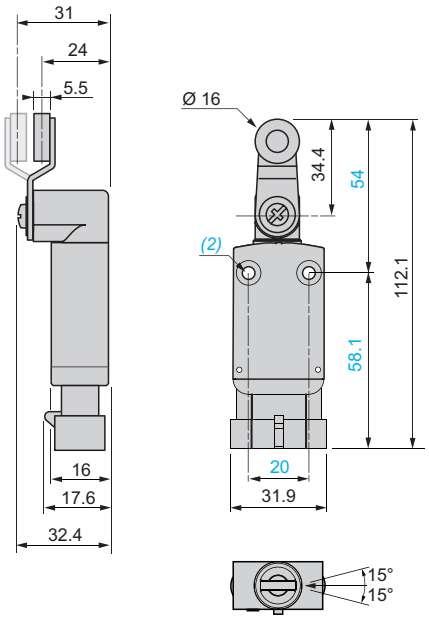


XCMV2102D44, XCMV2502D44

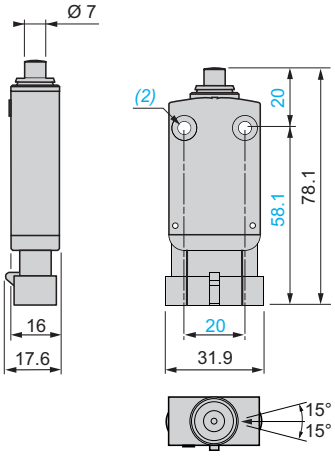


Switches with AMP Superseal 1.5 connector

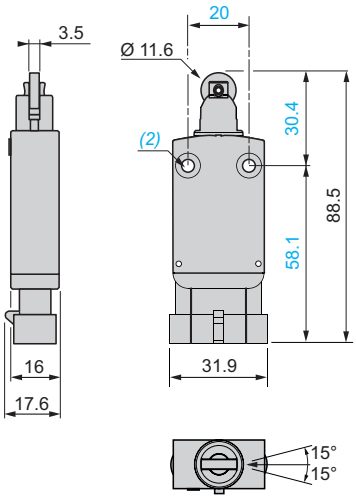
XCMD2115AM4, XCMD2515AM4



XCMD2110AM4, XCMD2510AM4



XCMD2102AM4, XCMD2502AM4

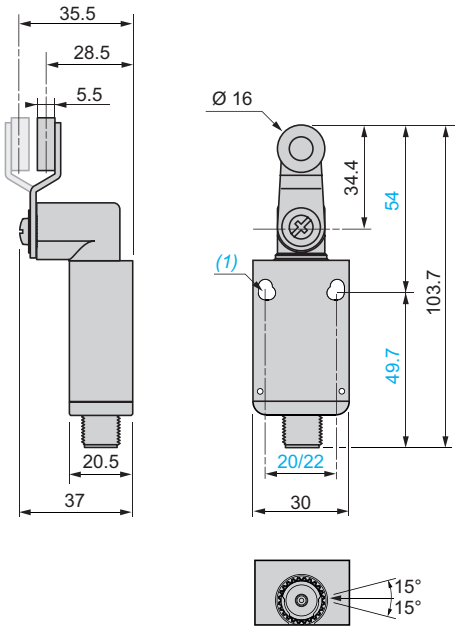


(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
(2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

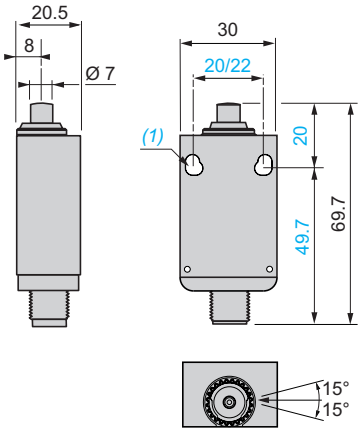
Dimensions *(continued)*

Switches with M12 connector

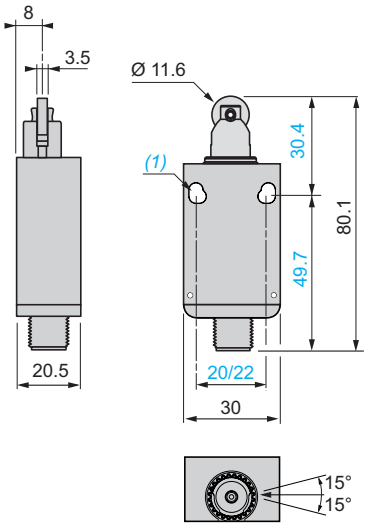
XCMV2115M12, XCMV2515M12



XCMV2110M12, XCMV2510M12



XCMV2102M12, XCMV2502M12

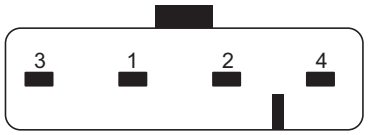


(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.

Connections

Male AMP Superseal 1.5 connector

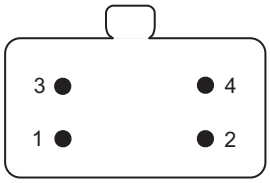
XCMV2●●●AM4



1 - 2 = NC
3 - 4 = NO

Male Deutsch DT04-4P connector

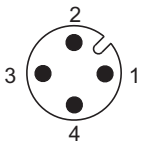
XCMV2●●●D44



1 - 2 = NC
3 - 4 = NO

Male M12 connector

XCMV2●●●M12

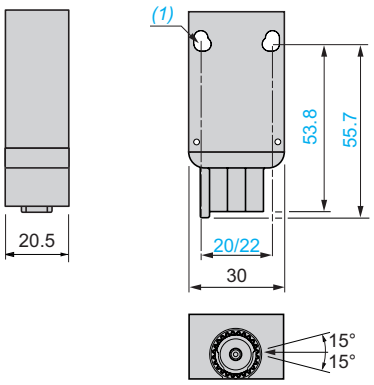


1 - 2 = NC
3 - 4 = NO

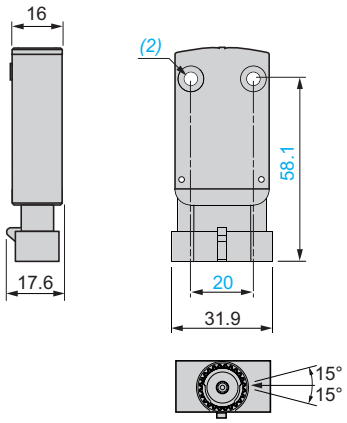
Limit switches
XC Standard range
Miniature design, metal, XCMV
Modular units for mobile equipment

Dimensions of bodies

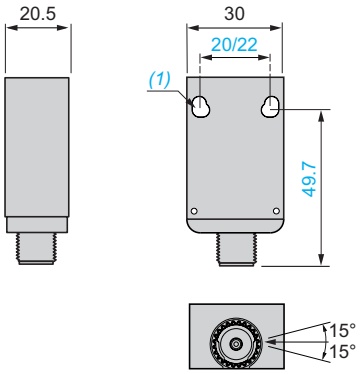
ZCMV2●D44



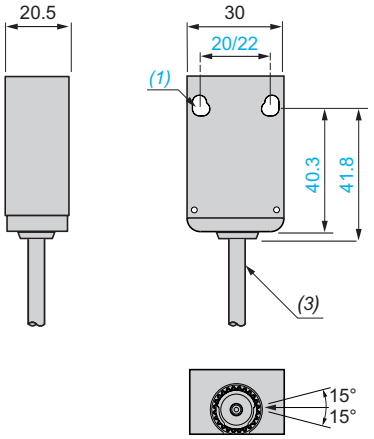
ZCMD2●AM4



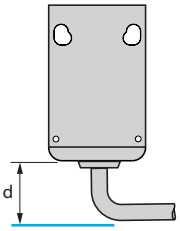
ZCMV2●M12



ZCMV41L03



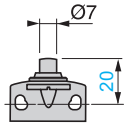
Mounting: distance required for connection



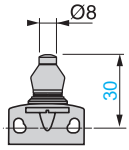
d: min. 20 mm

Dimensions of heads

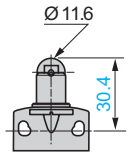
ZCE106, ZCE10



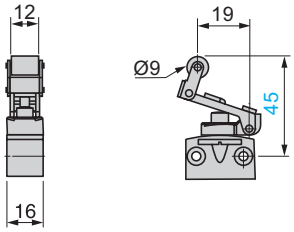
ZCE11



ZCE02, ZCE026



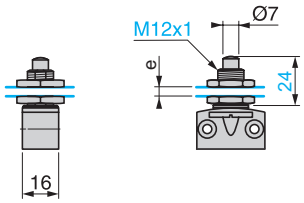
ZCE24



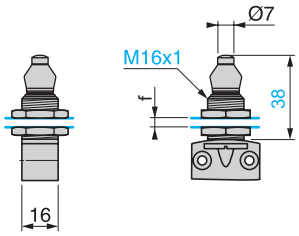
(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.
(2) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(3) External diameter of cable 6.4 mm.

Dimensions of heads *(continued)*

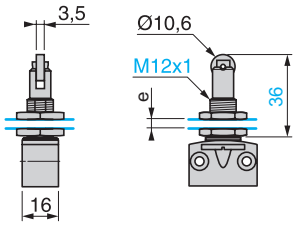
ZCEF0



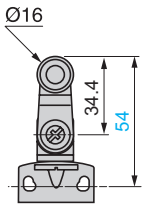
ZCEG1



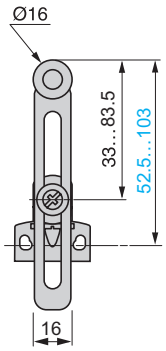
ZCEF2



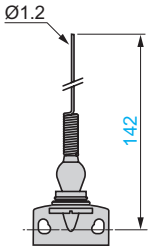
ZCE01 + ZCY15, ZCE01 + ZCY16 or ZCE01 + ZCY17



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

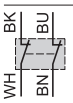
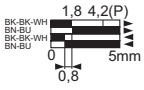
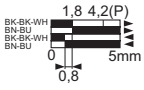
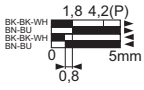
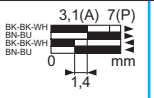
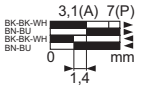
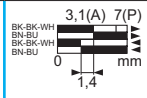
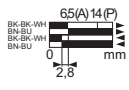
Environment characteristics

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		cULus, CCC, 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

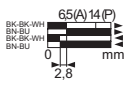
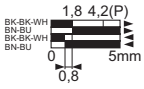
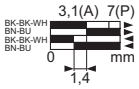
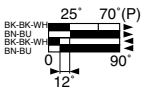
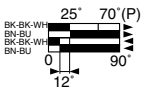
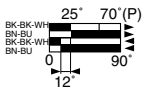
Type of head	Plunger (fixing by the body)						
							
Type of operator	Metal end plunger		Metal end plunger with silicone boot *(1)*	Steel roller plunger for lateral cam approach		Steel roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction
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			

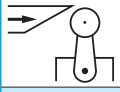
(1) Silicone boot for outdoor use.

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

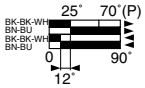
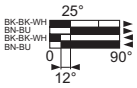
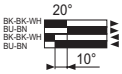
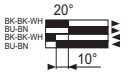
Type of head	Plunger (fixing by the body)	Plunger (fixing by the head)		Rotary (fixing by the body)		
						
Type of operator	Thermoplastic roller lever plunger, horizontal actuation in 1 direction Head oriented at 270°	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	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** ⊖ **XCMH21F0L2** ⊖	**XCMH21F2L1** ⊖ **XCMH21F2L2** ⊖	**XCMH2115L1** ⊖ **XCMH2115L2** ⊖ **XCMH2115L3** ⊖ **XCMH2115L8** ⊖	**XCMH2115LA1** ⊖	**XCMH2115L1L0** ⊖ **XCMH2115L2L0** ⊖ **XCMH2115L3L0** ⊖
						
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*

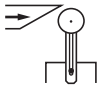
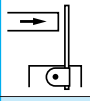
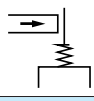
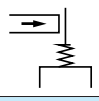
Complementary characteristics not shown under general characteristics (see page 69)

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				

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)

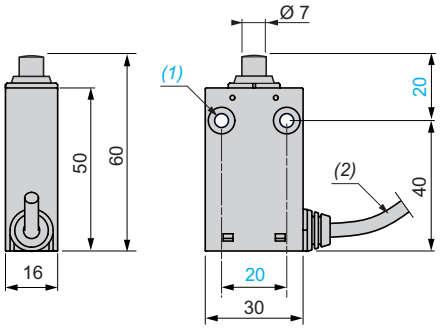
Switch actuation		By 30° cam	By any moving part		
Type of actuation					
Maximum actuation speed		1.5 m/s	1 m/s	1 m/s (any direction)	
Mechanical durability		5 million operating cycles			
Minimum force or torque	For tripping	0.1 N.m	0.1 N.m	0.1 N.m	0.1 N.m
	For positive opening	0.5 N.m	–	–	–
Cabling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

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

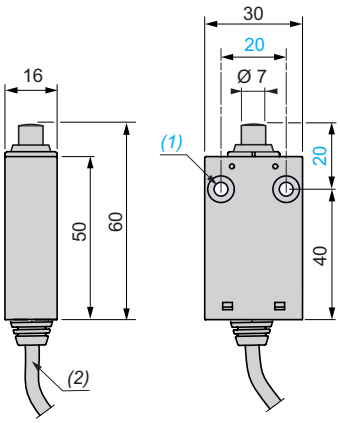
Limit switches
XC Basic range
Miniature design, plastic, XCMH
Pre-cabled

Dimensions

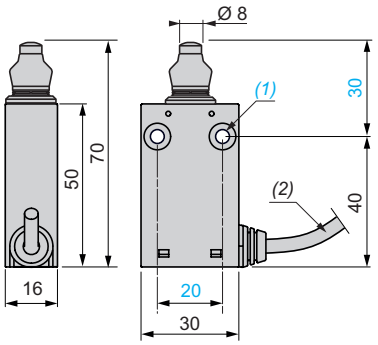
XCMH2110L1, XCMH2110L2, XCMH2110L3, XCMH2910L1, XCMH2910L2 and **XCMH2910L3**



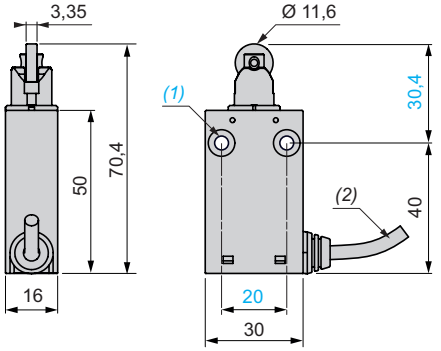
XCMH2110LA1



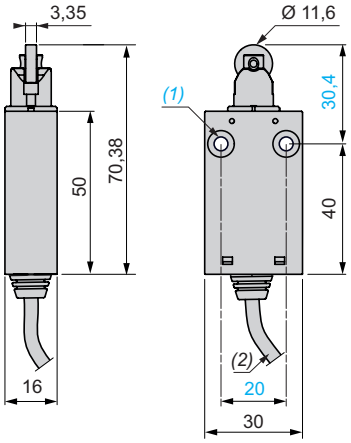
XCMH211AL05 and **XCMH211AL1**



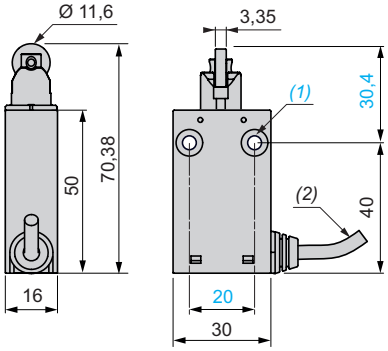
XCMH2102L1, XCMH2102L2, XCMH2102L3, XCMH2102L5, XCMH2102L6, XCMH2102L7, XCMH2102L8, XCMH2102L9, XCMH2902L1 and **XCMH2902L5**



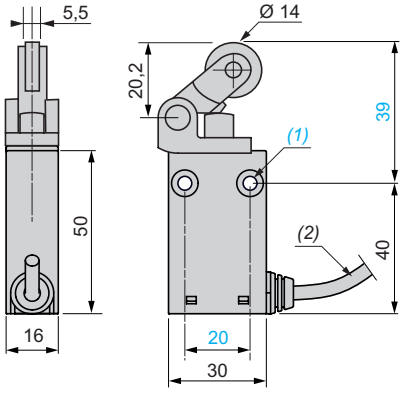
XCMH2102LA1



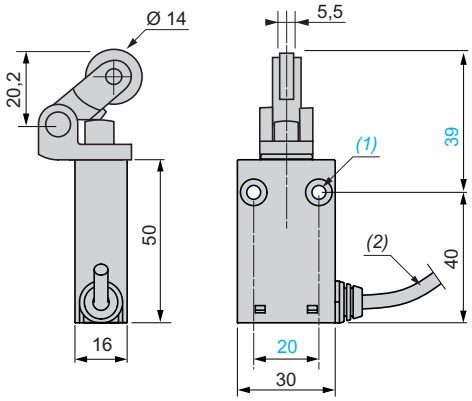
XCMH2103L1, XCMH2103L2, XCMH2103L3, XCMH2103L5 and **XCMH2103L8**



XCMH2121L1, XCMH2121L2 and **XCMH2121L5**



XCMH2121L1R0

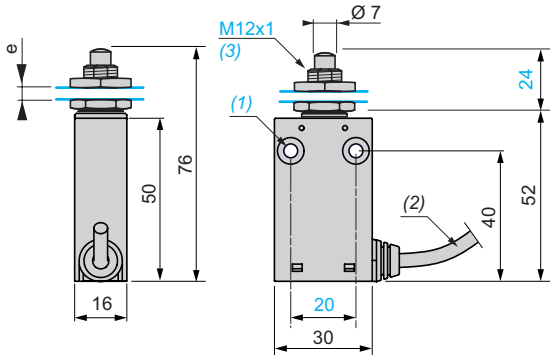


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

(2) External diameter 4.2 mm.

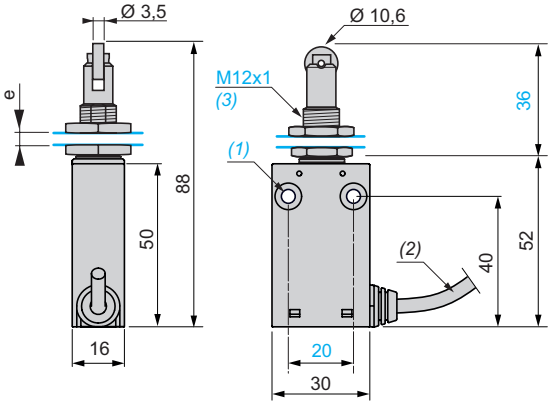
Dimensions *(continued)*

XCMH21F0L1 and XCMH21F0L2



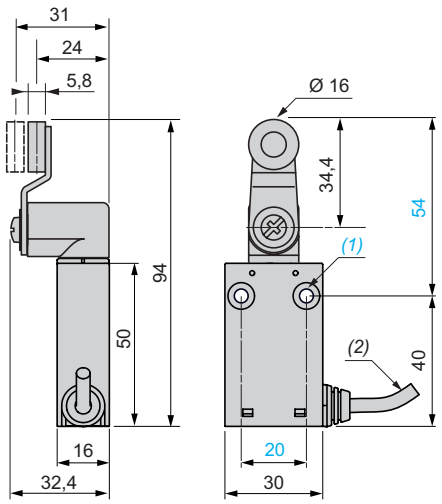
e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

XCMH21F2L1 and XCMH21F2L2

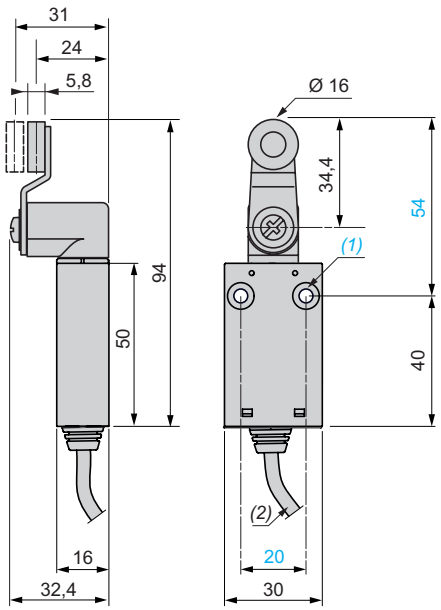


e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

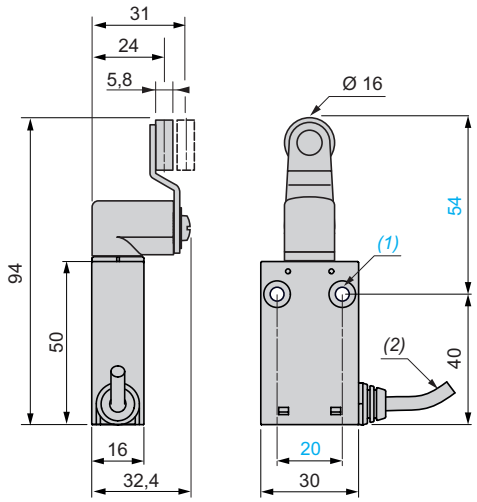
XCMH2115L1, XCMH2115L2, XCMH2115L5 and XCMH2115L8



XCMH2115LA1



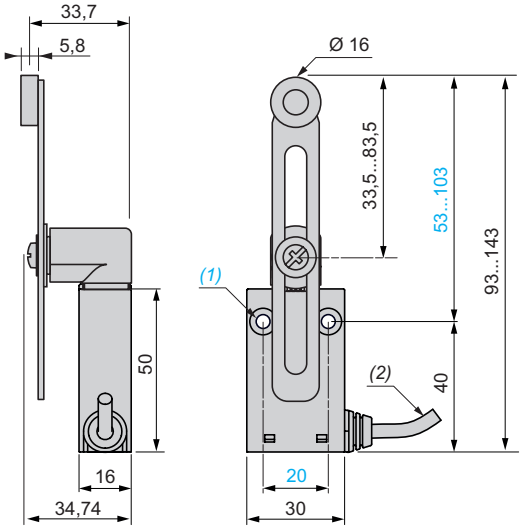
XCMH2115L1L0, XCMH2115L2L0 and XCMH2115L3L0



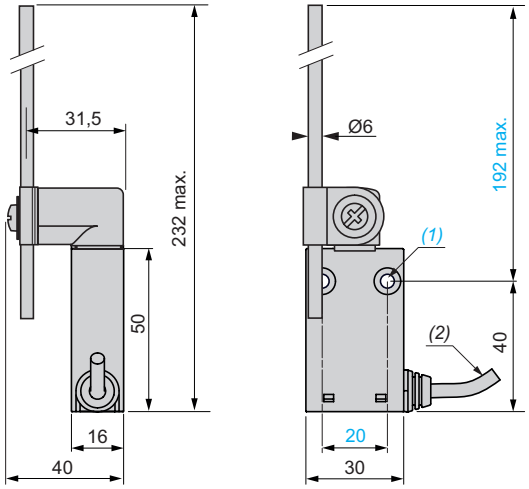
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.
(2) External diameter 4.2 mm.
(3) Fixing nut thickness 3.5 mm.

Dimensions *(continued)*

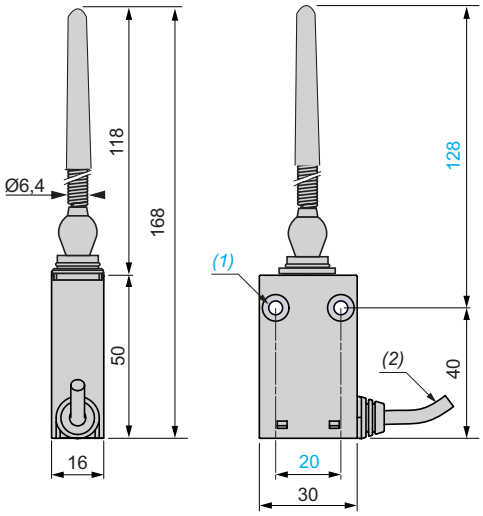
XCMH2145L1 and XCMH2145L2



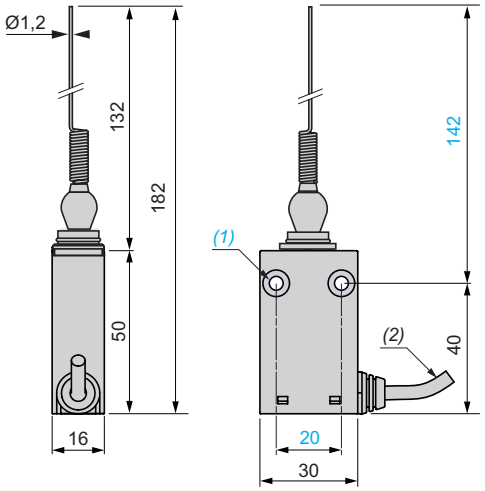
XCMH2159L1 and XCMH2159L2



XCMH2107L1, XCMH2107L2 and XCMH2107L3

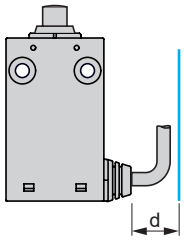


XCMH2106L1 and XCMH2106L2

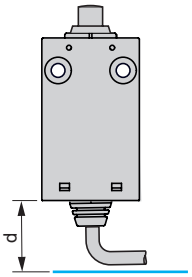


Mounting: distance required for connection

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 Standard range
Compact design, plastic, XCKP and XCKT
Compact design, metal, XCKD

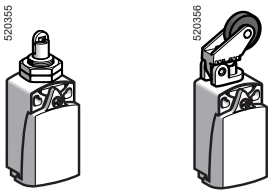
■ XCKP, XCKD
with 1 cable entry
Conforming to CENELEC EN 50047

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

XCKD

Pages 84 and 88

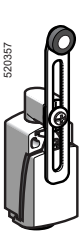
XCKP



Pages 78 and 82

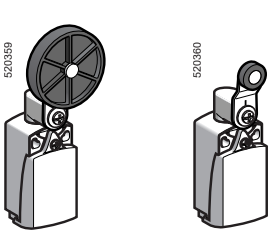
□ With head for rotary movement (lever) or multi-directional. Fixing by the body

XCKD



Pages 85 and 89

XCKP

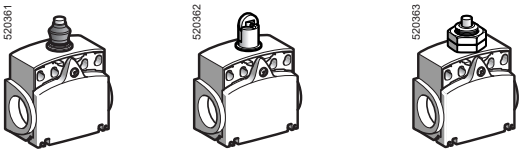


Pages 79 and 83

■ 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

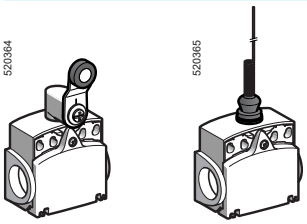
XCKT



Page 90

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

XCKT



Page 90

Environment characteristics

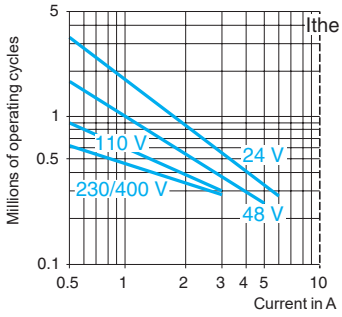
Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25…+ 70°C (- 40…+ 70 °C with ZCE106, ZCE026 and ZCE016 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

Contact block characteristics

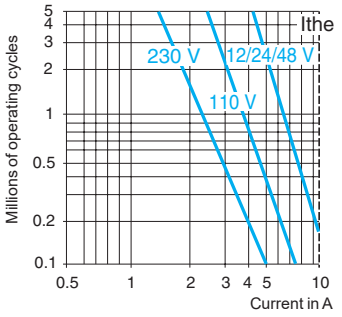
Rated operational characteristics	XE2●P	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 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

AC supply
50/60 Hz ∼
⎓⎓ inductive circuit

XE2SP●151, XE2SP2141



XE2NP21●1, XE2NP31●1



DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓⎓	W	10	7	4

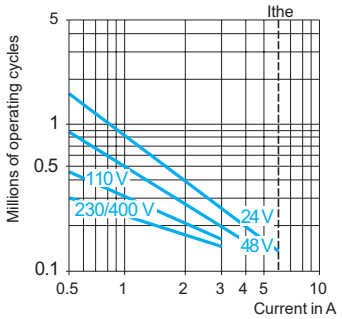
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓⎓	W	13	9	7

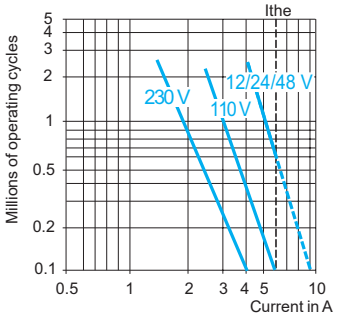
For XE2SP●151 on ∼ or ⎓, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply
50/60 Hz ∼
⎓⎓ inductive circuit

XE3SP●●●●



XE3NP●●●●



DC supply ⎓

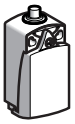
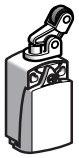
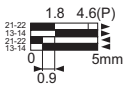
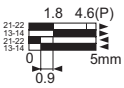
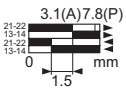
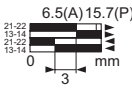
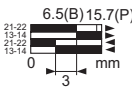
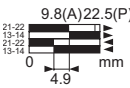
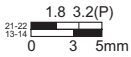
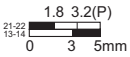
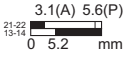
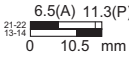
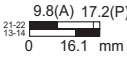
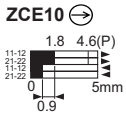
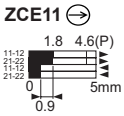
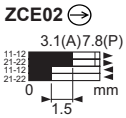
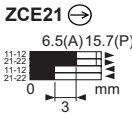
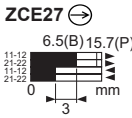
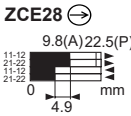
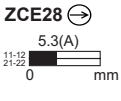
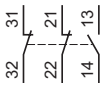
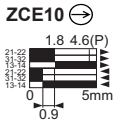
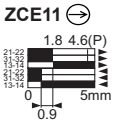
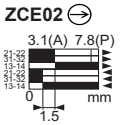
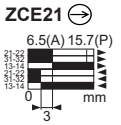
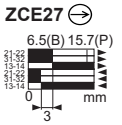
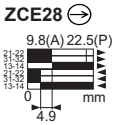
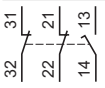
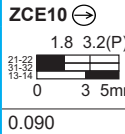
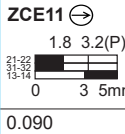
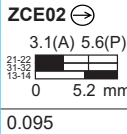
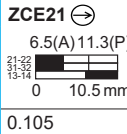
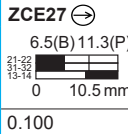
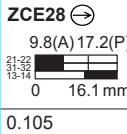
Power broken in W for 5 million operating cycles.

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
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.

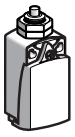
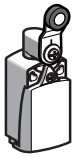
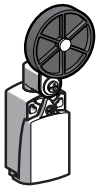
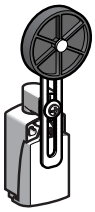
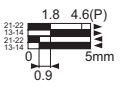
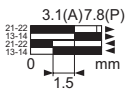
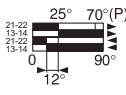
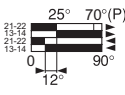
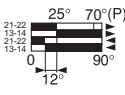
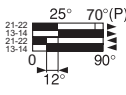
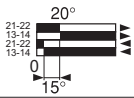
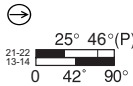
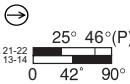
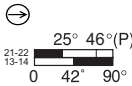
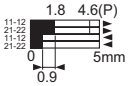
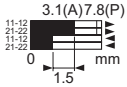
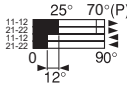
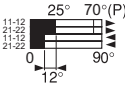
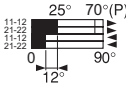
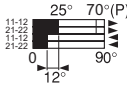
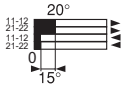
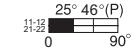
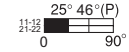
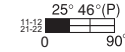
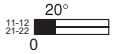
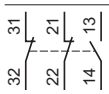
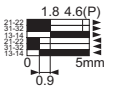
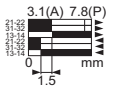
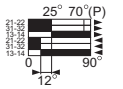
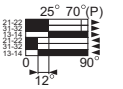
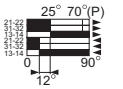
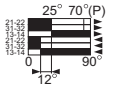
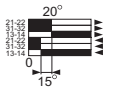
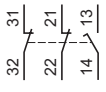
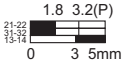
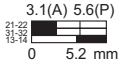
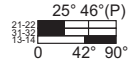
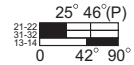
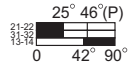
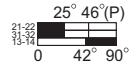
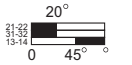
Contact operation ■ *closed* □ *open* — *(A) (B) = cam displacement (P) = positive opening point* — ⊖ *NC contact with positive opening operation*

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

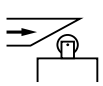
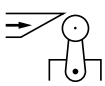
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable 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)**	– –	– –	**XCKP2518P16** 	**XCKP2545P16** 	**XCKP2539P16** 	– –	– –
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*

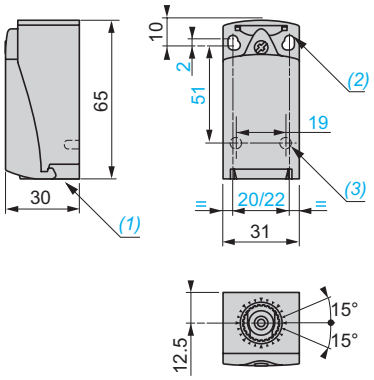
Characteristics

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						

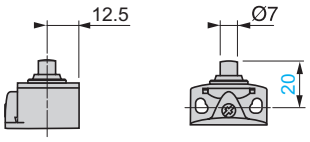
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

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

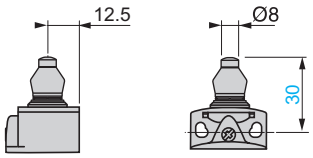
ZCP2● + ZCPEP16/ZCP3● + ZCPEP16



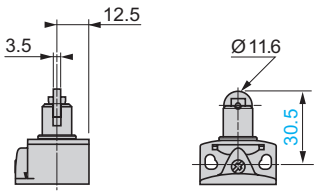
ZCE10



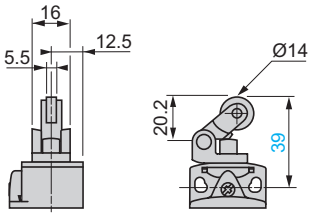
ZCE11



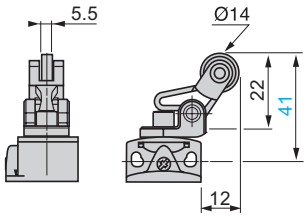
ZCE02



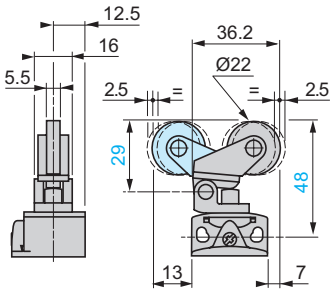
ZCE21



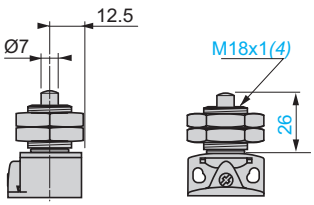
ZCE27



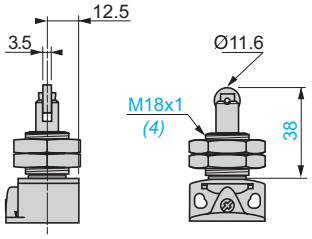
ZCE28



ZCEH0



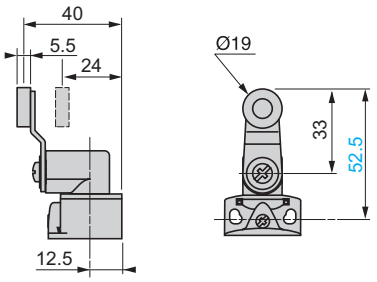
ZCEH2



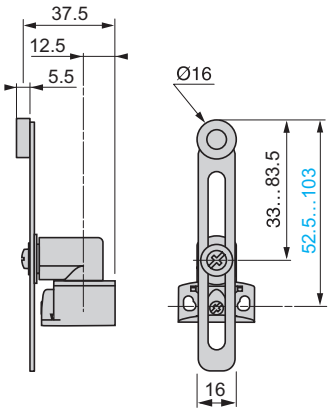
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Fixing nut thickness 3.5 mm.

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

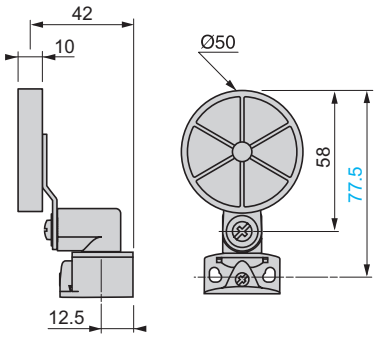
ZCE01 + ZCY18



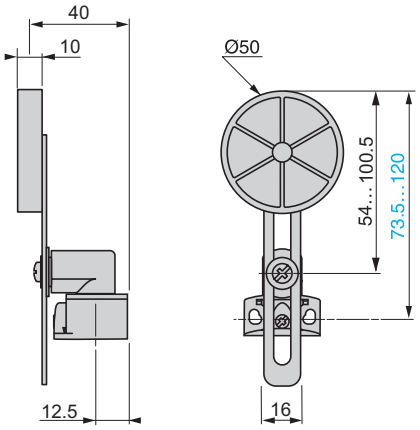
ZCE01 + ZCY45



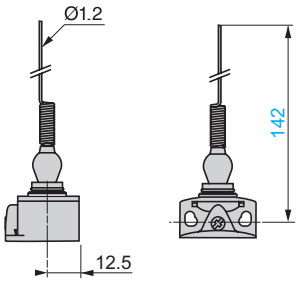
ZCE01 + ZCY39



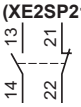
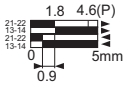
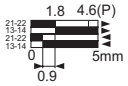
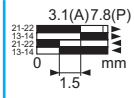
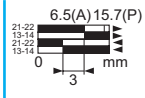
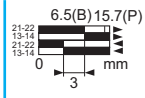
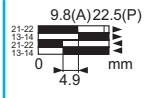
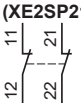
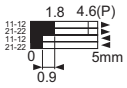
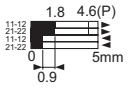
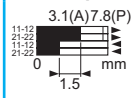
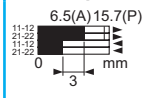
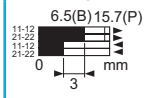
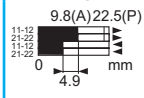
ZCE01 + ZCY49



ZCE06

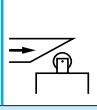
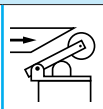


Limit switches
XC Standard range
Compact design, plastic, XCKP
M12 connector

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

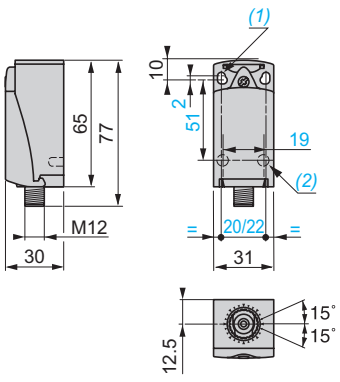
M12 connector

XE2SP2151
1-2: NC
3-4: NO

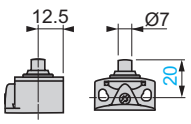
XE2SP2141
1-2: NC
3-4: NC

Dimensions

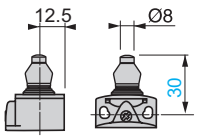
ZCP2●M12



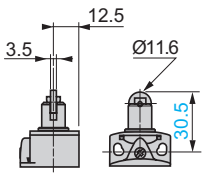
ZCE10



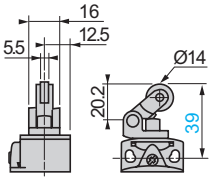
ZCE11



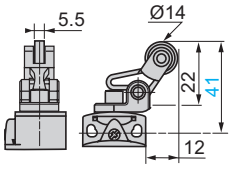
ZCE02



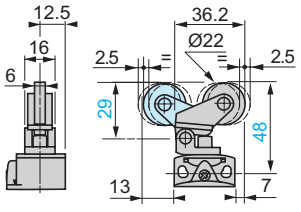
ZCE21



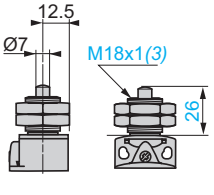
ZCE27



ZCE28

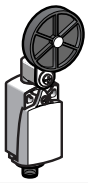
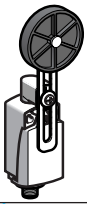
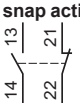
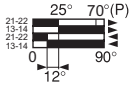
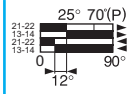
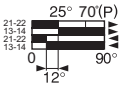
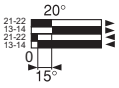
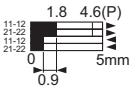
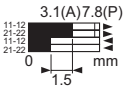
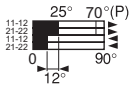
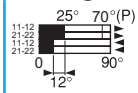
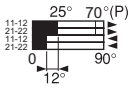
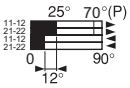
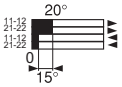


ZCEH0



(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.

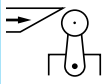
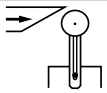
Limit switches
XC Standard range
Compact design, plastic, XCKP
M12 connector

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) 	– –	– –	**XCKP2118M12** 	**XCKP2145M12** 	– –	**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*

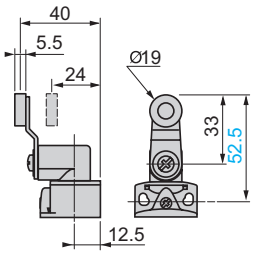
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics

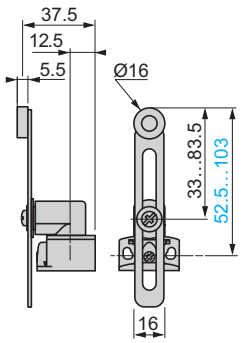
Switch actuation	On end	By 30° cam				By any moving part
Type of actuation						
Maximum actuation speed	0.5 m/s		1.5 m/s			1 m/s (any direct.)
Mechanical durability (in millions of operating cycles)	10					5
Minimum force or torque – For tripping	15 N	10 N	0.1 N.m			0.13 N.m
Minimum force or torque – 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

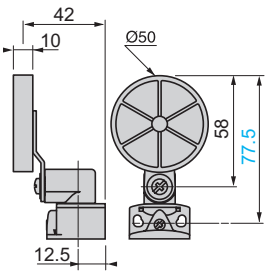
ZCE01 + ZCY18



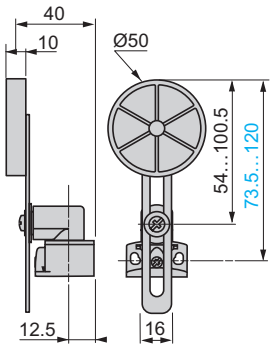
ZCE01 + ZCY45



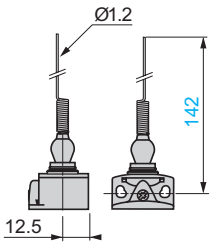
ZCE01 + ZCY39



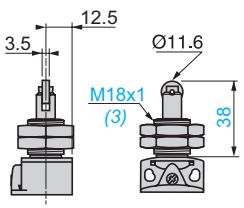
ZCE01 + ZCY49



ZCE06

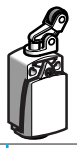
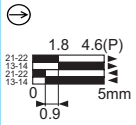
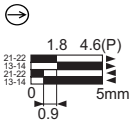
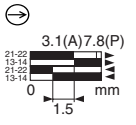
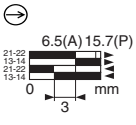
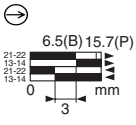
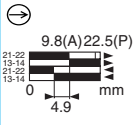
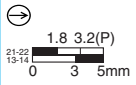
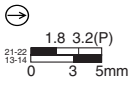
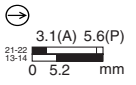
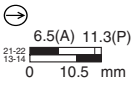
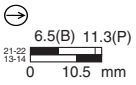
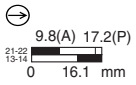
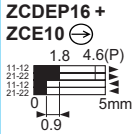
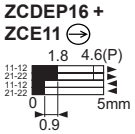
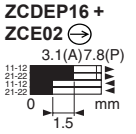
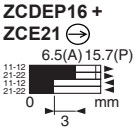
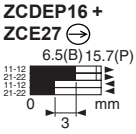
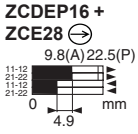
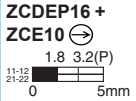
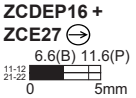
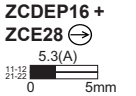
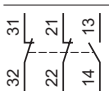
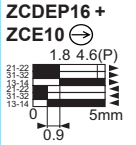
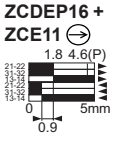
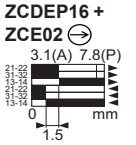
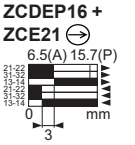
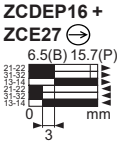
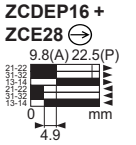
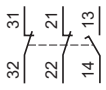
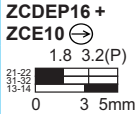
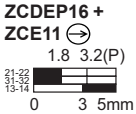


ZCEH2



(3) Fixing nut thickness 3.5 mm.

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

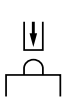
Type of head	**Plunger (fixing by the body)**					
	Form B *(1)*		**Form C** *(1)*	**Form E** *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller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

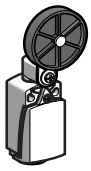
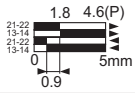
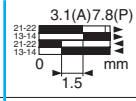
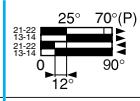
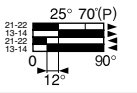
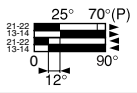
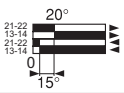
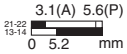
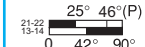
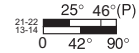
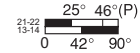
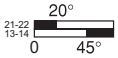
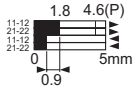
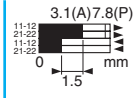
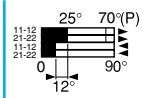
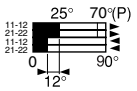
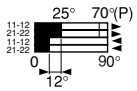
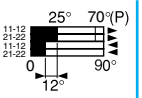
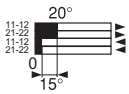
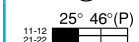
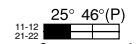
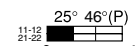
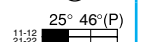
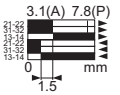
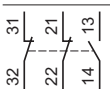
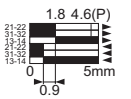
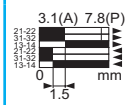
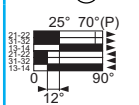
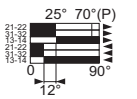
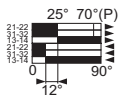
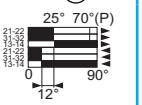
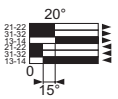
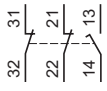
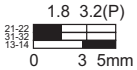
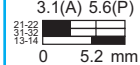
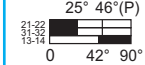
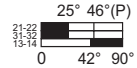
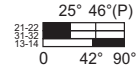
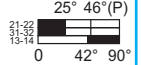
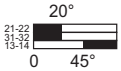
Contact operation ■ *closed* □ *open* — *(A) (B) = cam displacement (P) = positive opening point* — ⊖ *NC contact with positive opening operation*

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

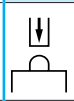
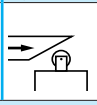
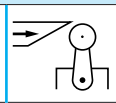
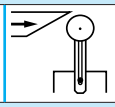
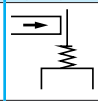
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A *(1)*				
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable 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)**	– –	**XCKD25H2P16** 	**XCKD2518P16** 	**XCKD2545P16** 	**XCKD2539P16** 	– –	**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*

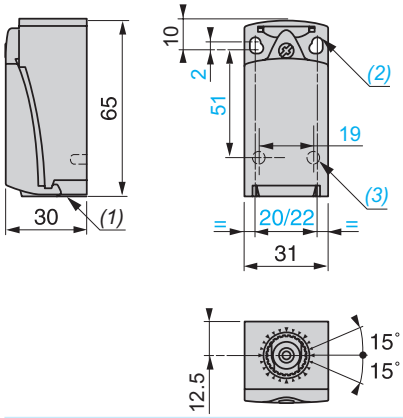
Characteristics

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				

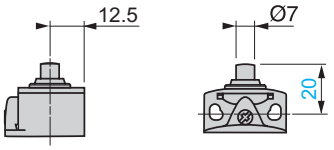
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

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

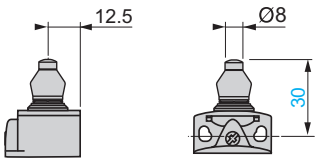
ZCD2● + ZCDEP16/ZCD3● + ZCDEP16



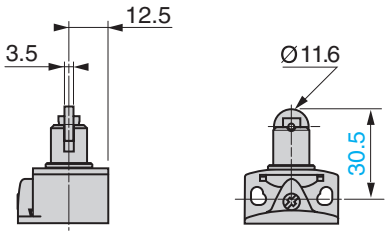
ZCE10



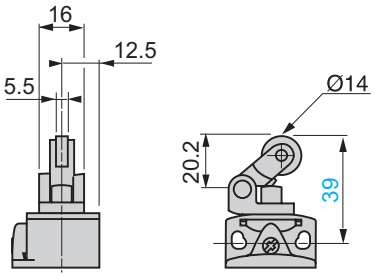
ZCE11



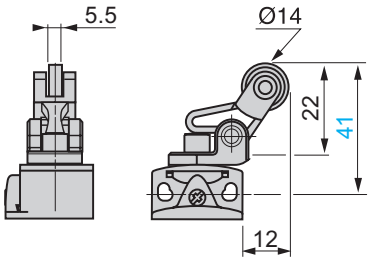
ZCE02



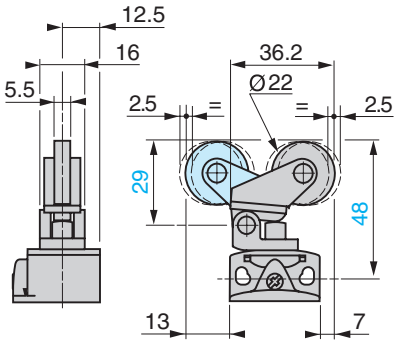
ZCE21



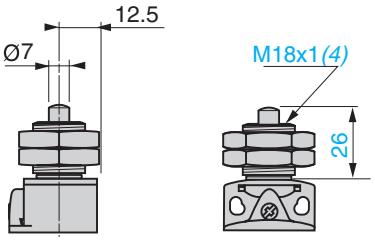
ZCE27



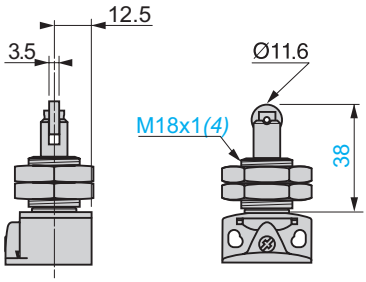
ZCE28



ZCEH0



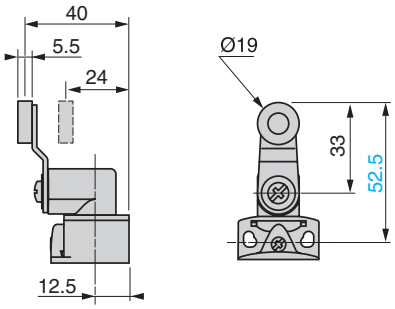
ZCEH2



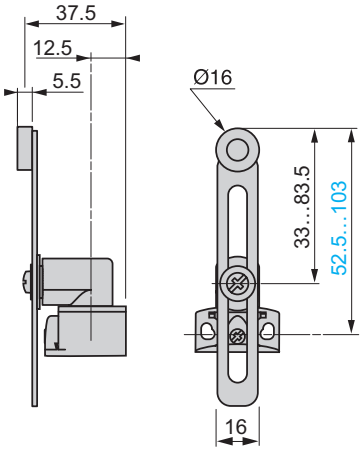
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Fixing nut thickness 3.5 mm.

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

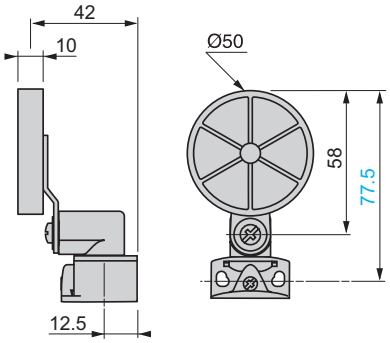
ZCE01 + ZCY18



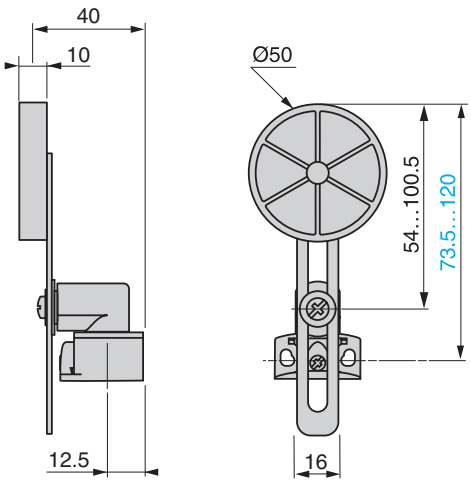
ZCE01 + ZCY45



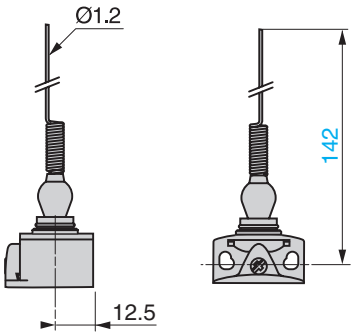
ZCE01 + ZCY39



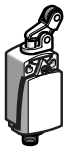
ZCE01 + ZCY49



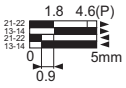
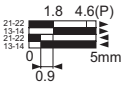
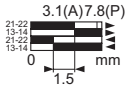
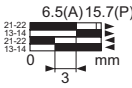
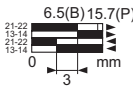
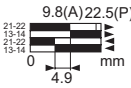
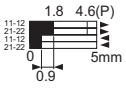
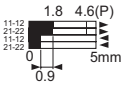
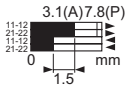
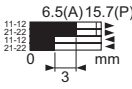
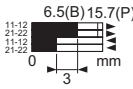
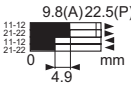
ZCE06



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

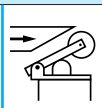
Type of head	Plunger (fixing by the body)					
	Form B *(1)*		Form C *(1)*	Form E *(1)*		
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot *(2)*	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, 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		
For positive opening	45 N	36 N	18 N		
Connection	M12 connector, Ui = 60 V, Ie = 4 A maximum, Ith = 4 A				

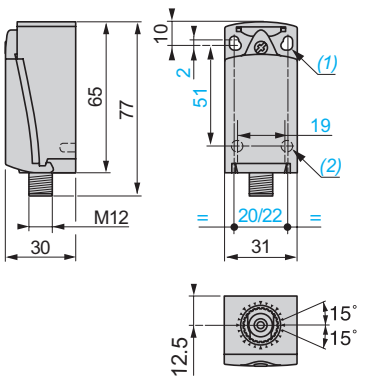
Connections

M12 connector

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

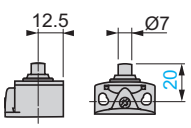
Dimensions

ZCD2●M12

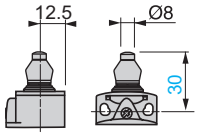


(1) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(2) 2 x Ø 3 holes for support studs, depth 4 mm.
(3) Fixing nut thickness 3.5 mm.

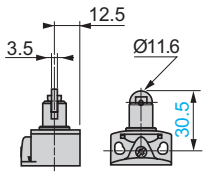
ZCE10



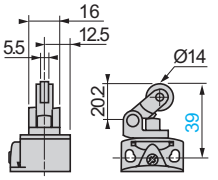
ZCE11



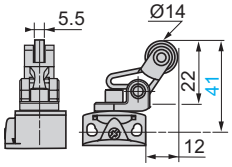
ZCE02



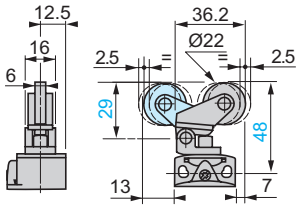
ZCE21



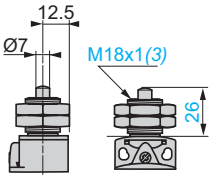
ZCE27



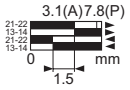
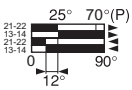
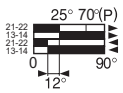
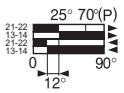
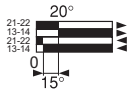
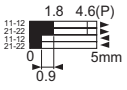
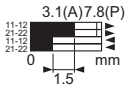
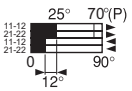
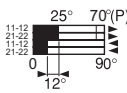
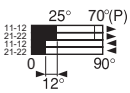
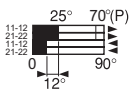
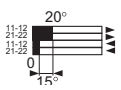
ZCE28



ZCEH0

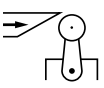
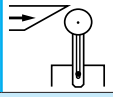


Limit switches
XC Standard range
Compact design, metal, XCKD
M12 connector

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) 	– –	**XCKD21H2M12** 	**XCKD2118M12** 	**XCKD2145M12** 	– –	**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*		

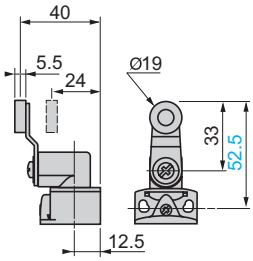
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics

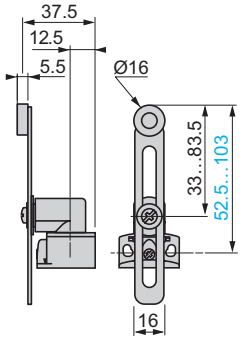
Switch actuation	On end	By 30° cam					By any moving part
Type of actuation							
Maximum actuation speed	0.5 m/s		1.5 m/s				1 m/s (any direct.)
Mechanical durability (in millions of operating cycles)	10						5
Minimum force or torque For tripping	15 N	10 N	0.1 N.m				0.13 N.m
Minimum force or torque 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

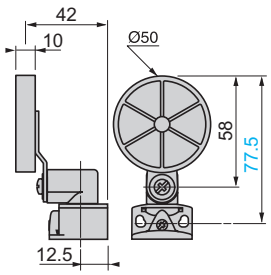
ZCE01 + ZCY18



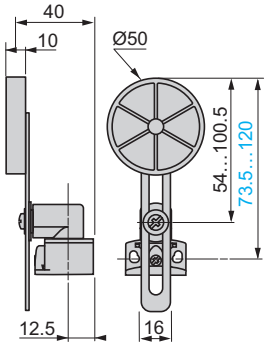
ZCE01 + ZCY45



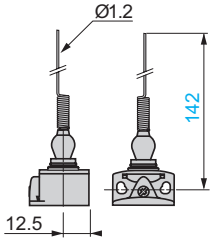
ZCE01 + ZCY39



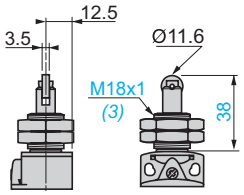
ZCE01 + ZCY49



ZCE06

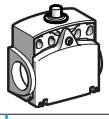
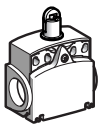
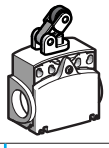
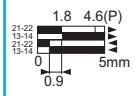
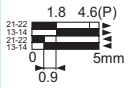
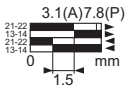
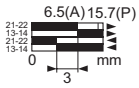
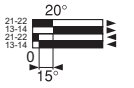
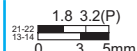
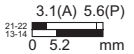
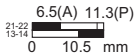
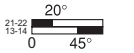
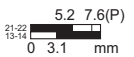
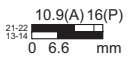
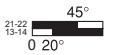
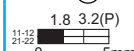
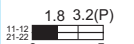
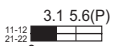
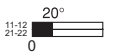
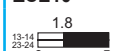


ZCEH2



(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*

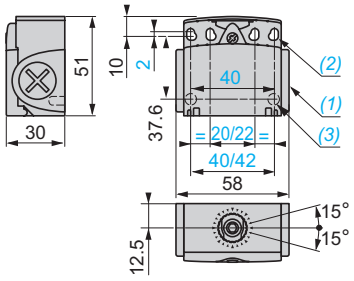
Characteristics

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.

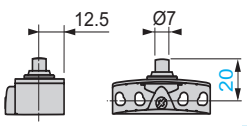
Dimensions

ZCT2●P16

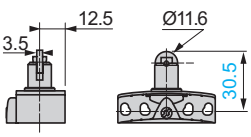


(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm ctrs, 4 holes Ø 4.3 on 20/40 mm ctrs.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

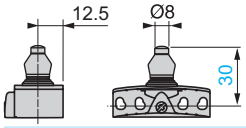
ZCE10



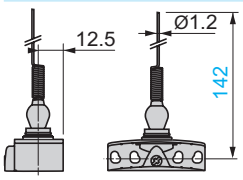
ZCE02



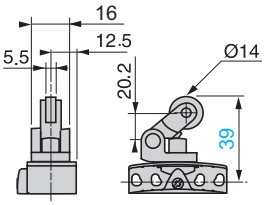
ZCE11



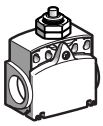
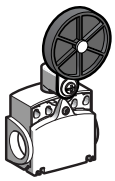
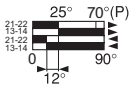
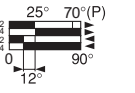
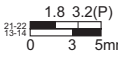
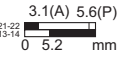
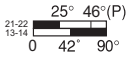
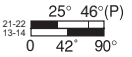
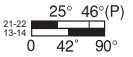
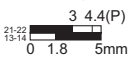
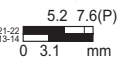
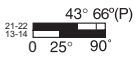
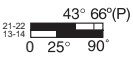
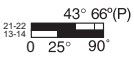
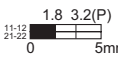
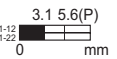
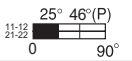
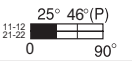
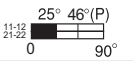
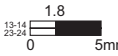
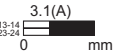
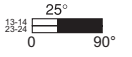
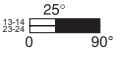
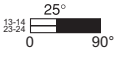
ZCE06



ZCE21



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

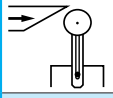
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body) Form A *(1)*		
					
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm
References of complete switches with 2 ISO M16 x 1.5 cable entries *(2)*					
 **2-pole NC + NO snap action (XE2SP3151)**	– –	– –	**XCKT2118P16** 	**XCKT2145P16** 	– –
 **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*

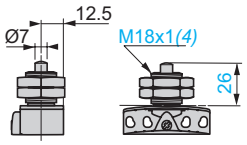
Characteristics

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)		

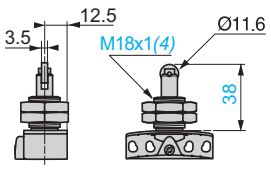
(1) Form conforming to EN 50047, see page 24.
(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

Dimensions

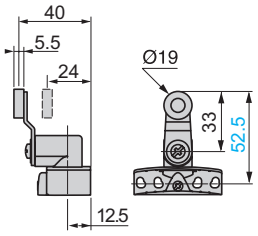
ZCEH0



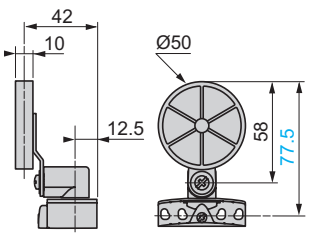
ZCEH2



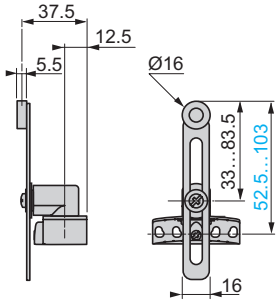
ZCE01 + ZCY18



ZCE01 + ZCY39

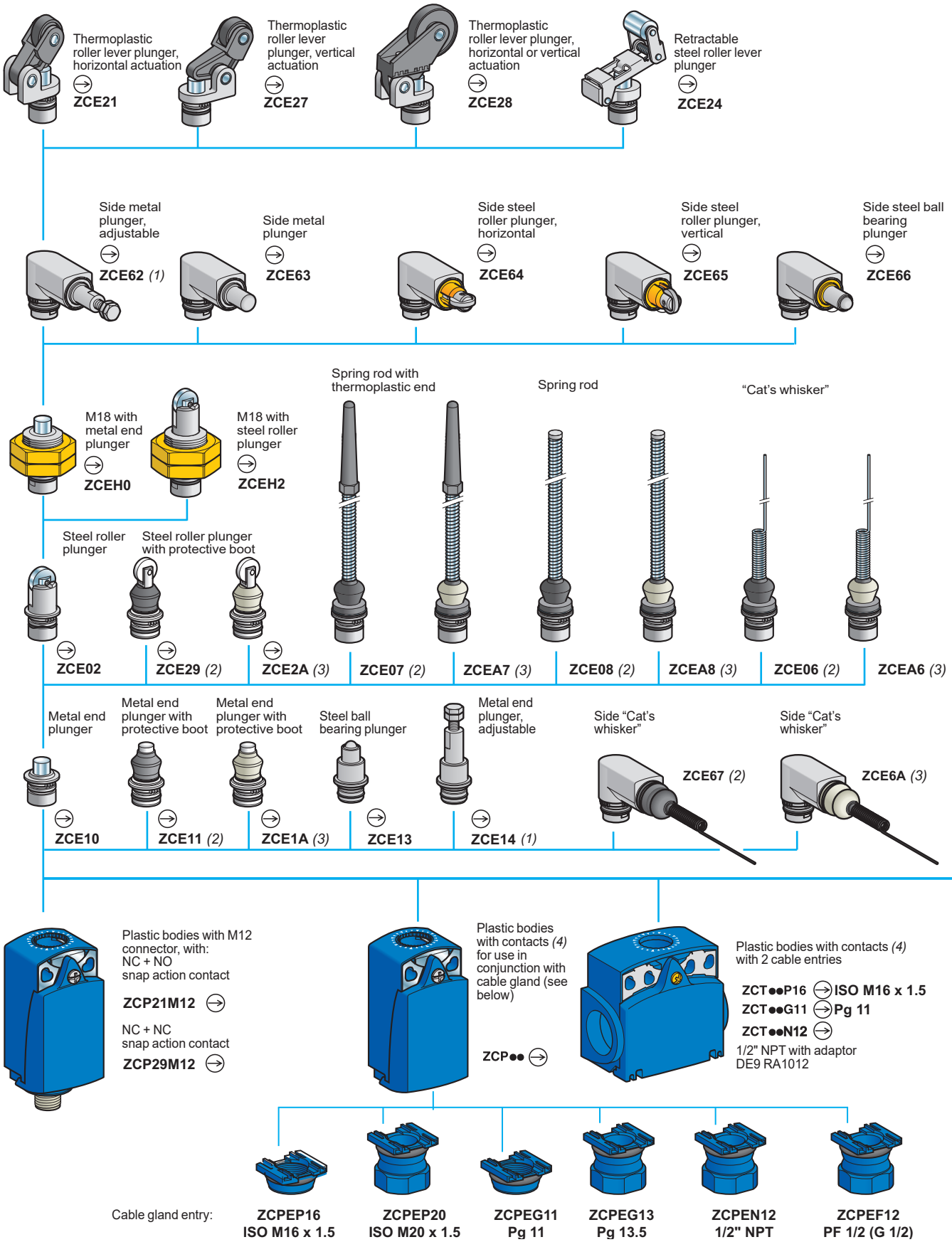


ZCE01 + ZCY45

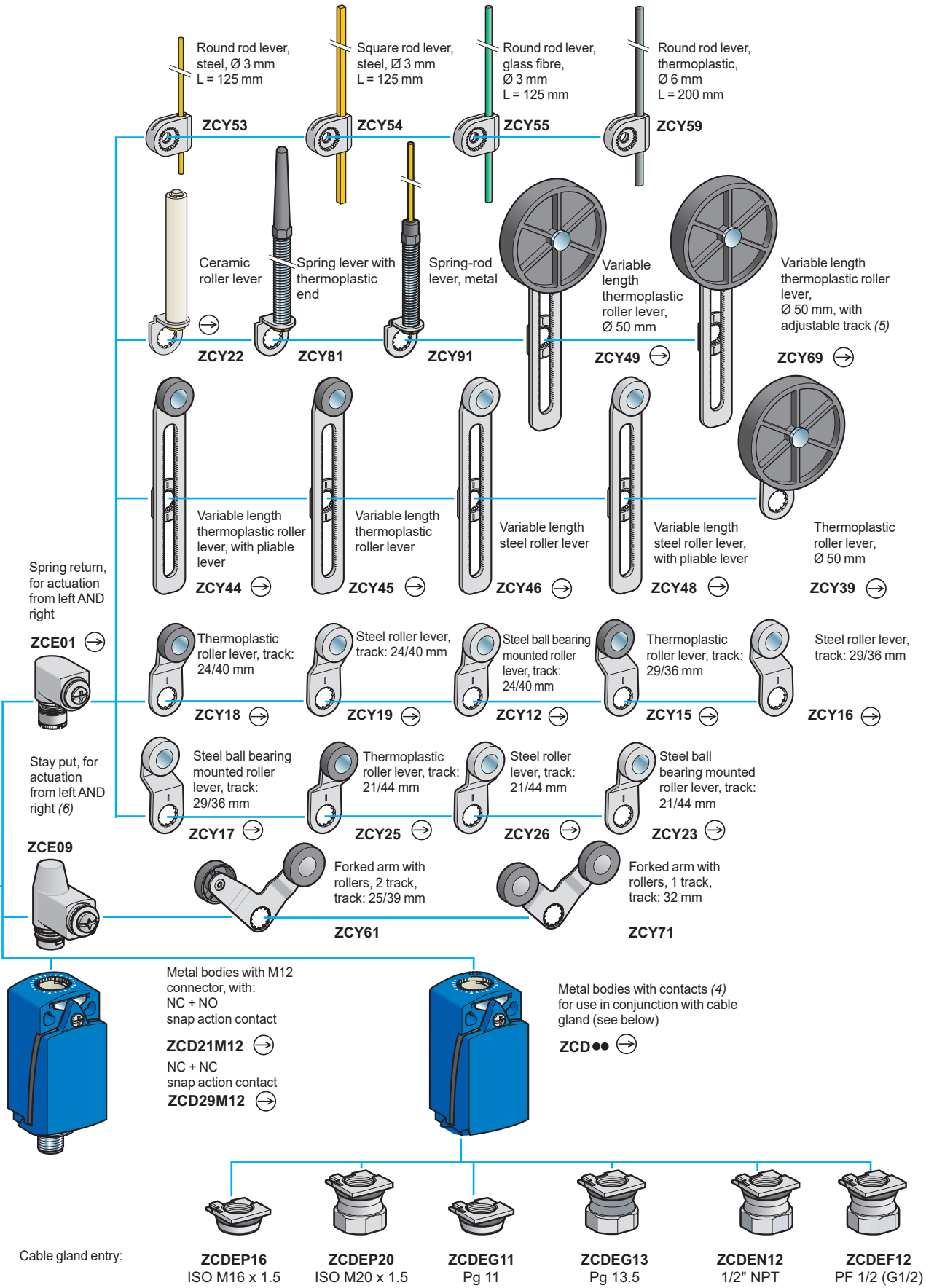


(4) Fixing nut thickness 3.5 mm.

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



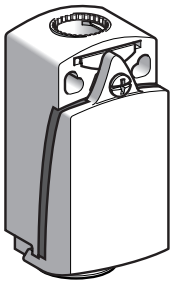
(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm.
(2) Nitrile boot for indoor use.
(3) Silicone boot for outdoor use.
(4) For further information, see page 94.



(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

520710

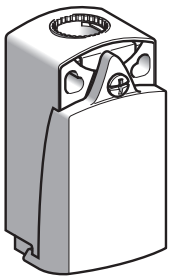


ZCD●●

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

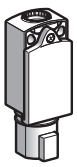
Type of contact	Positive operation *(2)*	Scheme	Body material	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	⊖	13 21 / 14 22	Metal	**ZCD21**	0.140
			Plastic	**ZCP21**	0.070
NC + NC snap action XE2SP2141)	⊖	11 21 / 12 22	Metal	**ZCD29**	0.140
			Plastic	**ZCP29**	0.070
NC + NO break 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

520711



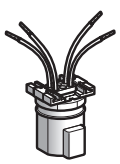
ZCP●●

DF504042



ZCP21D44

DF504043



ZCPED44

Components for connection using DEUTSCH connector

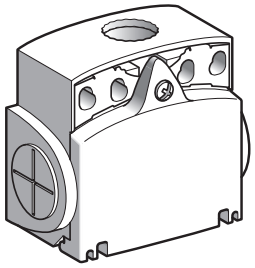
Bodies with contacts for DEUTSCH connector

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

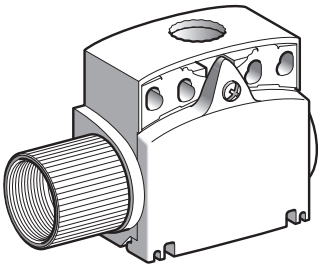


ZCT●●●

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

(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

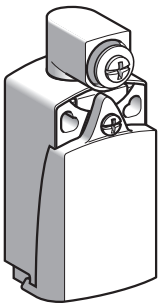
561127

ZCE05

561392

DE9RA1012

561388



XCK●2●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
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)		⊖	ISO M16 x 1.5	**XCKP2101P16**	0.115
		⊖	Pg 11	**XCKP2101G11**	0.115

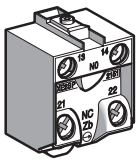
Bodies with contacts, XCKD metal, with rotary head (without operating lever)

Type of contact	Scheme	Positive operation *(2)*	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)		⊖	ISO M16 x 1.5	**XCKD2101P16**	0.185
		⊖	Pg 11	**XCKD2101G11**	0.185

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

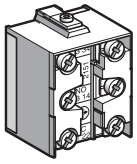
Limit switches
XC Standard range
Compact design, metal, XCKD or plastic, XCKP and XCKT
Adaptable sub-assemblies: contact blocks

561393



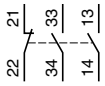
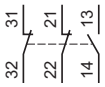
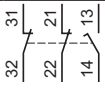
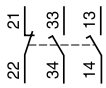
XE2●●21●●

561394



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	⊖		**XE2SP2151**	0.020
NC + NC simultaneous, snap action	⊖		**XE2SP2141**	0.020
NC + NO break before make, slow break	⊖		**XE2NP2151**	0.020
NO + NC make before break, slow break	⊖		**XE2NP2161**	0.020
NC + NC simultaneous, slow break	⊖		**XE2NP2141**	0.020
NO + NO simultaneous, slow break	–		**XE2NP2131**	0.020
3-pole				
NC + NO + NO snap action	⊖		**XE3SP2151**	0.035
NC + NC + NO snap action	⊖		**XE3SP2141**	0.035
NC + NC + NO break before make, slow break	⊖		**XE3NP2141**	0.035
NC + NO + NO break before make, slow break	⊖		**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	⊖		**XE2SP3151**	0.015
NC + NO break before make, slow break	⊖		**XE2NP3151**	0.015
NO + NC make before break, slow break	⊖		**XE2NP3161**	0.015
NC + NC simultaneous, slow break	⊖		**XE2NP3141**	0.015
NO + NO simultaneous, slow break	–		**XE2NP3131**	0.015

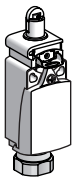
(1) ⊖: contact blocks assuring positive opening operation.

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

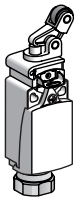
■ XCPR
with 1 cable entry

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

520425



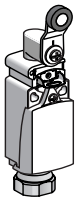
520427



Page 100

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

520428



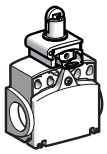
Page 100

■ 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 102

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

520438

Page 102

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

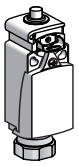
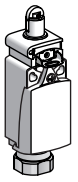
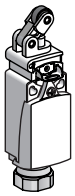
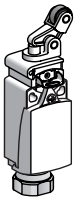
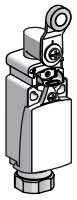
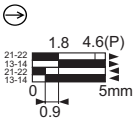
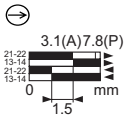
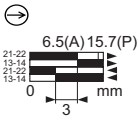
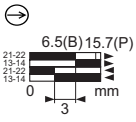
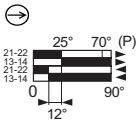
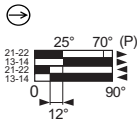
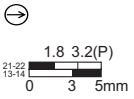
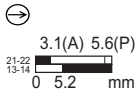
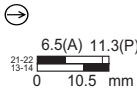
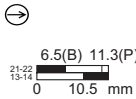
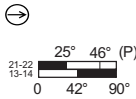
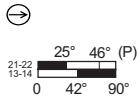
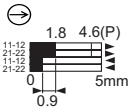
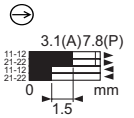
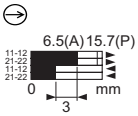
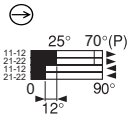
Contact block characteristics		
Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage		Ui = 500 V degree of pollution 3 conforming to IEN/IEC 60947-1 Ui = 300 V conforming 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** 	–	**XCPR2918P20** 	–
Weight (kg)	0.115	0.115	0.125	0.125	0.155	0.155

References of complete switches with 1 Pg 13.5 cable entry

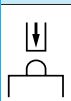
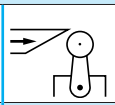
For complete switches with 1 Pg 13.5 cable entry replace P20 by **G13**.
Example: XCPR2110P20 becomes **XCPR2110G13**.

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*

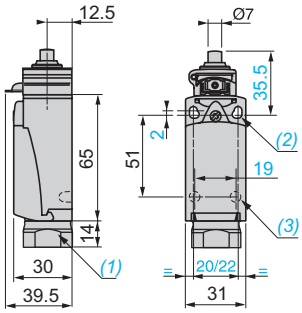
Characteristics

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.			

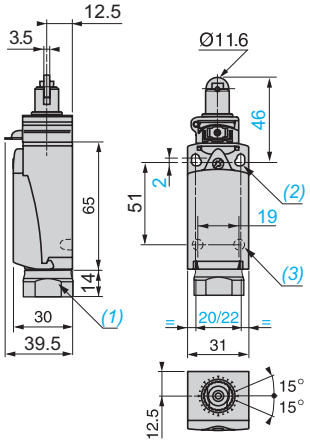
Limit switches
XC Standard range
Compact design, plastic, with reset, XCPR
Complete switches with 1 cable entry

Dimensions

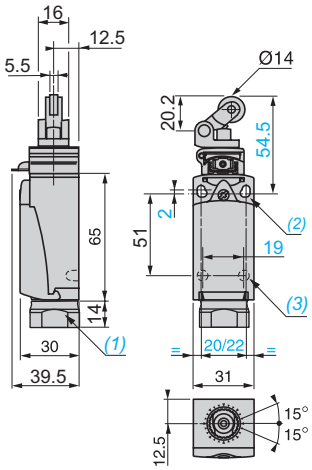
XCPR2●10●●●



XCPR2●02●●●



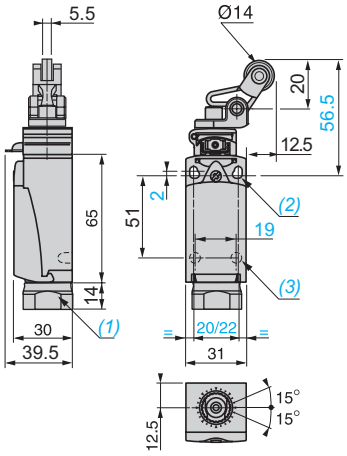
XCPR2●21●●●



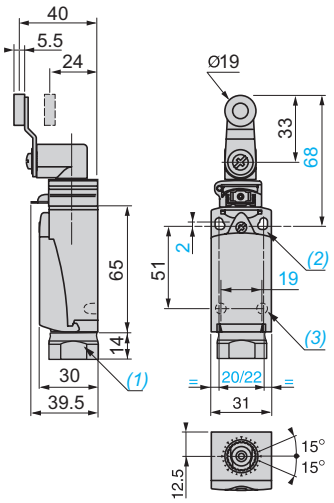
(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Dimensions

XCPR2●27●●●

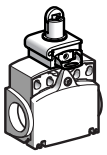
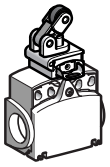
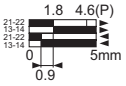
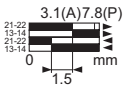
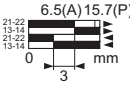
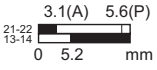
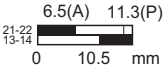


XCPR2●18●●●, XCPR2●19●●●



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

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*

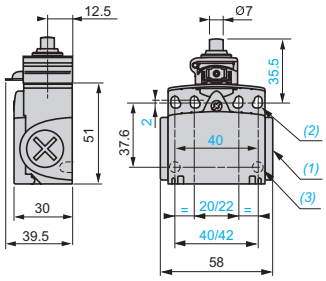
Characteristics

Switch actuation		On end	By 30° cam	
Type of actuation				
Maximum actuation speed		0.5 m/s		1 m/s
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 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**		

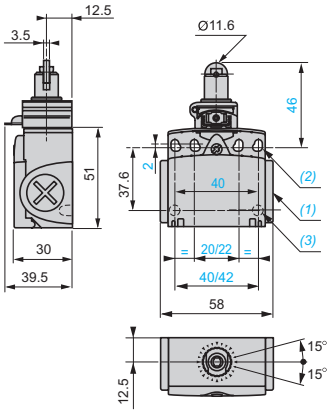
Limit switches
XC Standard range
Compact design, plastic, with reset, XCTR
Complete switches with 2 cable entries

Dimensions

XCTR2●10●●●



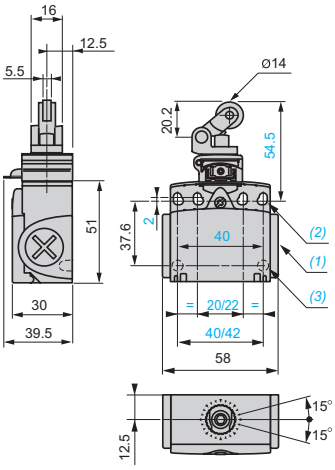
XCTR2●02●●●



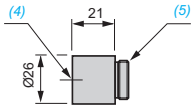
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or tapped 1/2" NPT.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.
(4) Tapped entry for 1/2" NPT conduit.
(5) Pg 11 threaded sleeve.

Dimensions

XCTR2●21●●●



DE9RA1012



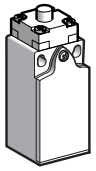
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or 1/2" NPT conduit.
(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

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

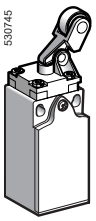
■ XCKN
with 1 cable entry
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)

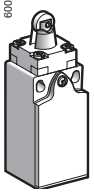
530748



530745



600039



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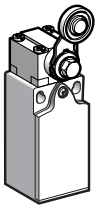
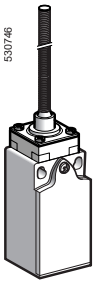
□ With head for rotary movement (lever) or multi-directional

530749



530746



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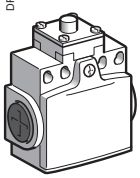
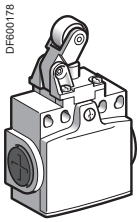
■ XCNT
with 2 cable entries
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)

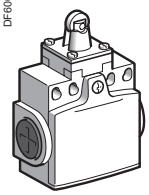
DF600177



DF600178



DF600352



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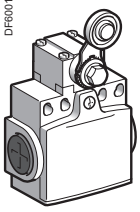
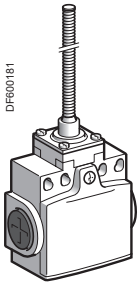
□ With head for rotary movement (lever) or multi-directional

DF600180



DF600181



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

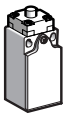
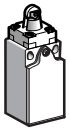
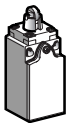
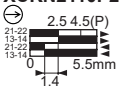
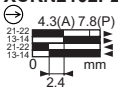
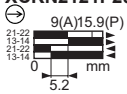
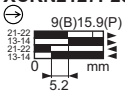
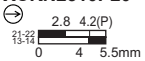
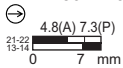
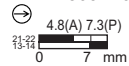
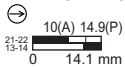
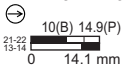
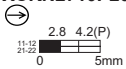
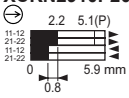
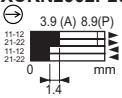
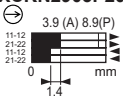
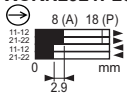
Environment characteristics

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** 	–	**XCKN2721P20** 	–
 **2-pole NC + NC snap action**	**XCKN2910P20** 	**XCKN2902P20** 	**XCKN2903P20** 	**XCKN2921P20** 	–
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

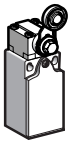
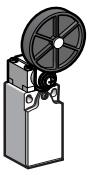
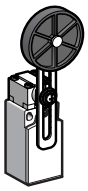
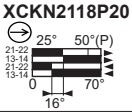
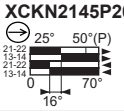
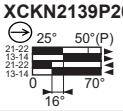
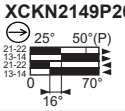
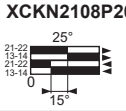
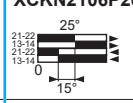
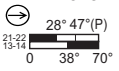
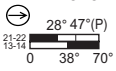
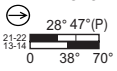
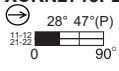
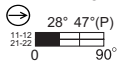
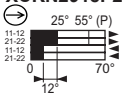
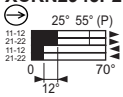
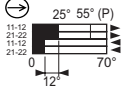
For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

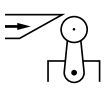
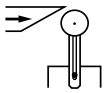
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

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** 	–	**XCKN2549P20** 	–	–
 **2-pole NC + NC simultaneous, slow break**	**XCKN2718P20** 	**XCKN2745P20** 	–	–	–	–
 **2-pole NC + NC snap action**	**XCKN2918P20** 	**XCKN2945P20** 	–	**XCKN2949P20** 	–	–
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

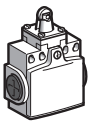
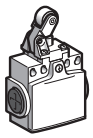
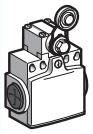
For complete switches with ISO M16 x 1.5 or PF 1/2 (G 1/2) cable entry, please consult our Customer Care Centre.

Other contacts

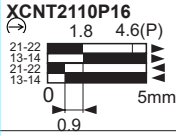
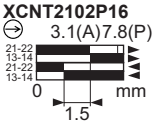
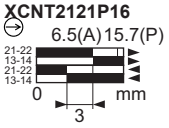
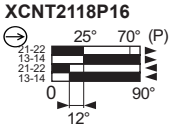
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

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.

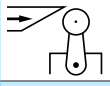
Limit switches
XC Basic range
Compact design, plastic, XCNT
Complete switches with 2 cable entries

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

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

 **2-pole NC + NO snap action**	**XCNT2110P16** 	**XCNT2102P16** 	**XCNT2121P16** 	**XCNT2118P16** 
Weight (kg)	0.085	0.085	0.090	0.105
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 (in millions of operating cycles)		10			
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		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

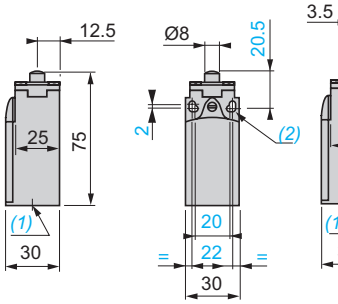
Other contacts

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, XCKN
Complete switches with 1 cable entry

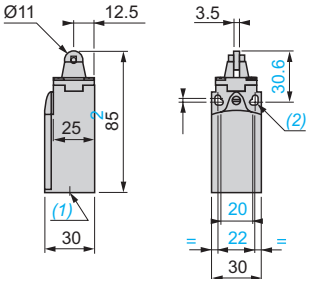
Dimensions

XCKN2●10P20

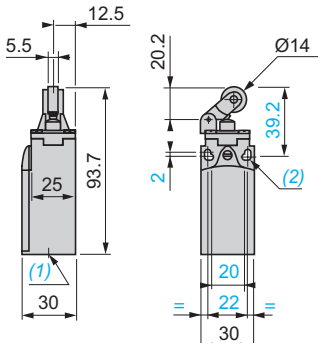


XCKN2●02P20

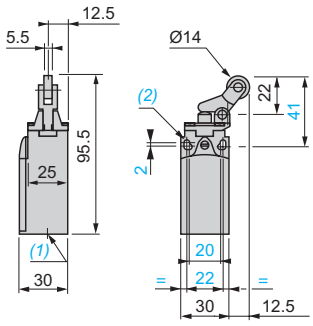
XCKN2●03P20



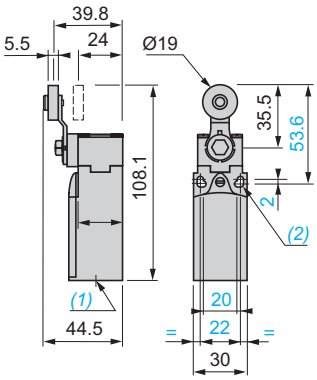
XCKN2●21P20



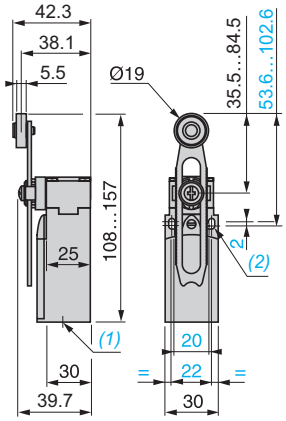
XCKN2●27P20



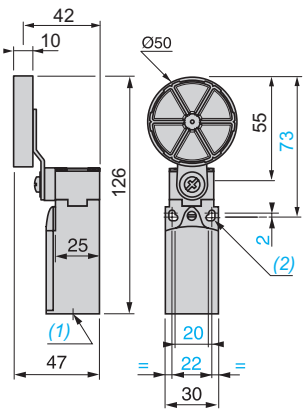
XCKN2●18P20



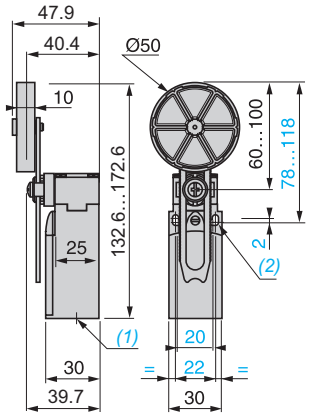
XCKN2●45P20



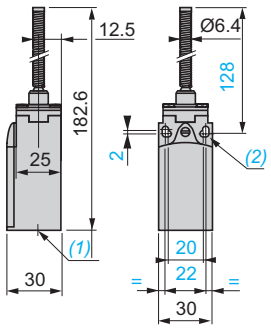
XCKN2●39P20



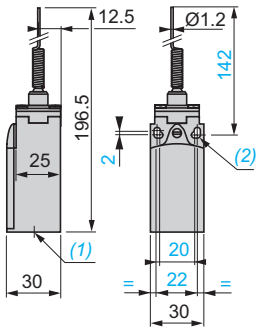
XCKN2●49P20



XCKN2●08P20

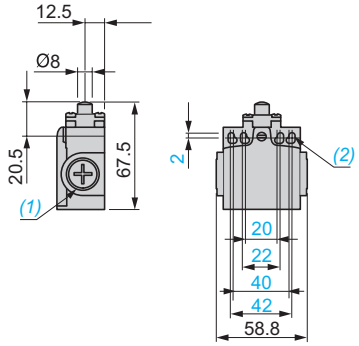


XCKN2●06P20

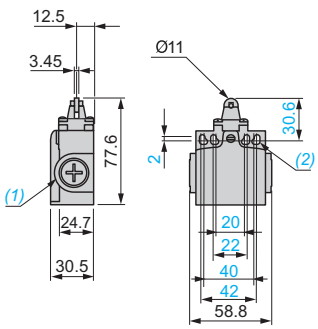


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

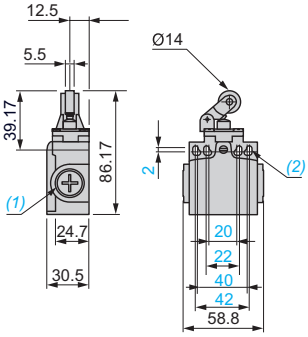
XCNT2●10P16



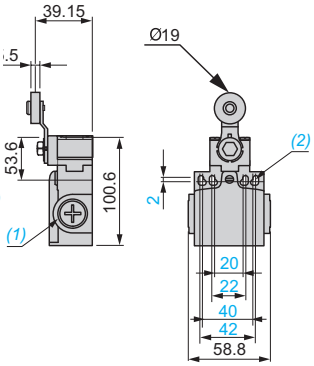
XCNT2●02P16



XCNT2●21P16



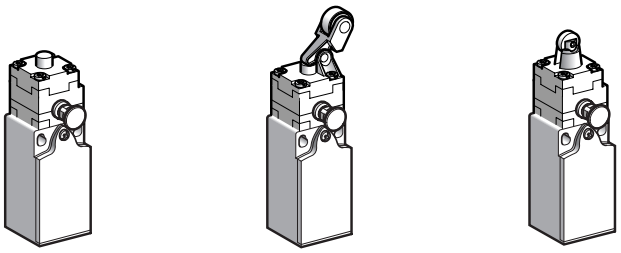
XCNT2●18P16



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)



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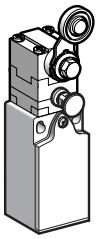
□ With head for rotary movement (lever)



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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

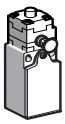
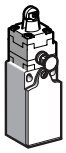
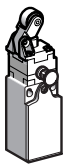
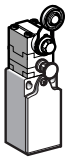
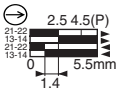
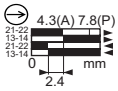
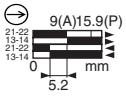
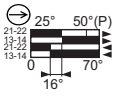
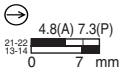
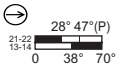
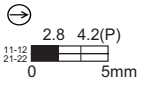
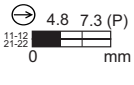
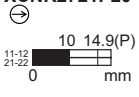
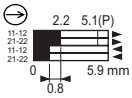
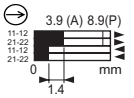
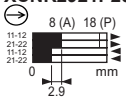
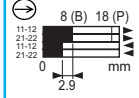
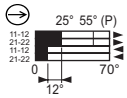
Contact block characteristics

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

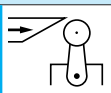
Limit switches

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** 	–	**XCNR2118P20** 
 **2-pole NC + NO break before make, slow break**	–	**XCNR2502P20** 	–	–	**XCNR2518P20** 
 **2-pole NC + NC simultaneous, slow break**	**XCNR2710P20** 	**XCNR2702P20** 	**XCNR2721P20** 	–	–
 **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.

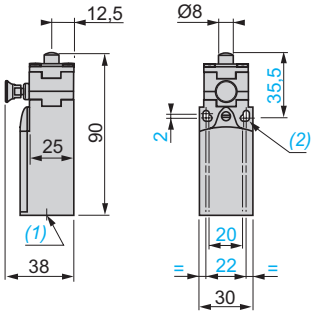
Limit switches

XC Basic range

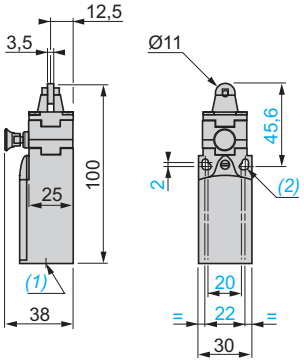
Compact design, plastic, with reset knob, XCNR
Complete switches with 1 cable entry

Dimensions

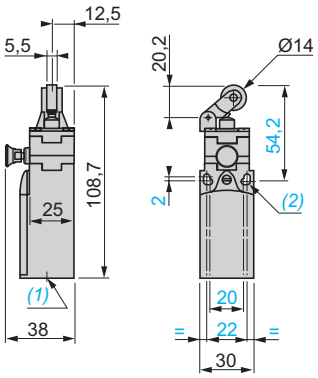
XCNR2●10P20



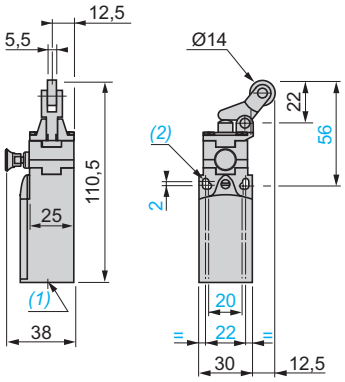
XCNR2●02P20



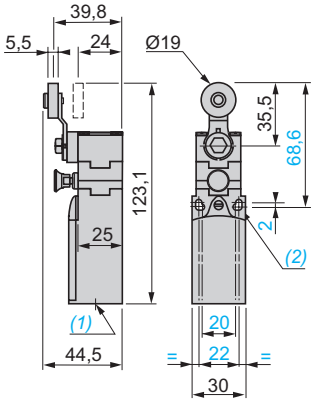
XCNR2●21P20



XCNR2●27P20



XCNR2●18P20

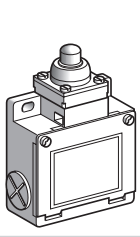


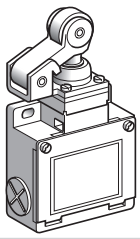
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

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

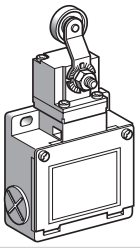
■ XCKM, with 3 cable entries

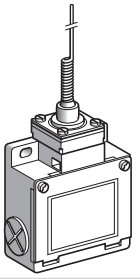
□ With head for linear movement (plunger)





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





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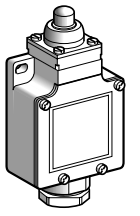
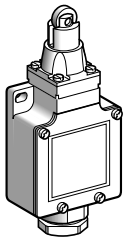
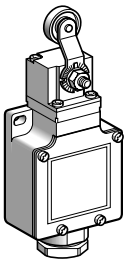
■ XCKL, with 1 cable entry

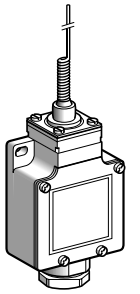
□ With head for linear movement (plunger)





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





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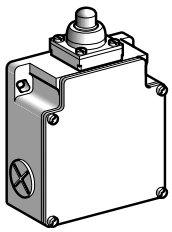
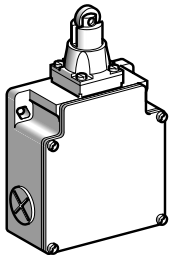
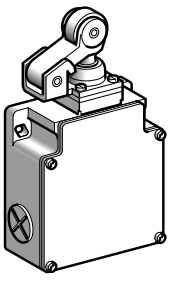
■ XCKML, with 3 cable entries and 2 x 2-pole contacts

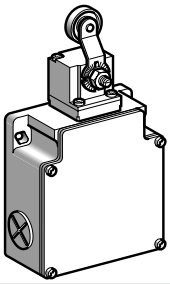
□ With head for linear movement (plunger)





□ With head for rotary movement (lever)





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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

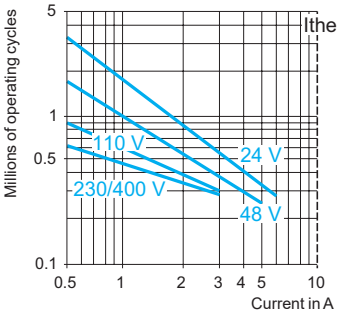
Rated operational characteristics	XE2●P	∼ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A ⎓ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	∼ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A ⎓ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 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

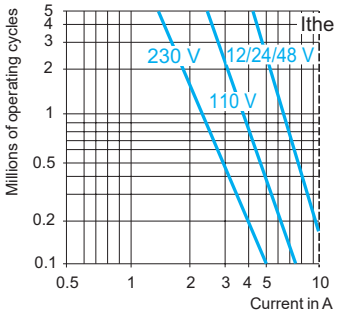
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

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

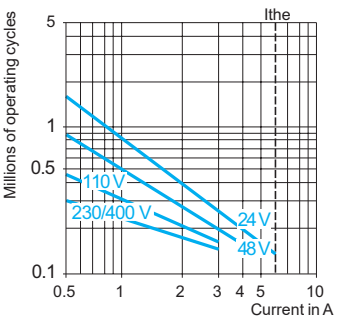
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

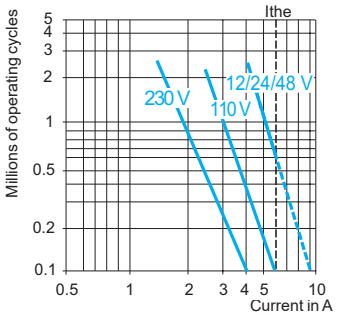
For XE2SP●151 on ∼ or ⎓, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply
50/60 Hz ∼
⎓ inductive circuit

XE3SP●●●●



XE3NP●●●●



DC supply ⎓

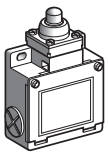
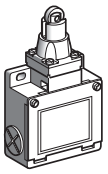
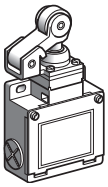
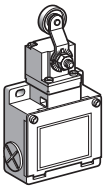
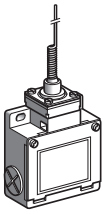
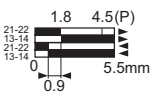
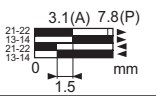
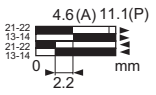
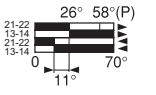
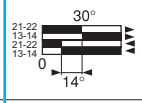
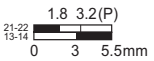
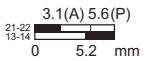
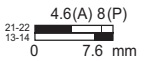
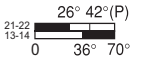
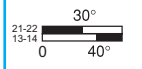
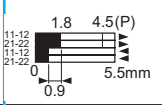
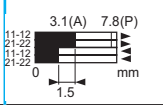
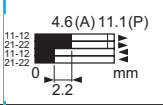
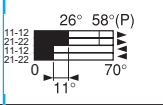
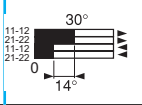
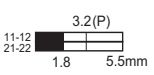
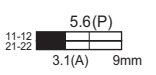
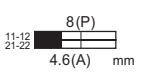
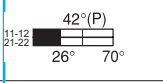
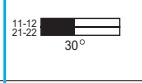
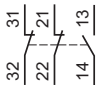
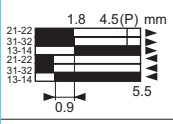
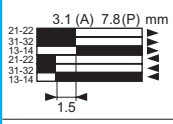
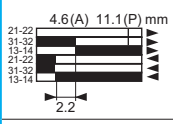
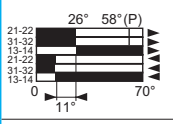
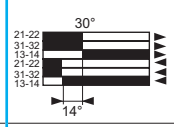
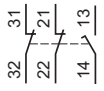
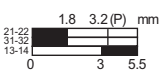
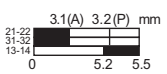
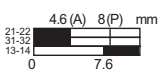
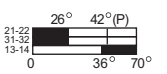
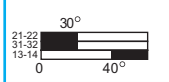
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

Power broken in W for 5 million operating cycles.

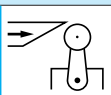
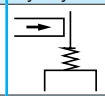
Voltage	V	24	48	120
⎓	W	4	3	2

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

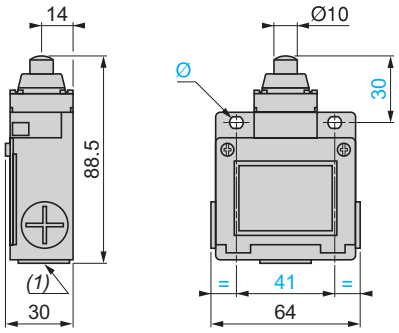
For complete units with 3 Pg 11 cable entries, delete **H29** from the end of the reference. Example: **XCKM110H29** becomes **XCKM110**.

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				

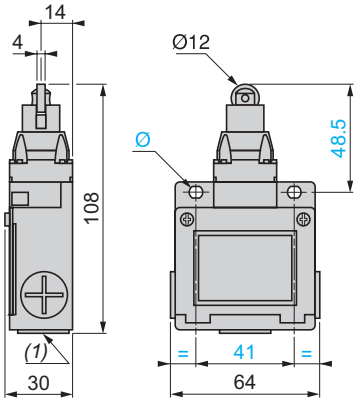
(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Limited to 15 million operating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

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

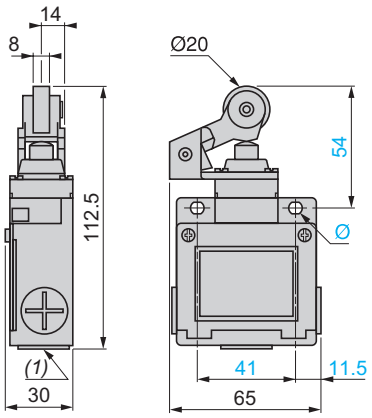
XCKM●10
ZCKMD3● + ZCKD10



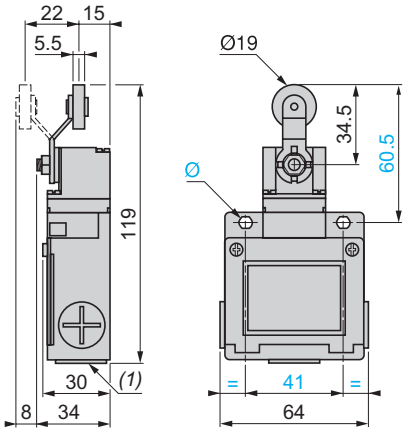
XCKM●02
ZCKMD3● + ZCKD02



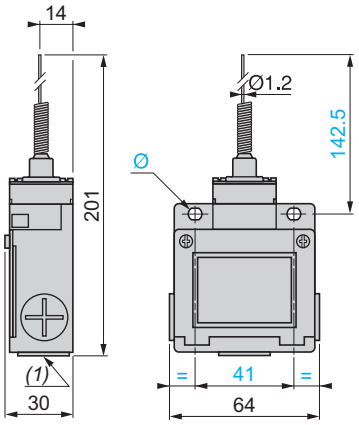
XCKM●21
ZCKMD3● + ZCKD21



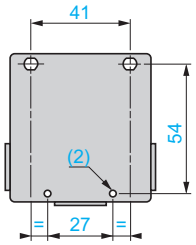
XCKM●15
ZCKMD3● + ZCKD15



XCKM●06
ZCKMD3● + ZCKD06

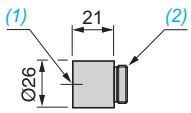


Rear view XCKM●●●, ZCKM●, ZCKMD3●



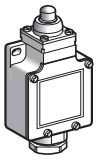
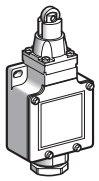
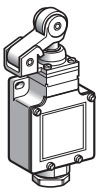
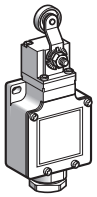
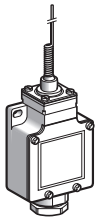
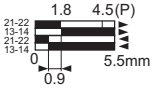
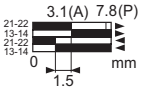
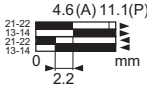
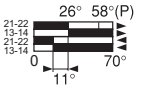
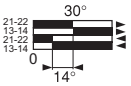
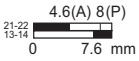
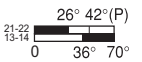
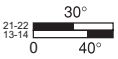
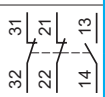
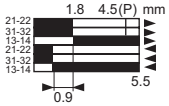
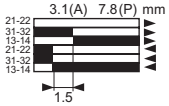
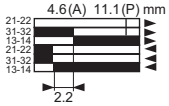
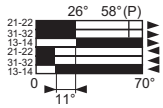
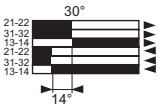
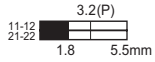
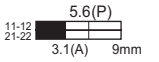
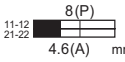
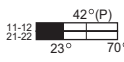
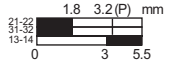
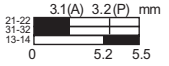
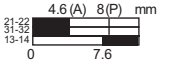
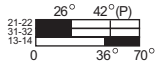
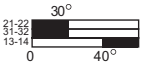
(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.
(2) 2 x Ø 4 H 11, depth 10.
Ø: 2 elongated holes Ø 5.2 x 6.2

Adaptor for 1/2" NPT conduit
DE9RA1012

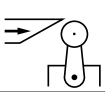


(1) Tapped entry for 1/2" NPT conduit.
(2) Pg 11 threaded sleeve.

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) 	–	–	**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*	

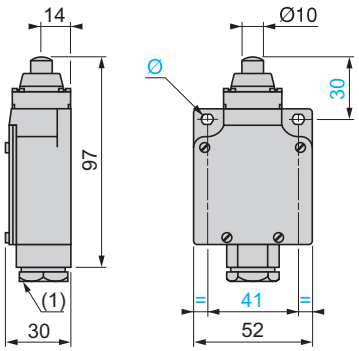
Characteristics

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.				

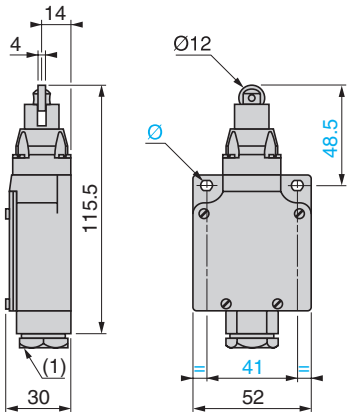
(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(2) Value taken with actuation by moving part at 100 mm from the fixing.
(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.
(4) Limited to 15 million operating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

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

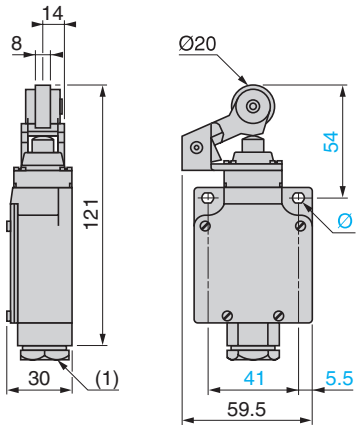
XCKL●10
ZCKL● + ZCKD10
ZCKLD3● + ZCKD10



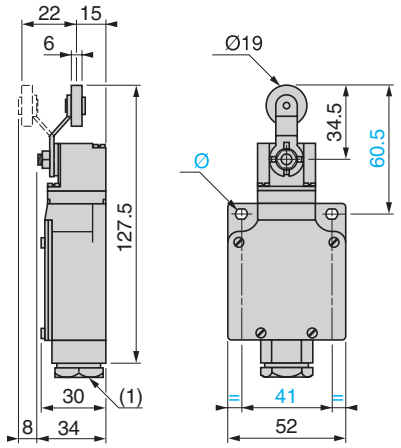
XCKL●02
ZCKL3● + ZCKD02
ZCKLD3● + ZCKD02



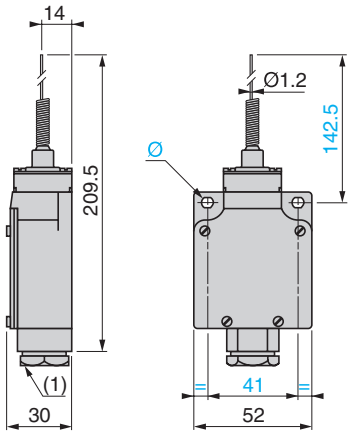
XCKL●21
ZCKL● + ZCKD21
ZCKLD3● + ZCKD21



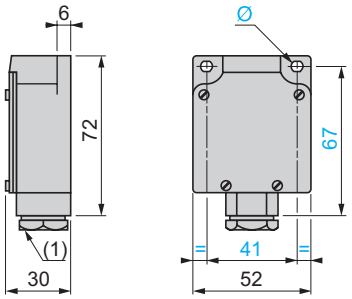
XCKL●15
ZCKL● + ZCKD15
ZCKLD3● + ZCKD15



XCKL●06
ZCKL● + ZCKD06
ZCKLD3● + ZCKD06



Body fixings



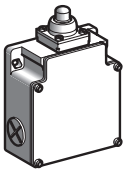
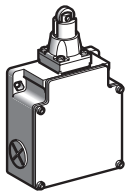
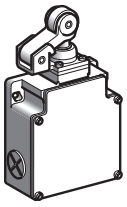
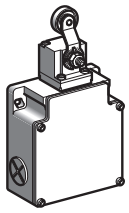
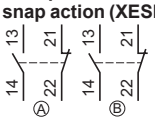
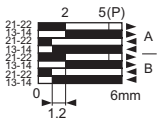
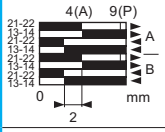
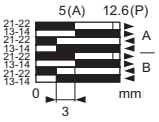
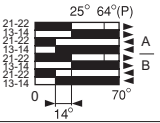
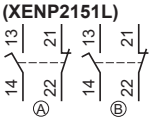
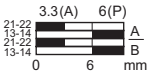
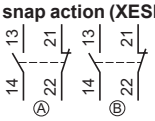
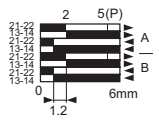
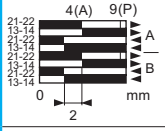
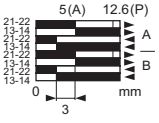
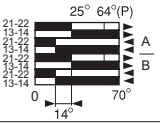
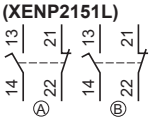
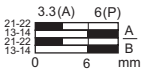
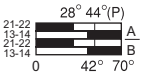
(1) Incorporated Pg 13.5 cable gland
Ø: 2 elongated holes Ø 5.2 x 6.2

Limit switches

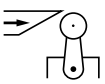
XC Standard range, Classic format

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) 	–	**XCKML502H29** ⊖ 	–	–
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) 	–	**XCKML502** ⊖ 	–	**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.

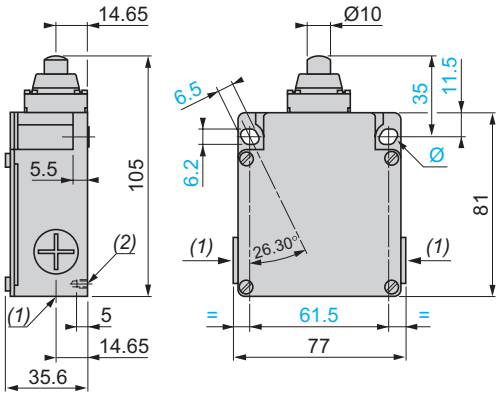
(2) Switches available with other 2-pole slow break contact blocks: NO + NC make before break, NC + NC simultaneous (with positive opening operation), NO + NO simultaneous. Please consult our Customer Care Centre.

Note: replacement parts

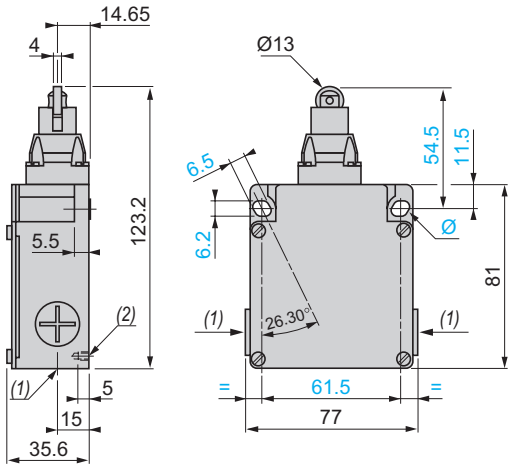
*The heads of limit switches XCKML are the same as those for XCKM and XCKL (see heads **ZCKD10**, **ZCKD02**, **ZCKD21** and **ZCKD15** on page 122).*

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

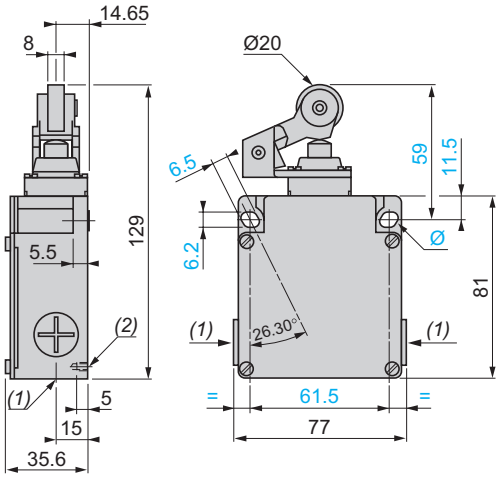
XCKML110H29, XCKML110



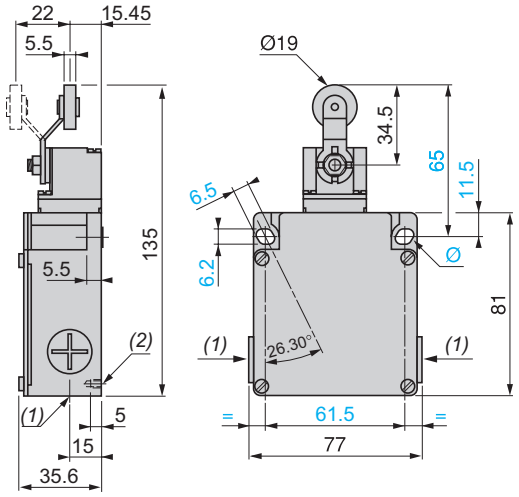
XCKML102H29, XCKML502H29, XCKML102, XCKML502



XCKML121H29, XCKML121

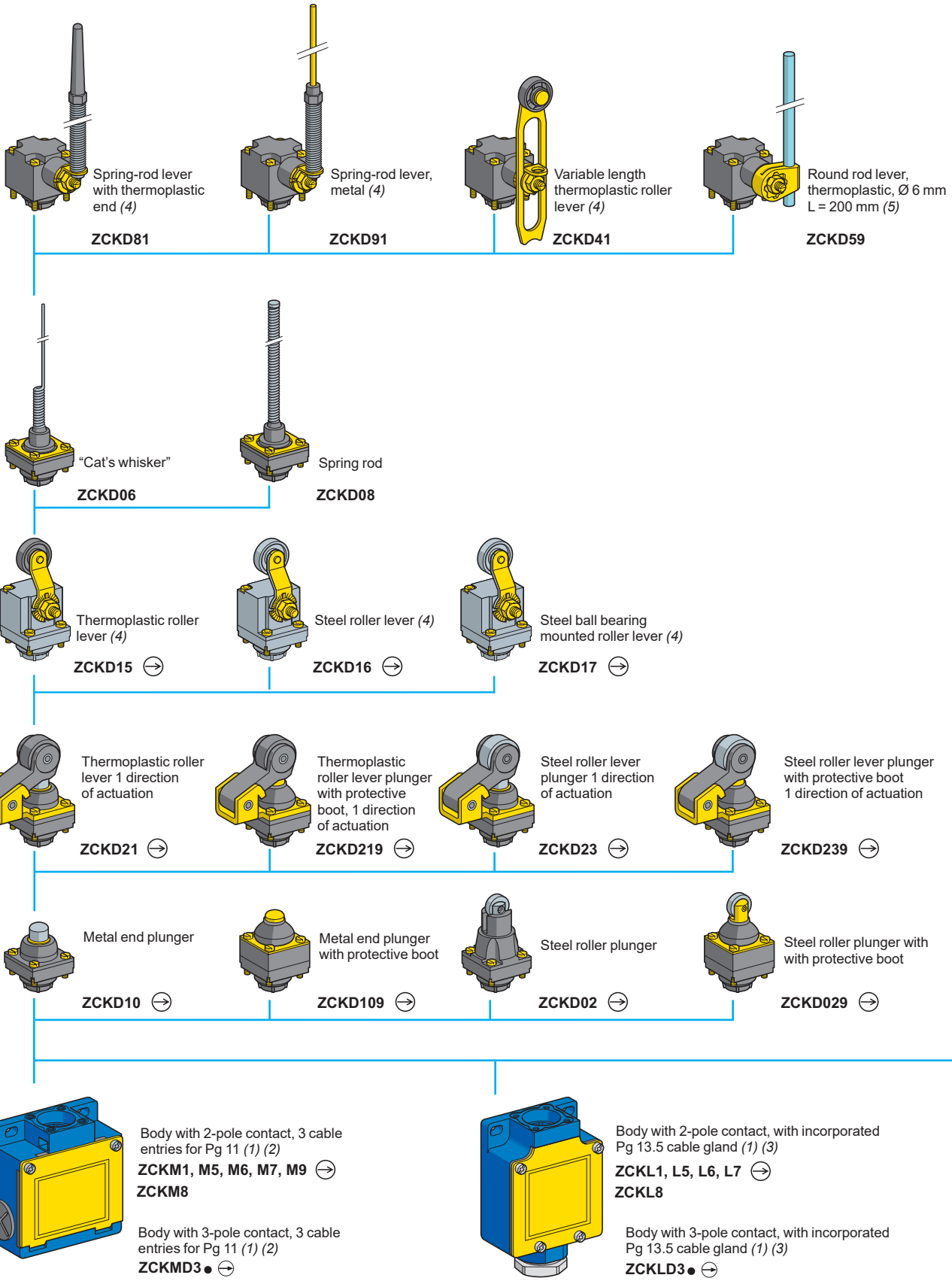


XCKML115H29, XCKML115, XCKML515

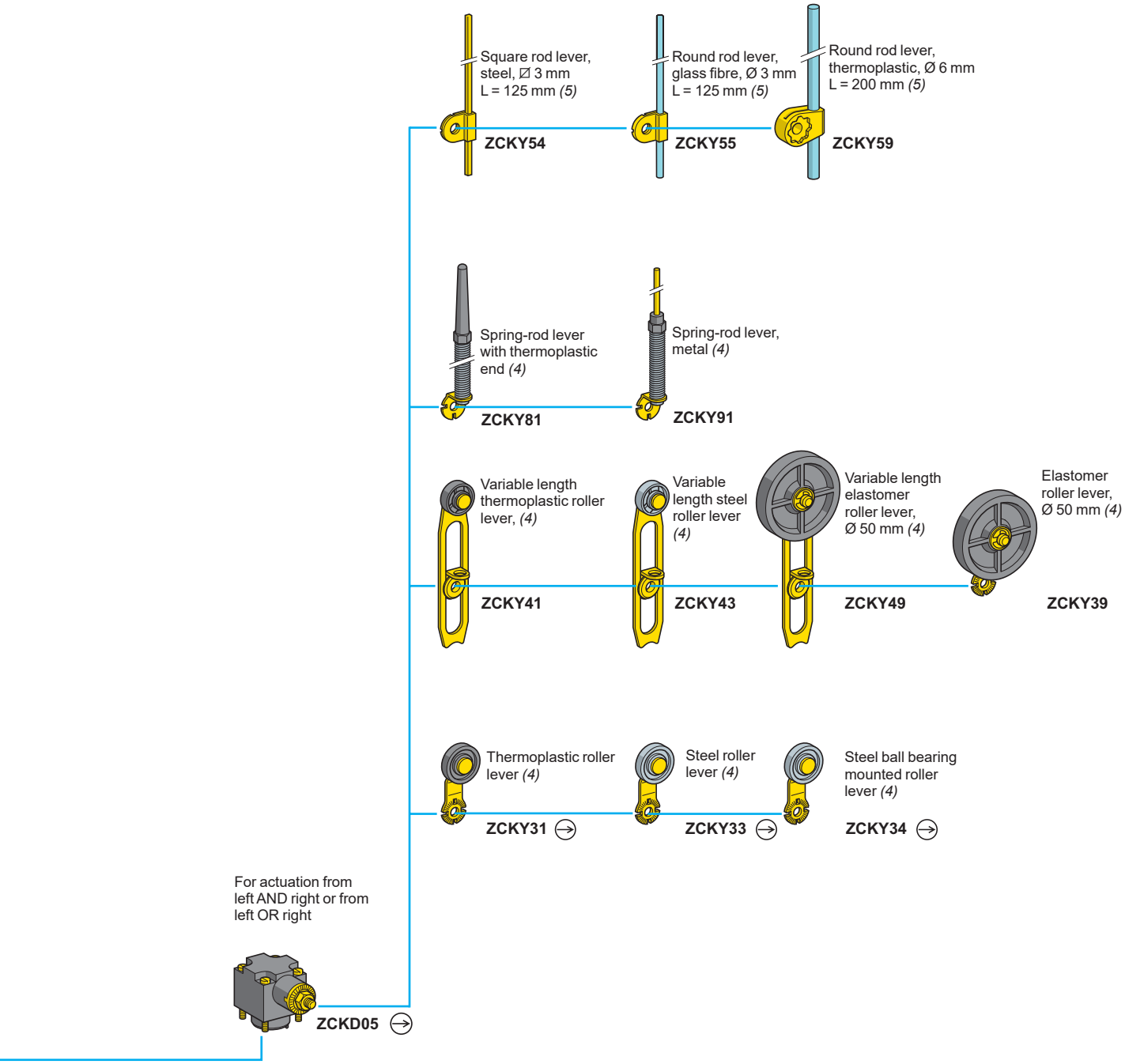


(1) ***XCKML●●●H29****: 3 entries tapped M20 x 1.5.* ***XCKML●●●****: 3 tapped entries for n° 13 cable gland.*
(2) 2 centring holes Ø 3.9 ± 0.2, for cover fixing holes alignment.
Ø 2 elongated holes 6.2 x 6.5, inclined at 26° 30' to the vertical axis, for M5 screws.

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

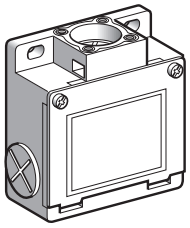


(1) For further information, see page 124.
*(2) For 3 cable entries tapped ISO M20 x 1.5, add **H29** to the reference. Example: ZCKM1 becomes **ZCKM1H29**.*
*For one cable entry with 1/2" NPT adaptor, add **H7** to the reference. Example: ZCKM1 becomes **ZCKM1H7**.*
*(3) For one cable entry tapped 1/2" NPT, add **H7** to the reference. Example: ZCKL1 becomes **ZCKL1H7**.*

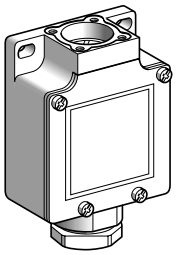


⊖: head assuring positive opening operation.
(4) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

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

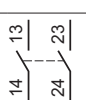


ZCKM●



ZCKL●

Bodies with 2-pole contact

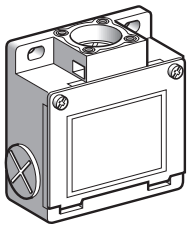
With contact block	Scheme	Positive operation *(1)*	Cable entry	Reference	Weight kg
For limit switches XCKM					
NC + NO snap action (XE2SP2151)		⊖	Pg 11	**ZCKM1**	0.210
			ISO M20 x 1.5	**ZCKM1H29**	0.210
			1/2" NPT *(2)*	**ZCKM1H7**	0.210
NC + NO break before make, slow break (XE2NP2151)		⊖	Pg 11	**ZCKM5**	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
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
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
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.*

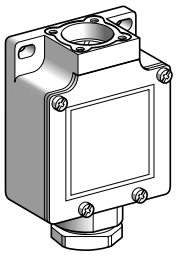
(2) 3 tapped entries, one with metal adaptor for 1/2" NPT (USASB2-1) conduit.

(3) Pg 13.5 cable gland included with switch.

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

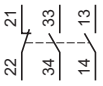
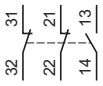
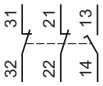
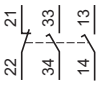
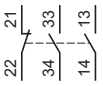
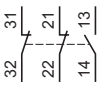
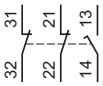


ZCKMD3●



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
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
NC + NO + NO break before make, slow break (XE3NP2151)		⊖	Pg 11	**ZCKMD35**	0.210
			ISO M20 x 1.5	**ZCKMD35H29**	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
NC + NC + NO break before make, slow break (XE3NP2141)		⊖	Pg 13.5	**ZCKLD37** *(3)*	0.210
			1/2" NPT		0.210

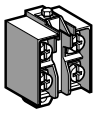
(1) ⊖ : NC contact with positive opening operation.

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

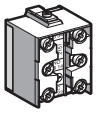
(3) Pg 13.5 cable gland included with switch.

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

XE2SP21●1

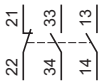
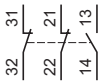
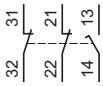
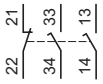


XE2NP21●1



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	⊖	**XE3NP2151**	0.035

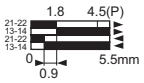
(1) ⊖ : NC contact with positive opening operation or sub-assembly assuring positive opening operation.

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

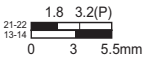
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

Heads ZCKD10, D109 with body

ZCKM1, L1

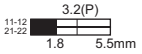


ZCKM5, L5



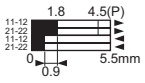
ZCKM6, L6

ZCKM7, L7

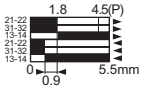


ZCKM8, L8

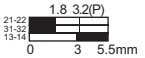
ZCKM9



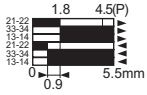
ZCKMD39, LD39



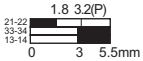
ZCKMD37, LD37



ZCKMD31, LD31

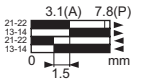


ZCKMD35

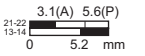


Heads ZCKD02, D029 with body

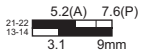
ZCKM1, L1



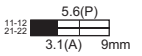
ZCKM5, L5



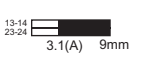
ZCKM6, L6



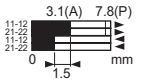
ZCKM7, L7



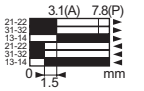
ZCKM8, L8



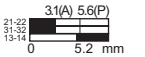
ZCKM9



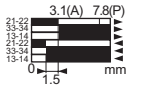
ZCKMD39, LD39



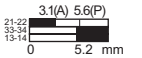
ZCKMD37, LD37



ZCKMD31, LD31

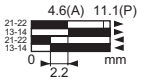


ZCKMD35

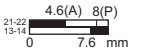


Heads ZCKD21, D23, D219, D239 with body

ZCKM1, L1

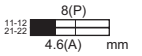


ZCKM5, L5



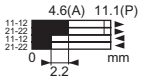
ZCKM6, L6

ZCKM7, L7

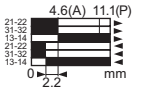


ZCKM8, L8

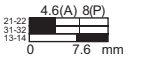
ZCKM9



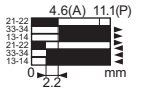
ZCKMD39, LD39



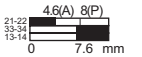
ZCKMD37, LD37



ZCKMD31, LD31

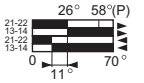


ZCKMD35

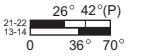


Heads ZCKD15, D16, D17 with body

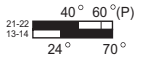
ZCKM1, L1



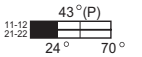
ZCKM5, L5



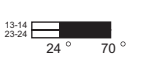
ZCKM6, L6



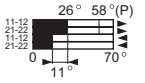
ZCKM7, L7



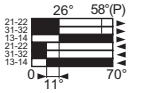
ZCKM8, L8



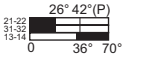
ZCKM9



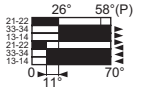
ZCKMD39, LD39



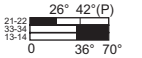
ZCKMD37, LD37



ZCKMD31, LD31

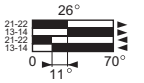


ZCKMD35

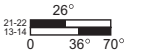


Heads ZCKD41, D59, D81, D91 with body

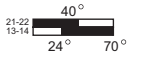
ZCKM1, L1



ZCKM5, L5



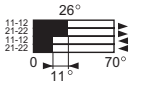
ZCKM6, L6



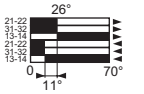
ZCKM7, L7

ZCKM8, L8

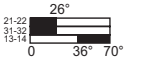
ZCKM9



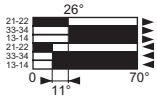
ZCKMD39, LD39



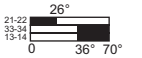
ZCKMD37, LD37



ZCKMD31, LD31

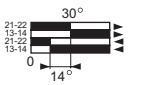


ZCKMD35

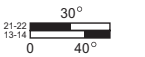


Heads ZCKD06, D08 with body

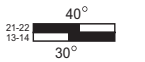
ZCKM1, L1



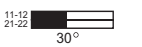
ZCKM5, L5



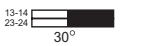
ZCKM6, L6



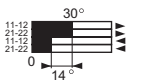
ZCKM7, L7



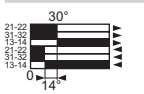
ZCKM8, L8



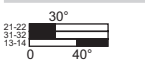
ZCKM9



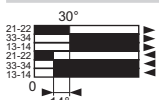
ZCKMD39, LD39



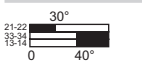
ZCKMD37, LD37



ZCKMD31, LD31



ZCKMD35



Contact operation

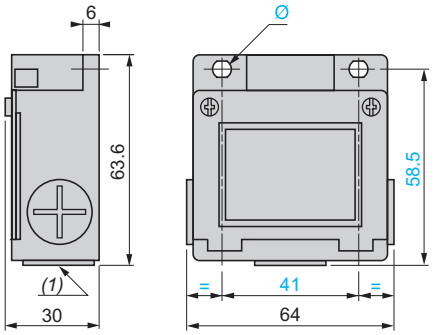
closed
open

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

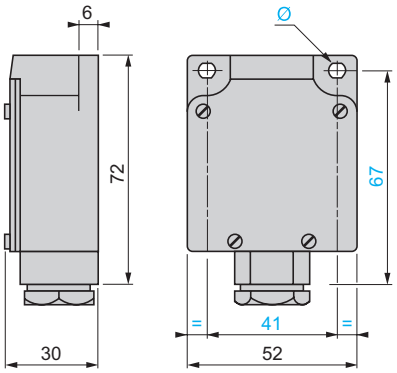
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

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

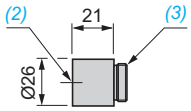


ZCKL1, L5, L6, L7, L8, LD3● (with incorporated Pg 13.5 cable gland)
ZCKL1H7, L5H7, L6H7, L7H7, L8H7, LD3●H7 (with 1/2" NPT cable entry)



Adaptor for 1/2" NPT conduit

DE9RA1012

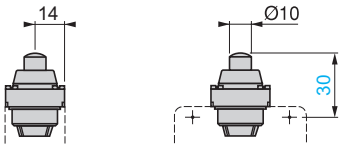


(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland.
Ø: 2 elongated holes Ø 5.2 x 6.2
(2) Tapped entry for 1/2" NPT conduit.
(3) Pg 11 threaded sleeve.

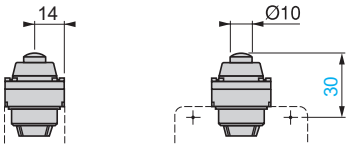
Limit switches
XC Standard range, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

Plunger heads

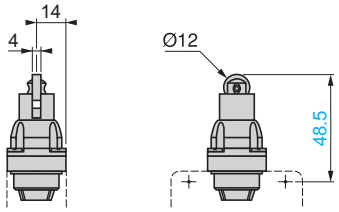
ZCKD10



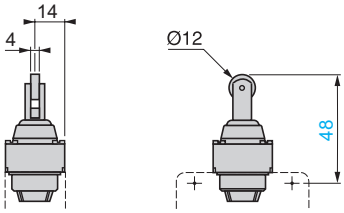
ZCKD109



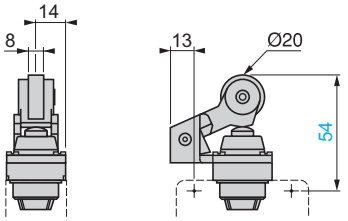
ZCKD02



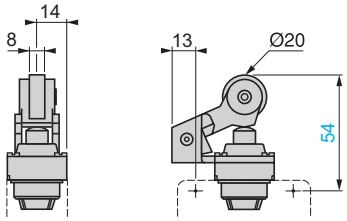
ZCKD029



ZCKD21, ZCKD23

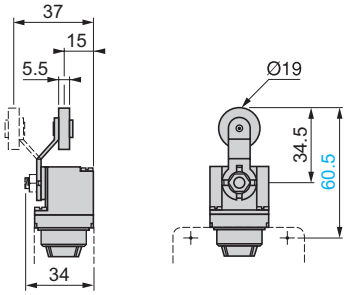


ZCKD219, ZCKD239

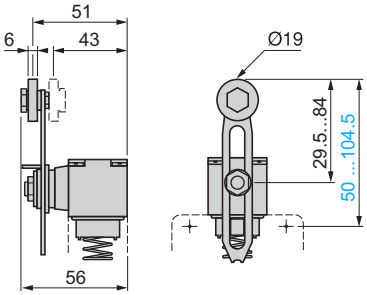


Rotary heads

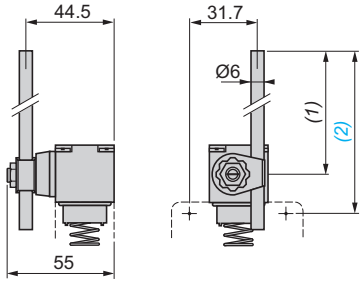
ZCKD15, ZCKD16, ZCKD17



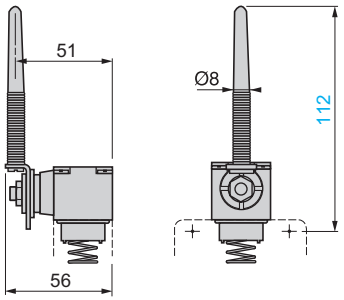
ZCKD41



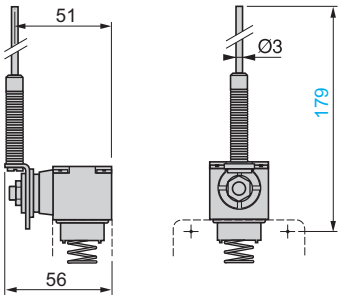
ZCKD59



ZCKD81

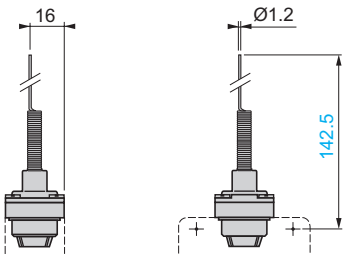


ZCKD91

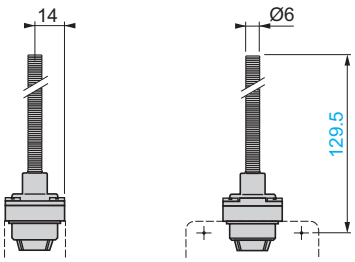


Multi-directional heads

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

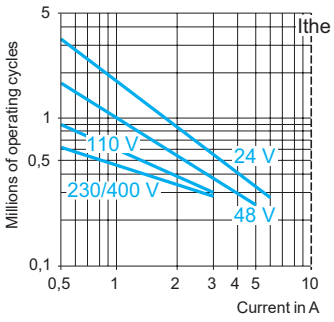
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS

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

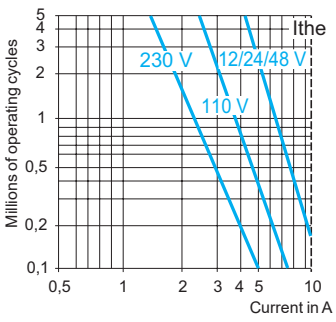


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

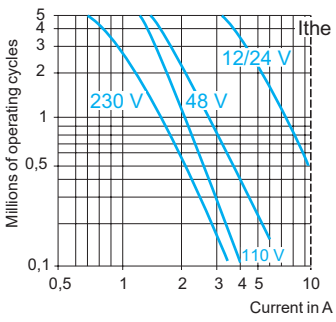
XE2NP21●1



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

XESP3021



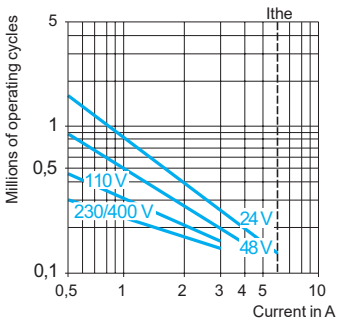
Power broken in W for 5 million operating cycles.

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

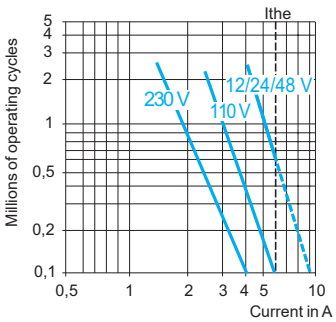


DC supply ⎓

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.

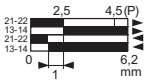
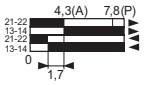
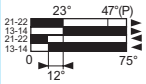
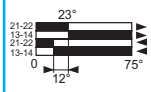
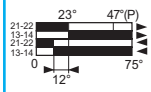
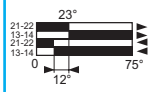
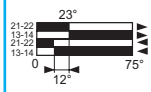
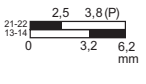
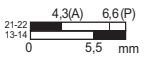
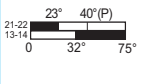
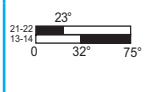
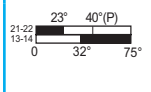
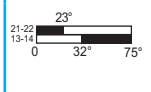
Voltage	V	24	48	120
⎓	W	4	3	2

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) 	**XCKS539H29** 	**XCKS541H29** (thermoplastic) **XCKS543H29** (steel) 		**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*

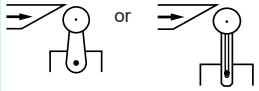
References of complete switches with 1 Pg 13.5 cable entry

For an entry tapped for a Pg 13.5 cable gland, delete **H29** from the end of the reference. (Except XCKS133H29, XCKS143H29 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, XCKS539H29, XCKS543H29, 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	⊖	⊖	⊖	–	⊖	–	–
11 21 12 22 **2-pole NC + NC snap action (XE2SP2141)**	**ZCKS9H29 + ZCKD01**	**ZCKS9H29 + ZCKD02**	**ZCKS9H29 + ZCKD31**	**ZCKS9H29 + ZCKD39**	**ZCKS9H29 + ZCKD41**	**ZCKS9H29 + ZCKD49**	**ZCKS9H29 + ZCKD59**
11 21 12 22 **2-pole NC + NC simultaneous, slow break (XE2NP2141)**	**ZCKS7H29 + ZCKD01**	**ZCKS7H29 + ZCKD02**	**ZCKS7H29 + ZCKD31**	**ZCKS7H29 + ZCKD39**	**ZCKS7H29 + ZCKD41**	**ZCKS7H29 + ZCKD49**	**ZCKS7H29 + ZCKD59**
31 21 13 32 22 14 **3-pole NC + NC + NO snap action (XE3SP2141)**	**ZCKSD39H29 + ZCKD01**	**ZCKSD39H29 + ZCKD02**	**ZCKSD39H29 + ZCKD31**	**ZCKSD39H29 + ZCKD39**	**ZCKSD39H29 + ZCKD41**	**ZCKSD39H29 + ZCKD49**	**ZCKSD39H29 + 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

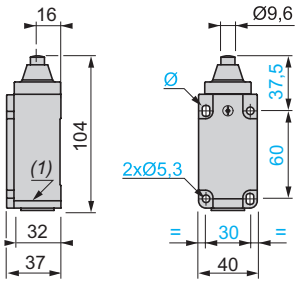
Switch actuation	On end	By 30° cam					By any moving part
Type of actuation							
Maximum actuation speed	0.5 m/s		1.5 m/s				1 m/s
Mechanical durability *(6)* (in millions of operating cycles)	25	15	20 or				
Minimum force or torque For tripping	15 N	12 N	0.15 N.m				
Minimum force or torque For positive 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.

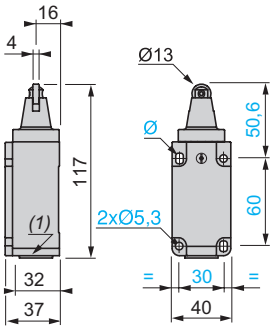
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Complete switches with 1 cable entry

Dimensions

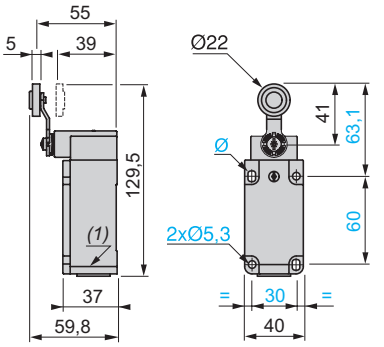
XCKS●01●●



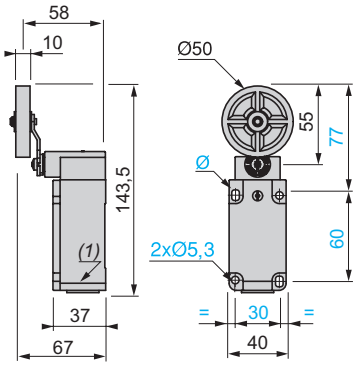
XCKS●02●●



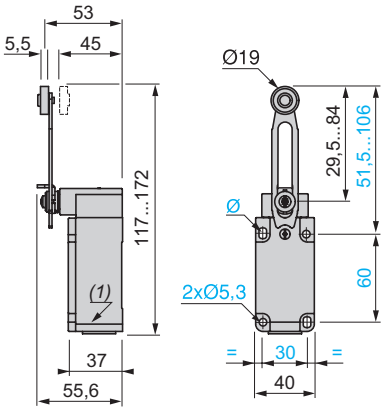
XCKS●31●● / XCKS●33●●



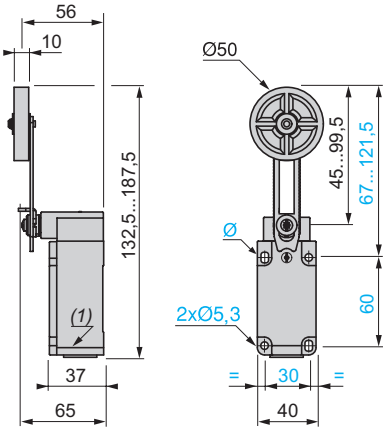
XCKS●39●●



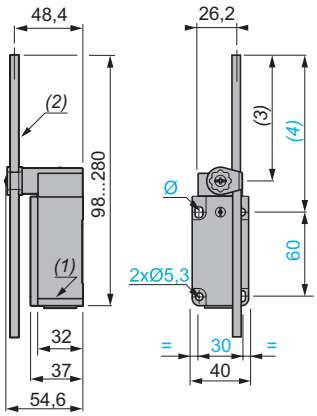
XCKS●41●● / XCKS●43●●



XCKS●49●●



XCKS●59●●

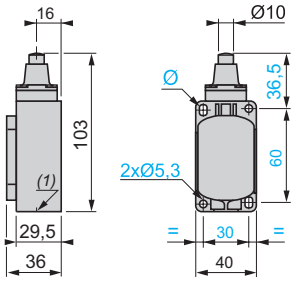


(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.
(2) Ø 6 rode, lenght 200 mm.
(3) 190 max.
(4) 212 max.
Ø : 2 elongated holes 5.3 x 7.3 mm.

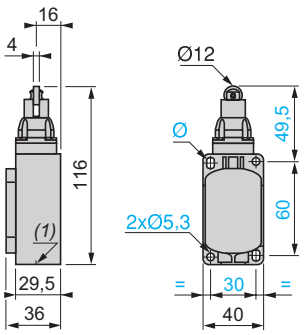
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches with 1 cable entry

Dimensions

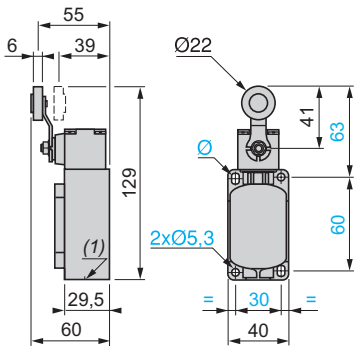
ZCKS● + ZCKD01



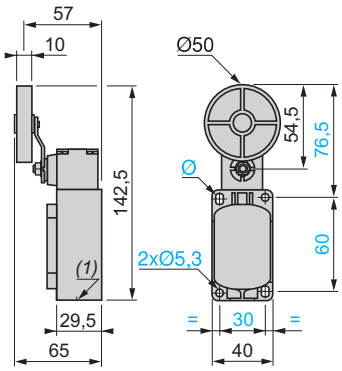
ZCKS● + ZCKD02



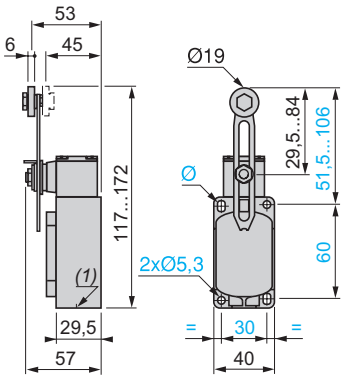
ZCKS● + ZCKD31



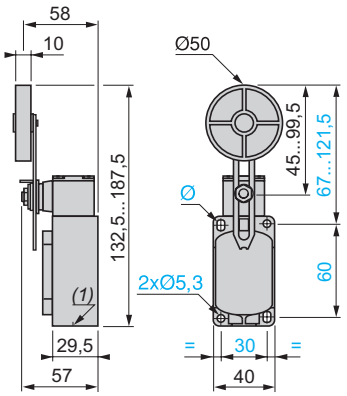
ZCKS● + ZCKD39



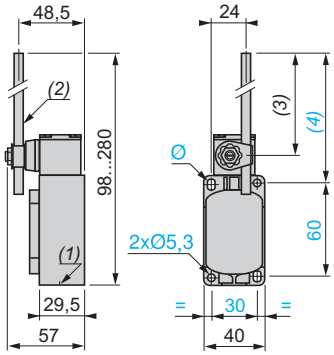
ZCKS● + ZCKD41



ZCKS● + ZCKD49

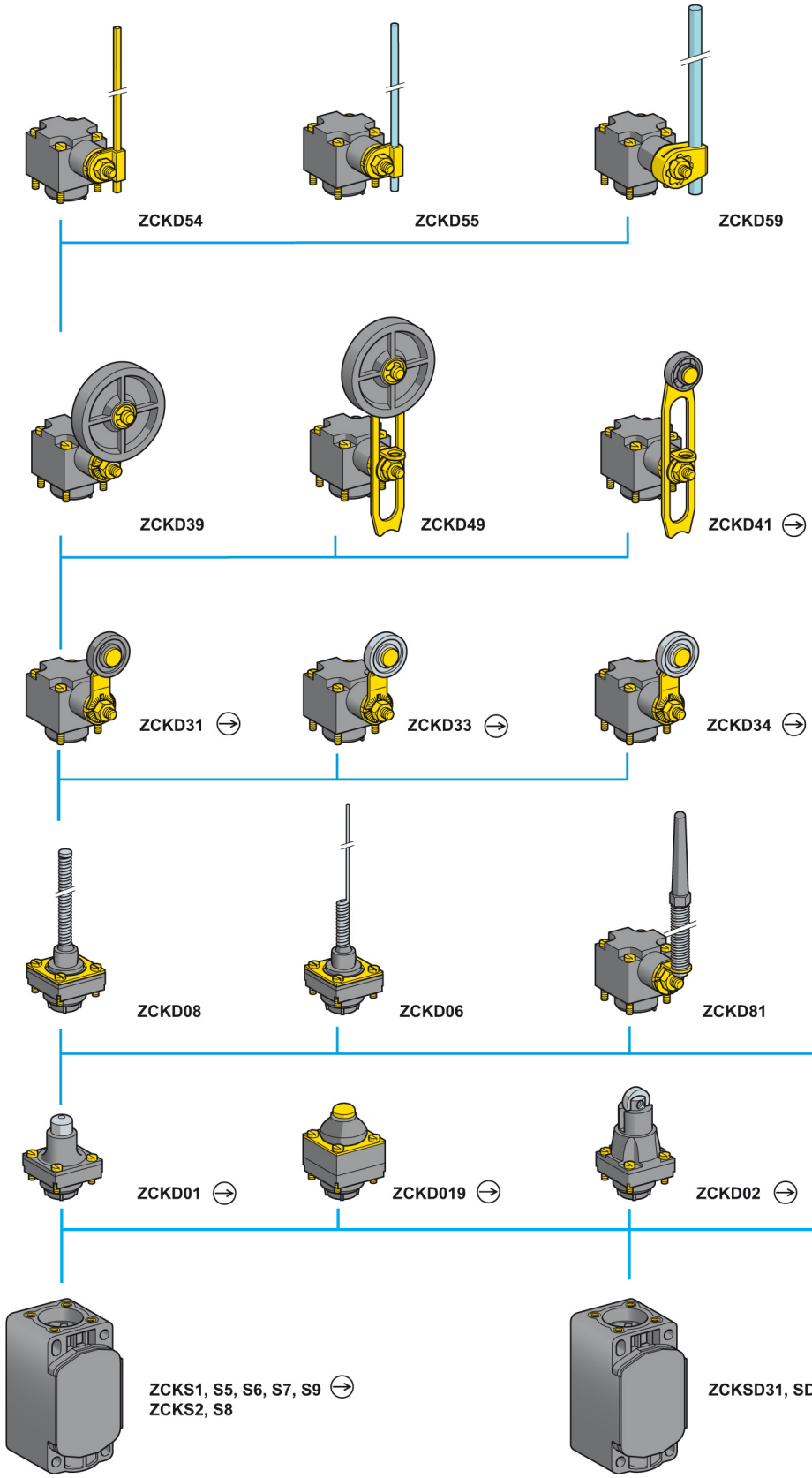


ZCKS● + ZCKD59



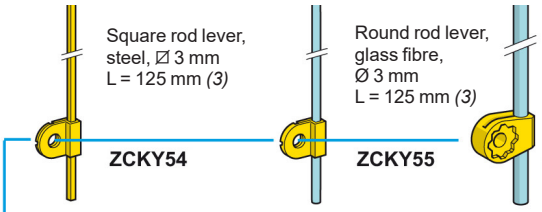
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.
(2) Ø 6 rode, lenght 200 mm.
(3) 190 max.
(4) 212 max.
Ø : 2 elongated holes 5.3 x 7.3 mm.

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



*(1) For further details see page 141. 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.*



Square rod lever, steel, ⍁ 3 mm
L = 125 mm *(3)*

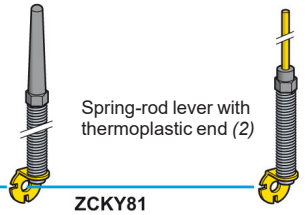
ZCKY54

Round rod lever, glass fibre, Ø 3 mm
L = 125 mm *(3)*

ZCKY55

Round rod lever, Ø 6 mm
L = 200 mm *(3)*

ZCKY59

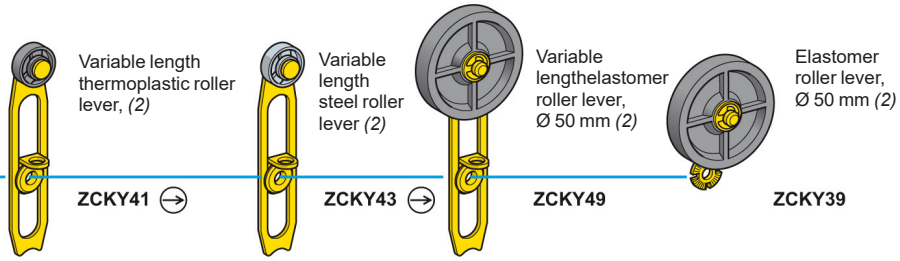


Spring-rod lever with thermoplastic end *(2)*

ZCKY81

Spring-rod lever, metal *(2)*

ZCKY91



Variable length thermoplastic roller lever, *(2)*

ZCKY41 →

Variable length steel roller lever *(2)*

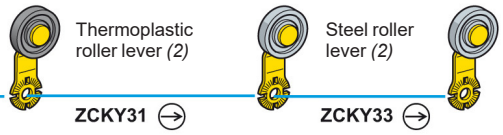
ZCKY43 →

Variable lengthelastomer roller lever, Ø 50 mm *(2)*

ZCKY49

Elastomer roller lever, Ø 50 mm *(2)*

ZCKY39



Thermoplastic roller lever *(2)*

ZCKY31 →

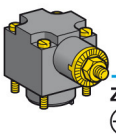
Steel roller lever *(2)*

ZCKY33 →

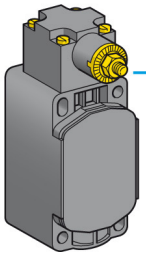
Steel ball bearing mounted roller lever *(2)*

ZCKY34 →

For actuation from left AND right or from left OR right



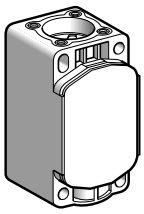
ZCKD05 →



Body with double-pole 2 CO, staggered, snap action contact cable entry for Pg 13.5
2 step, 1 from left AND 1 from right *(1)*

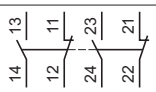
ZCKS404

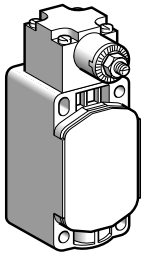
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches



ZCKS●

Bodies with 2-pole contact

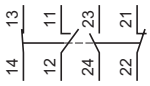
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	NC + NO snap action (XE2SP2151)		⊖	Pg 13.5	**ZCKS1**	0.080
				ISO M20 x 1.5	**ZCKS1H29**	0.080
	2 CO simultaneous, snap action (XESP3021)		–	Pg 13.5	**ZCKS2**	0.080
				ISO M20 x 1.5	**ZCKS2H29**	0.080
	NC + 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



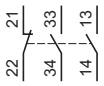
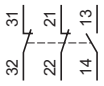
ZCKS404

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

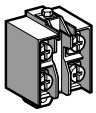
Bodies with 3-pole contact and 1 cable entry

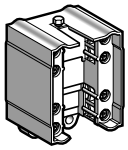
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
–	NC + NO + NO snap action (XE3SP2151)		⊖	Pg 13.5	**ZCKSD31**	0.080
				ISO M20 x 1.5	**ZCKSD31H29**	0.080
	NC + NC + NO snap action (XE3SP2141)		⊖	Pg 13.5	**ZCKSD39**	0.080
				ISO M20 x 1.5	**ZCKSD39H29**	0.080

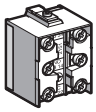
(1) ⊖: NC contact with positive opening operation or head assuring positive opening operation.

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


XE2SP21●1

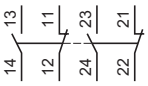
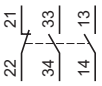
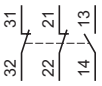

XE2NP21●1


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

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

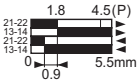
(1) ⊖ : NC contact with positive opening operation or sub-assembly assuring positive opening operation.

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

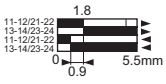
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches

Heads ZCKD01, D109 with body

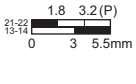
ZCKS1



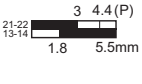
ZCKS2



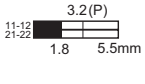
ZCKS5



ZCKS6

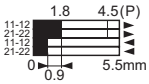


ZCKS7

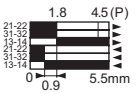


ZCKS8

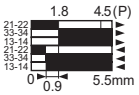
ZCKS9



ZCKSD39

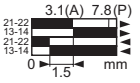


ZCKSD31

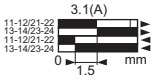


Heads ZCKD02, D029 with body

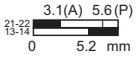
ZCKS1



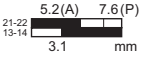
ZCKS2



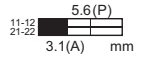
ZCKS5



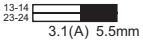
ZCKS6



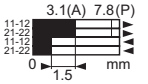
ZCKS7



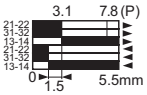
ZCKS8



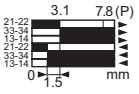
ZCKS9



ZCKSD39

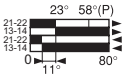


ZCKSD31

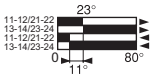


Heads ZCKD31, D33, D34 with body

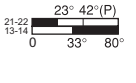
ZCKS1



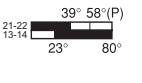
ZCKS2



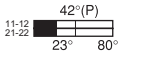
ZCKS5



ZCKS6

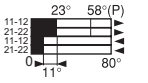


ZCKS7

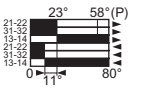


ZCKS8

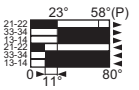
ZCKS9



ZCKSD39

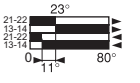


ZCKSD31

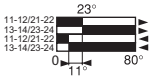


Heads ZCKD39, D41, D49, D54, D55, D59, D81, D91 with body

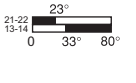
ZCKS1



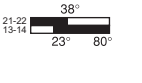
ZCKS2



ZCKS5



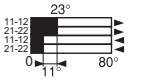
ZCKS6



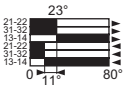
ZCKS7

ZCKS8

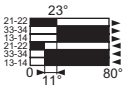
ZCKS9



ZCKSD39

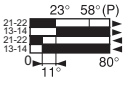


ZCKSD31

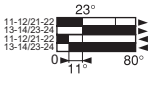


Heads ZCKD05 (positive operation only assured with a ⊖ operating lever) with body

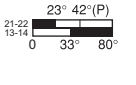
ZCKS1



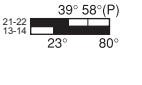
ZCKS2



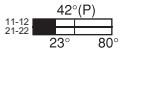
ZCKS5



ZCKS6

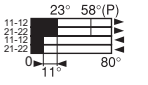


ZCKS7

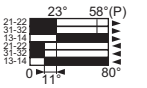


ZCKS8

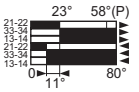
ZCKS9



ZCKSD39

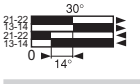


ZCKSD31

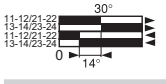


Heads ZCKD06, D08 with body

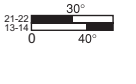
ZCKS1



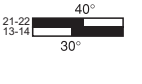
ZCKS2



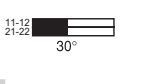
ZCKS5



ZCKS6

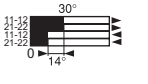


ZCKS7

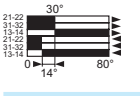


ZCKS8

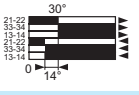
ZCKS9



ZCKSD39

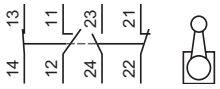


ZCKSD31

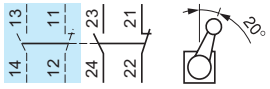


ZCKS404 (body with head)

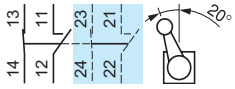
Unactuated



Actuated from left



Actuated from right

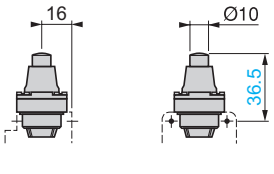


Contact operation ■ closed □ open (A) = cam displacement (P) = positive opening point

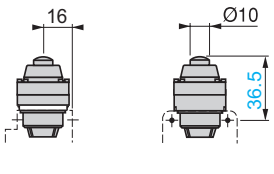
Limit switches
XC Standard range, format EN 50041
Plastic, double insulated, XCKS
Variable composition switches

Plunger heads

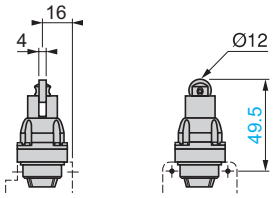
ZCKD01



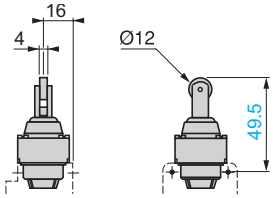
ZCKD019



ZCKD02

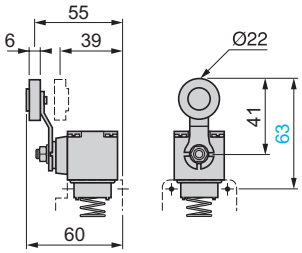


ZCKD029

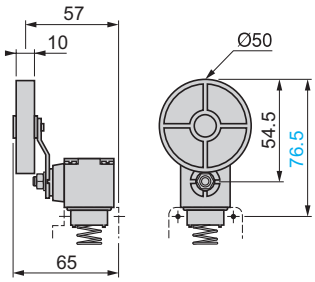


Rotary heads

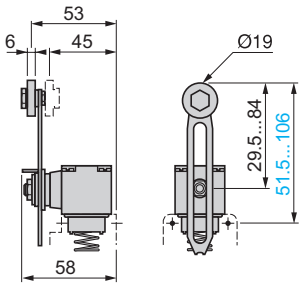
ZCKD31, ZCKD33, ZCKD34



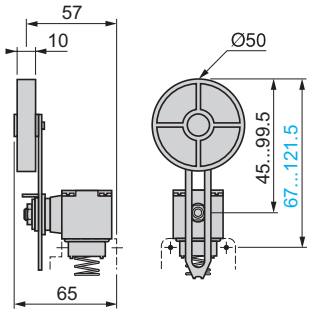
ZCKD39



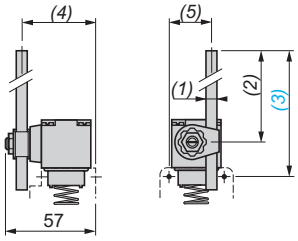
ZCKD41



ZCKD49

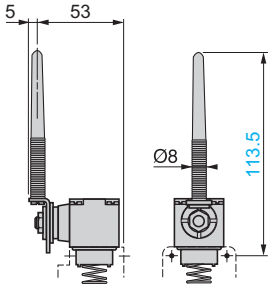


ZCKD54, ZCKD55, ZCKD59

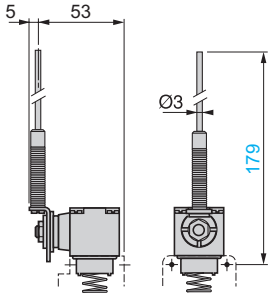


ZCK	(1) rod	(2)	(3)	(4)	(5)
D54	Ø 3, L = 125	115 max.	137 max.	49	24
D55	Ø 3, L = 125	115 max.	137 max.	49	24
D59	Ø 6, L = 200	190 max.	212 max.	46.5	26.2

ZCKD81



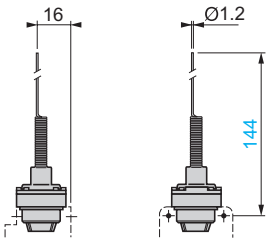
ZCKD91



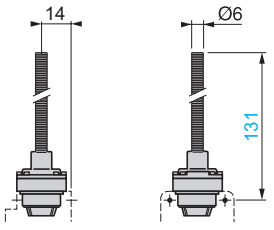
Note: *operating lever spindle threaded M6.*

Multi-directional heads

ZCKD06

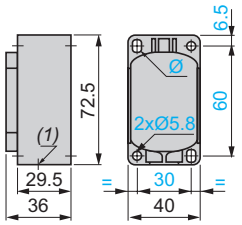


ZCKD08

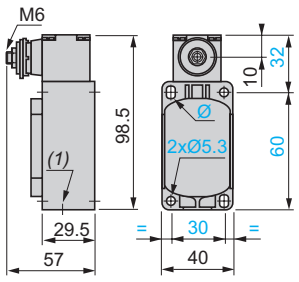


Bodies with contacts

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



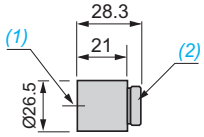
ZCKS404, S404H29



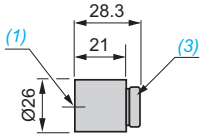
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland.
Ø: 2 elongated holes 5.3 x 7.3.

Adaptators for 1/2" NPT conduit

DE9RA1212 (Pg 13.5)



DE9RA2012 (M20)

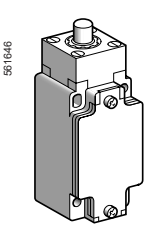


(1) Tapped entry for 1/2" NPT conduit.
(2) Pg 13.5 threaded sleeve.
(3) M20 x 1.5 threaded sleeve.

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)



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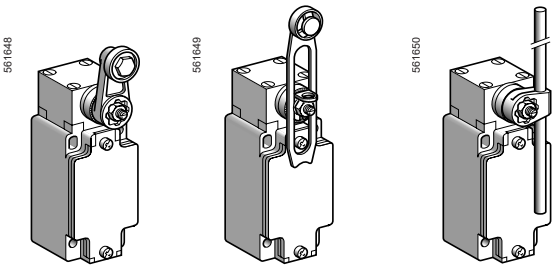
□ With head for rotary movement (lever)



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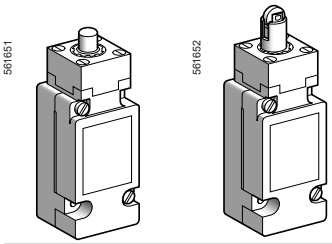
■ XCKJ
plug-in body with 1 cable entry

□ With head for linear movement (plunger)



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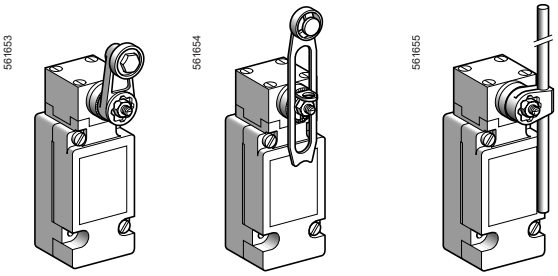
□ With head for rotary movement (lever)



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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

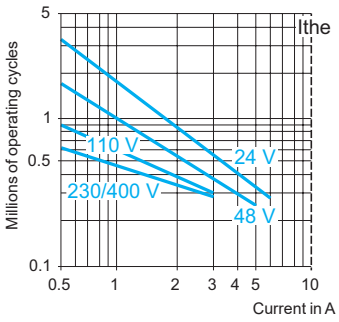
Limit switches
XC Standard range
Industrial format EN 50041
Metal, XCKJ
Conforming to CENELEC EN 50041

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 (gI)
	XE3●P	6 A cartridge fuse type gG (gI)
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

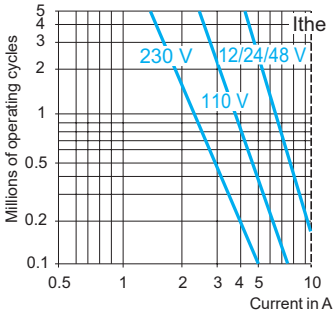


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

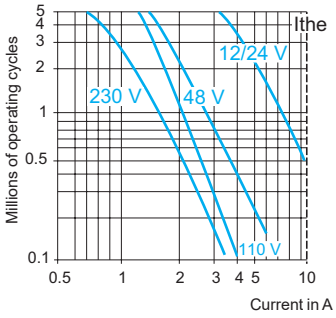
XE2NP21●1



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

XCKJ plug-in, XESP20●1



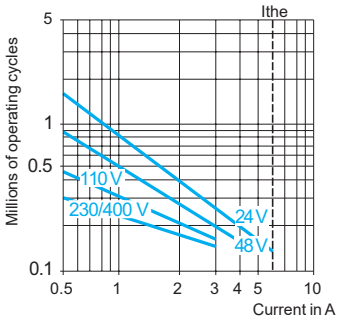
Power broken in W for 5 million operating cycles.

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

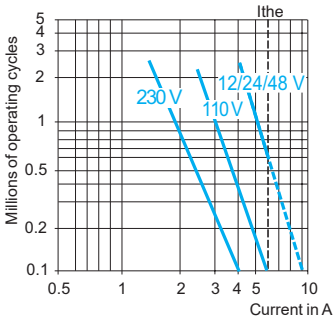


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

XE3NP●●●●

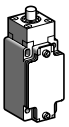
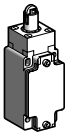
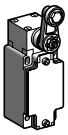
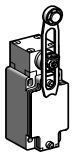
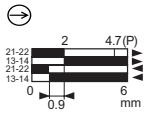
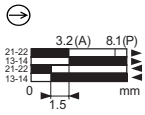
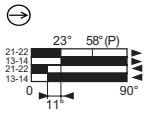
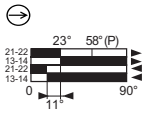
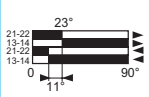
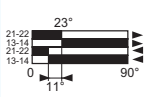
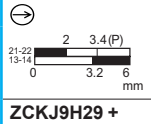
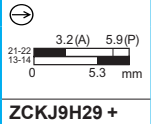
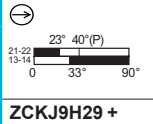
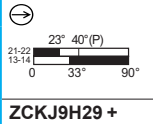
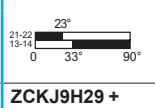
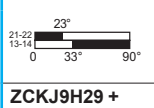
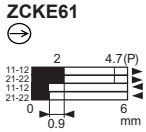
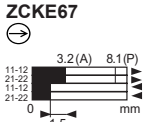
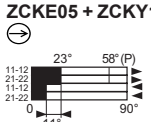
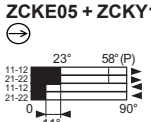
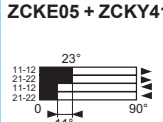
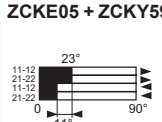
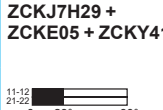
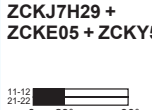
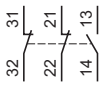
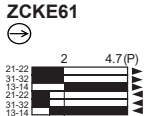
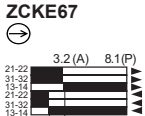
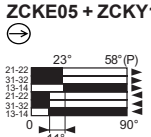
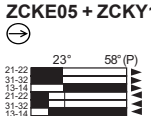
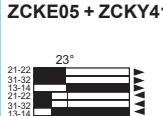
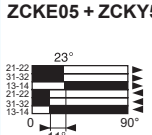
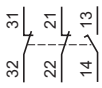
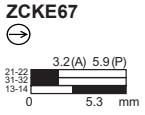
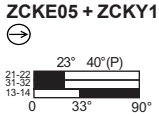
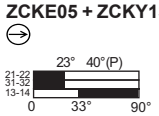
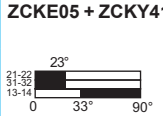
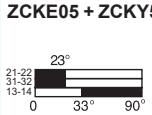


Power broken in W for 5 million operating cycles.

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**.

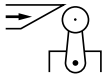
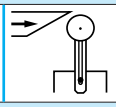
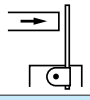
References of complete switches with 1 entry for 1/2" NPT conduit *(2)*

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

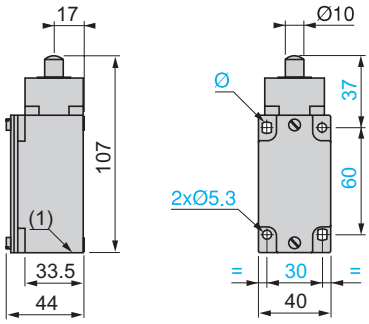
Characteristics

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			

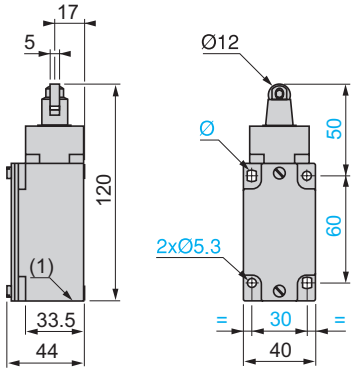
(1) Limited to 15 million operating cycles for switches with contacts XE3●P.

Dimensions

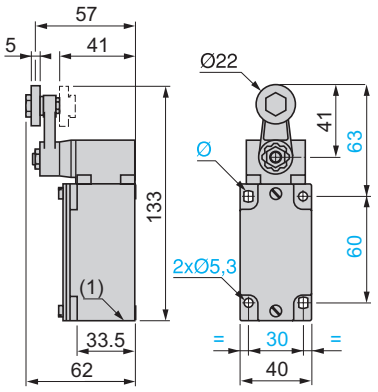
XCKJ●61H29
ZCKJ● + ZCKE61



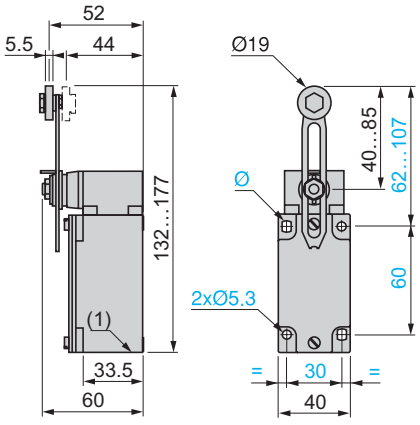
XCKJ●67H29
ZCKJ● + ZCKE67



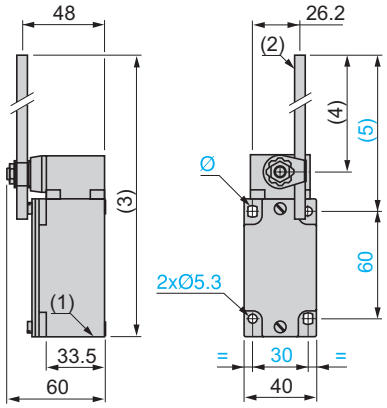
XCKJ●051●H29
ZCKJ● + ZCKE05 + ZCKY11 or Y13



XCKJ●0541H29
ZCKJ● + ZCKE05 + ZCKY41



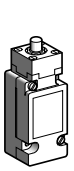
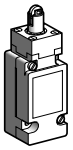
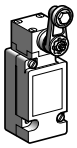
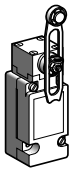
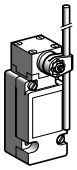
XCKJ●0559H29
ZCKJ● + ZCKE05 + ZCKY59



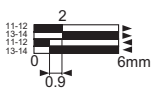
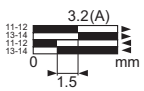
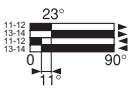
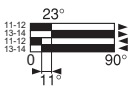
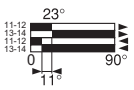
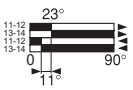
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
(2) Ø 6 rod, length 200 mm.
(3) 282 max.
(4) 190 max.
(5) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.

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
						
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485

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

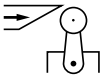
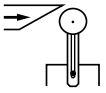
References of complete switches with 1 Pg 13.5 cable entry *(3)*

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					

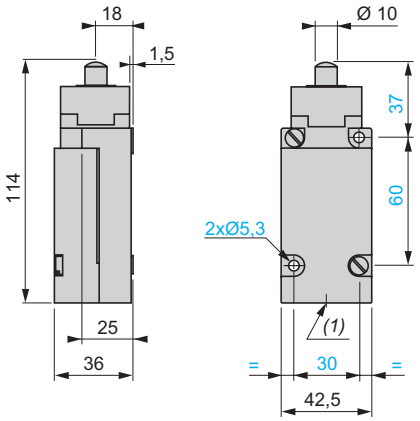
(1) Form conforming to EN 50041, see page 25.
(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
(3) Switches with gold contacts: please consult our Customer Care Centre.
(4) Value taken with actuation by moving part at 100 mm from the fixing.

Limit switches

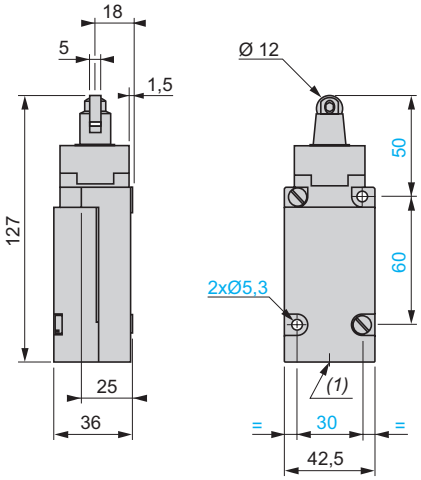
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, plug-in body
With 1 cable entry

Dimensions

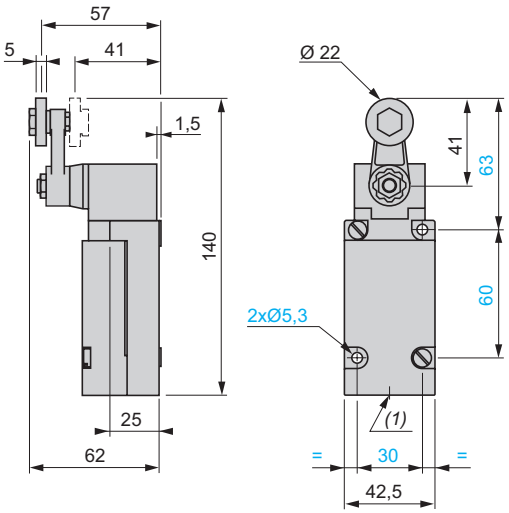
XCKJ1161H29



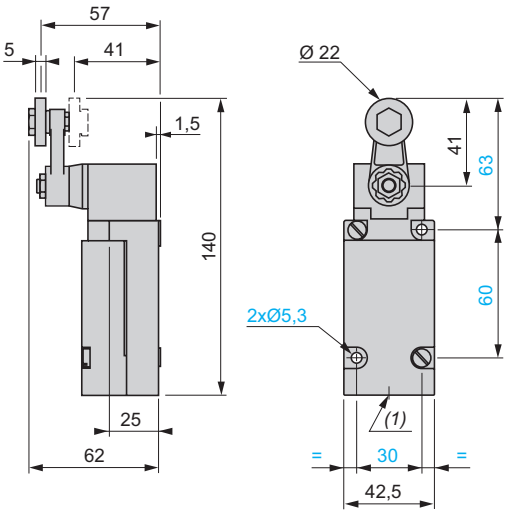
XCKJ1167H29



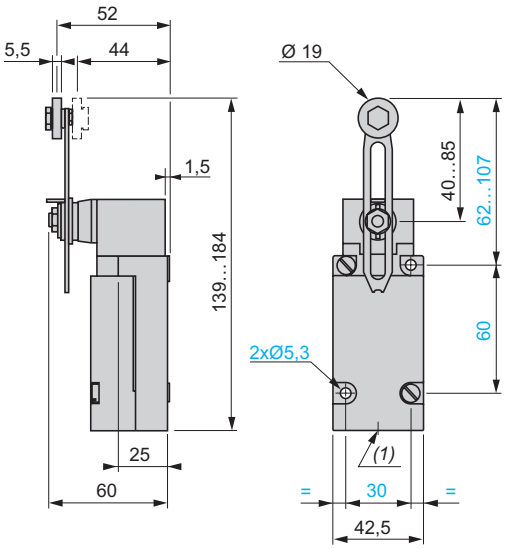
XCKJ110511H29



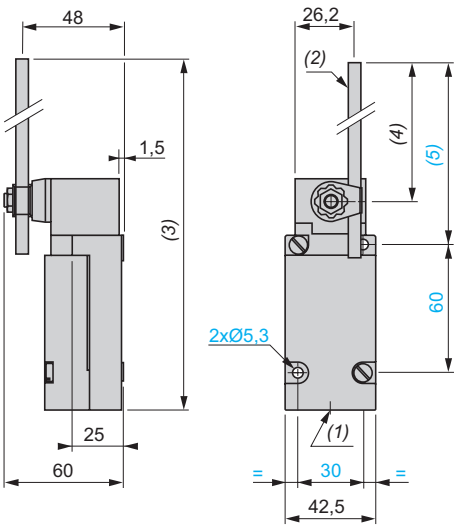
XCKJ110513H29



XCKJ110541H29



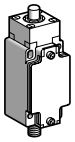
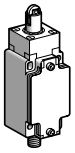
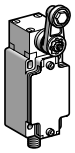
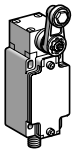
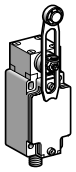
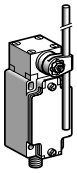
XCKJ110559H29



(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

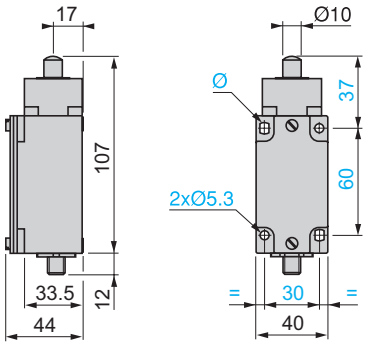
Type of connector		M12 straight, 5-pin, 4 A/24 V max.	M12 elbowed, 5-pin, 4 A/24 V max.
With cable, Ø 5.8 mm (4 x 0.34 mm² + 1 x 0.5 mm²)	L = 2 m	**XZCP1164L2**	**XZCP1264L2**
	L = 5 m	**XZCP1164L5**	**XZCP1264L5**
	L = 10 m	**XZCP1164L10**	**XZCP1264L10**
Weight (kg)	L = 2 m	0.115	
	L = 5 m	0.270	
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

Limit switches

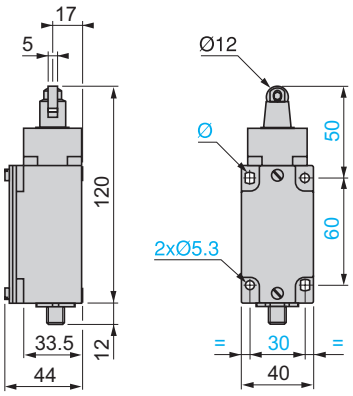
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Dimensions

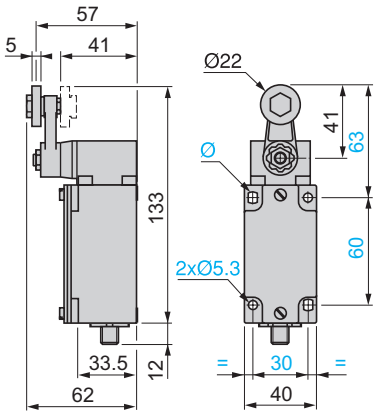
XCKJ161D



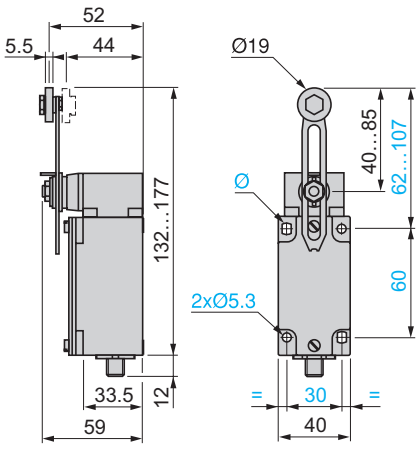
XCKJ167D



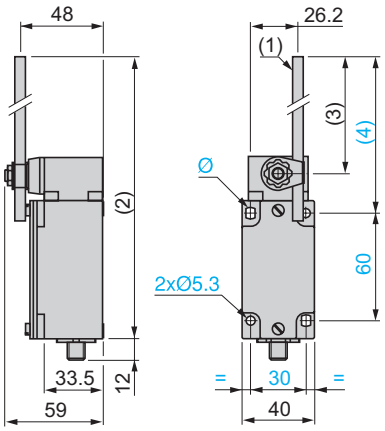
XCKJ1051●D



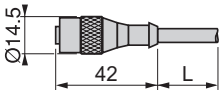
XCKJ10541D



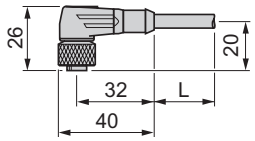
XCKJ10559D



XZCP1164L●



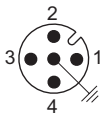
XZCP1264L●



(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.*

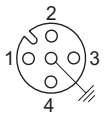
Connections

Limit switch XCKJ●●●●D



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

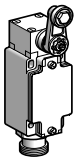
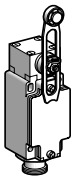
Pre-wired female connector XZCP1●64L●



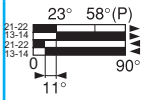
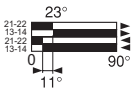
1 = brown
2 = white
3 = blue
4 = black
5 = ⏚ yellow/green

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	**Rotary (fixing by the body)** (switches supplied for actuation from left AND right)	
	Form A *(1)*	
		
Type of operator	Steel roller lever *(2)*	Variable length thermoplastic roller lever *(2)*

References *(4)*

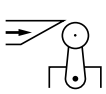
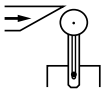
2-pole NC + NO snap action (XE2SP2151) 	**XCKJ10513A** 	**XCKJ10541A** 
Weight (kg)	0.490	0.485

Contact operation

 *closed*
 open

(P) = positive opening point
NC contact with positive opening operation

Characteristics

Switch actuation		By 30° cam	
Type of actuation			
Maximum actuation speed		1.5 m/s	
Mechanical durability (in millions of operating cycles)		**30**	
Minimum force or torque	For tripping	0.25 N.m	
	For positive opening	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

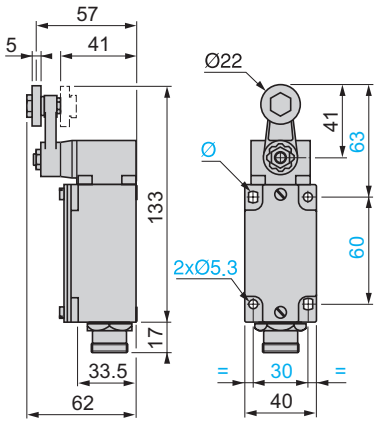
Type of connector		**7/8"-16UN straight, 5-pin, 4 A/250 V max.**
With cable, Ø 5.9 mm (5 x 0.34 mm²)	L = 2 m	**XZCP1764L2**
	L = 5 m	**XZCP1764L5**
	L = 10 m	**XZCP1764L10**
Weight (kg)	L = 2 m	0.185
	L = 5 m	0.460
	L = 10 m	0.900

Limit switches

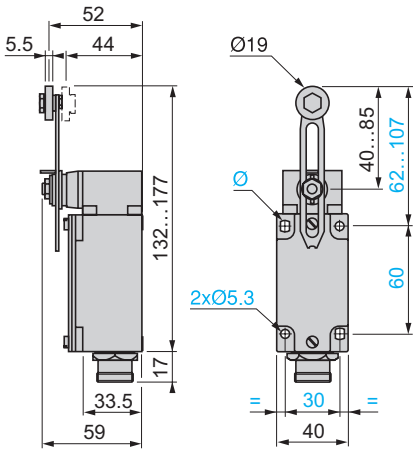
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Dimensions

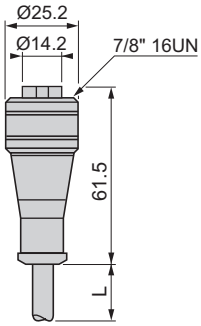
XCKJ1051●A



XCKJ10541A



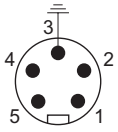
XZCP1764L●



Ø: 2 elongated holes Ø 5.3 x 7.3.
L: Cable length 2, 5 or 10 m.

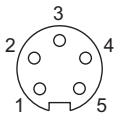
Connections

Limit switch XCKJ●●●●A



1 = 21
2 = 22
3 = ⏚
4 = 14
5 = 13

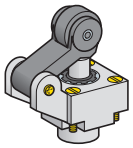
Pre-wired female connector XZCP1764L●



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

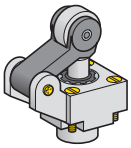
Limit switches

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



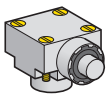
Thermoplastic roller lever plunger, 1 direction of actuation

ZCKE21



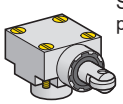
Steel roller lever plunger, 1 direction of actuation

ZCKE23



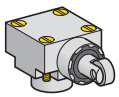
Side metal plunger *(1)*

ZCKE63



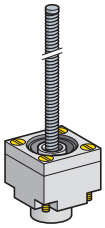
Side steel roller plunger, horizontal *(1)*

ZCKE64



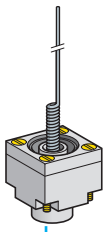
Side steel roller plunger, vertical *(1)*

ZCKE65



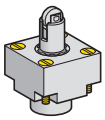
Spring rod *(1)*

ZCKE08



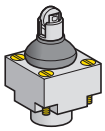
"Cat's whisker" *(1)*

ZCKE06



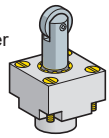
End reinforced steel roller plunger

ZCKE67



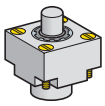
End steel roller plunger with protective boot

ZCKE629



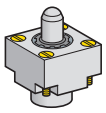
End steel roller plunger

ZCKE62



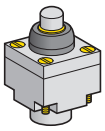
End metal plunger

ZCKE61



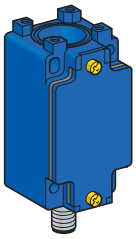
End steel ball bearing plunger

ZCKE66



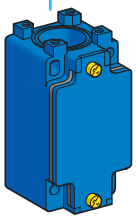
End metal plunger with protective boot

ZCKE619



Body with 2-pole contact, fixed, 1 step, M12 connector *(2)*

ZCKJ1D, J5D, J6D, J7D
ZCKJ8D



Body with contact, cable entry for Pg 13.5, fixed, 1 step *(2) (3)*

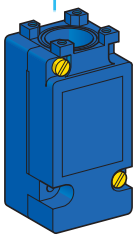
ZCKJD3●, ZCKJ1, J5, J6, J7, J9

Body with contact, cable entry for Pg 13.5, fixed, 1 step *(2) (3)*

ZCKJ2, J8

Body with contact, cable entry for Pg 13.5, fixed, 2 step *(2) (3)*

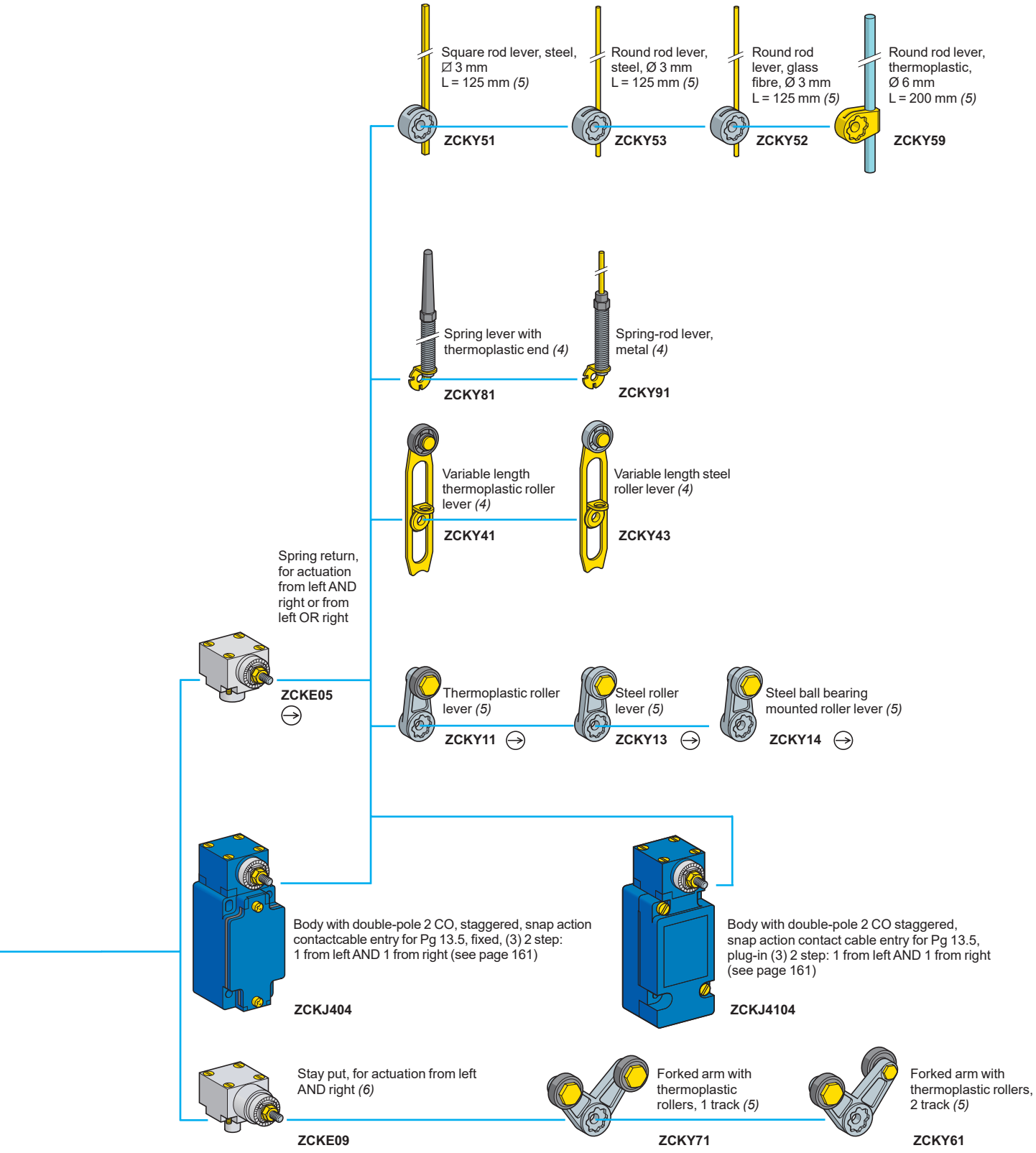
ZCKJ4



Body with contact, cable entry for Pg 13.5, plug-in, 1 or 2 step *(2) (3)*

ZCKJ11, J21, J41

(1) Cannot be used with bodies ZCKJ4 and ZCKJ41.
(2) For further information, see page 157.
*(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**.*

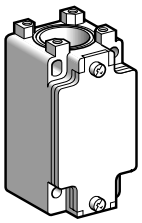


⊖ *: head assuring positive opening operation.*

(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.

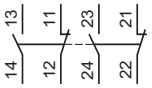
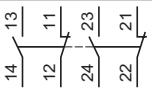
Limit switches

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

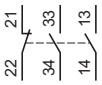
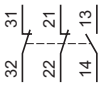
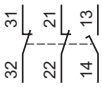
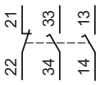


ZCKJ●

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
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

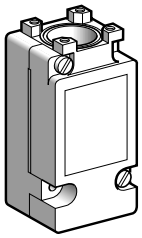
Fixed bodies with 3-pole contact

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) ⊖: NC contact with positive opening operation.

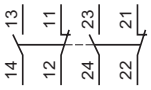
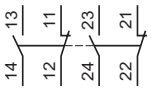
Limit switches

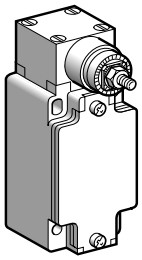
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: standard bodies



ZCKJ●1

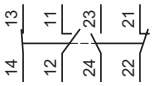
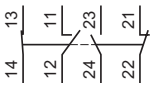
Plug-in bodies with contact

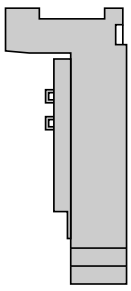
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO snap action		–	Pg 13.5	**ZCKJ11**	0.300
				ISO M20 x 1.5	**ZCKJ11H29**	0.300
				1/2" NPT	**ZCKJ11H7**	0.300
	Double-pole 2 CO simultaneous, snap action		–	Pg 13.5	**ZCKJ21**	0.300
				ISO M20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



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 161)	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 161)	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●

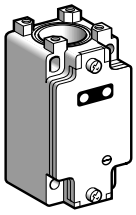
Plug-in housing only

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●●●

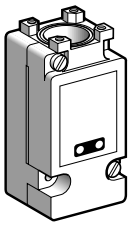
Fixed bodies with 2-pole contact

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
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

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

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



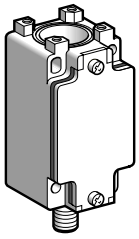
ZCKJ1●●●

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

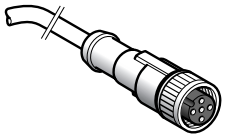
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body. Adaptable sub-assemblies: bodies with M12 connector



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

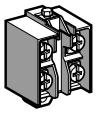
Description	Cable length	Reference	Weight kg
Female pre-wired connectors, M12, straight Ø 5,0 mm cable Conductor c.s.a: 5 x 0.34 mm² Nominal current : 4 A Nominal voltage: ∼ 30 V, ⎓ 36 V	1 m	**XZCP1164L2**	0.115
	5 m	**XZCP1164L5**	0.270
	10 m	**XZCP1164L10**	0.520

(1) NC contact with positive opening operation.

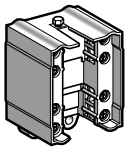
Limit switches

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

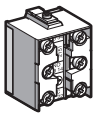
XE2SP21●1



XE2NP21●1

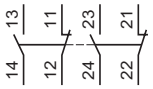
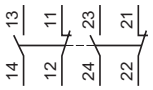
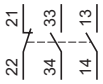
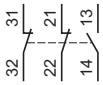
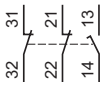
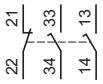


XESP20●1



XE3●P21●1

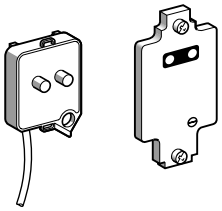
Contact blocks

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

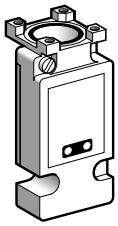
(1) ⊖: NC contact with positive opening operation.

Limit switches

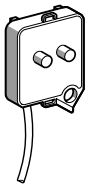
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies: add-ons



ZCKZ0●●



ZCKJ01●●



ZCKJ90●

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

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

Other versions

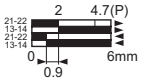
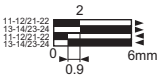
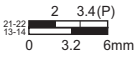
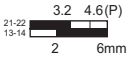
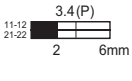
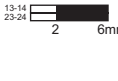
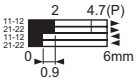
Covers + indicator light module for other supply voltages.
Please consult our Customer Care Centre.

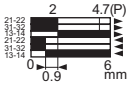
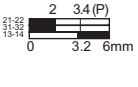
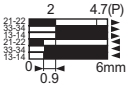
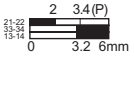
Limit switches

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

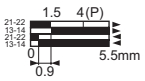
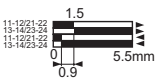
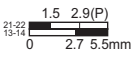
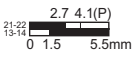
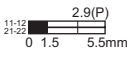
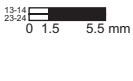
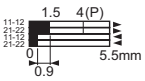
Function diagrams (positive operation assured only if the associated sub-assemblies are ⊕)

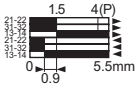
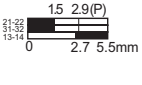
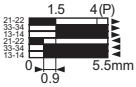
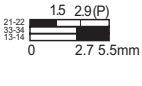
Heads ZCKE61, ZCKE619, ZCKE66 with body

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

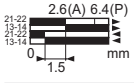
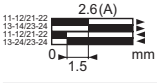
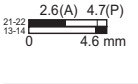
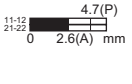
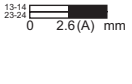
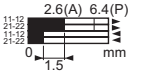
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

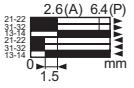
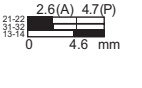
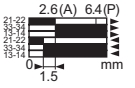
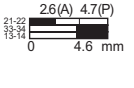
Head ZCKE63 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

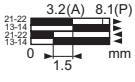
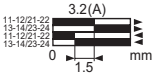
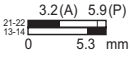
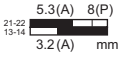
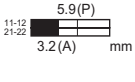
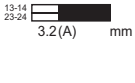
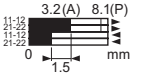
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

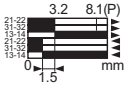
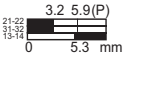
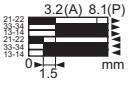
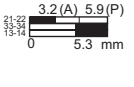
Heads ZCKE64, ZCKE65 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

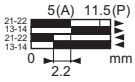
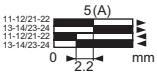
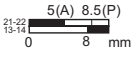
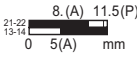
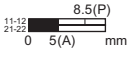
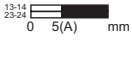
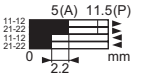
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

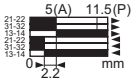
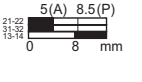
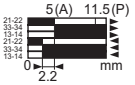
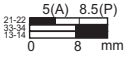
Heads ZCKE67, ZCKE629 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

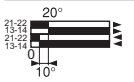
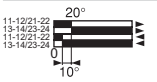
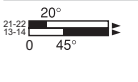
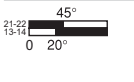
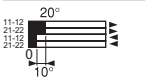
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

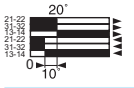
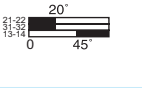
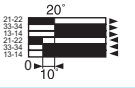
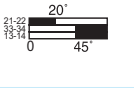
Heads ZCKE21, ZCKE23 with body

ZCKJ1●	ZCKJ2●	ZCKJ5●	ZCKJ6	ZCKJ7	ZCKJ8	ZCKJ9
						

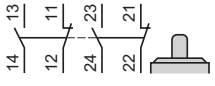
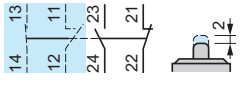
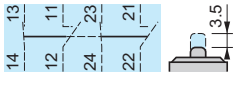
ZCKJD39	ZCKJD37	ZCKJD31	ZCKJD35
			

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

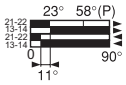
Limit switches

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

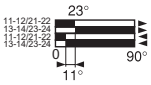
Function diagrams (positive operation assured only if the associated sub-assemblies are ⊖)

Head ZCKE05 with body

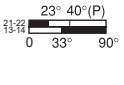
ZCKJ1●



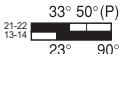
ZCKJ2●



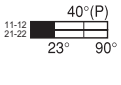
ZCKJ5●



ZCKJ6

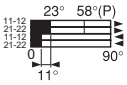


ZCKJ7

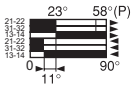


ZCKJ8

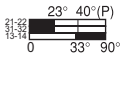
ZCKJ9



ZCKJD39



ZCKJD37



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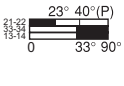
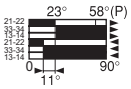
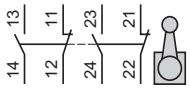


ZCKJD31

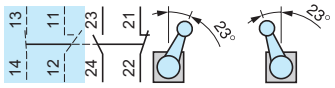


ZCKJ4●

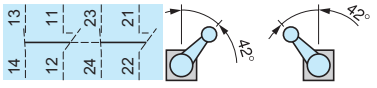
Unactuated



1st step, actuated from left or right

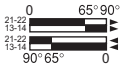


2nd step, actuated from left or right

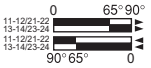


Head ZCKE09 with body

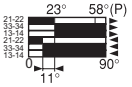
ZCKJ1●



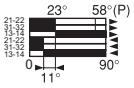
ZCKJ2●



ZCKJD31

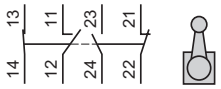


ZCKJD39

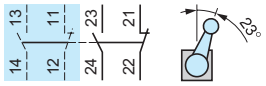


ZCKJ404, J4104 (body with head)

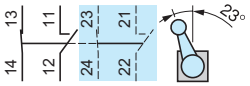
Unactuated



Actuated from left



Actuated from right

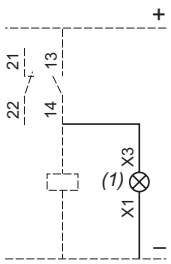


Contact operation — ■ closed, □ open — (P) = positive opening point

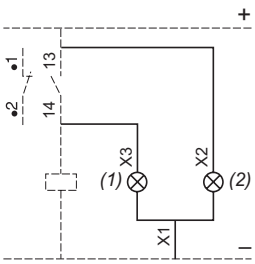
Wiring schemes

Indicator light modules

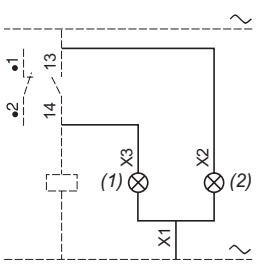
1 LED, 24 V ⎓



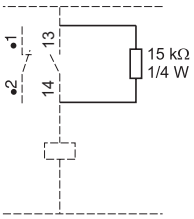
2 LEDs, 24 V ⎓



2 LEDs, 110/240 V ∼

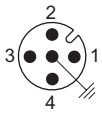


Module with resistor



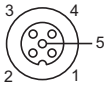
(1) Orange indicator
(2) Green indicator

ZCKJ●D



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

Pre-wired connectors XZCP1164●



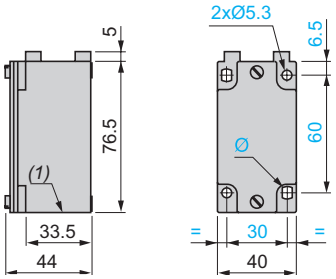
1 = brown
2 = white/black
3 = blue
4 = black
5 = yellow/green

Limit switches

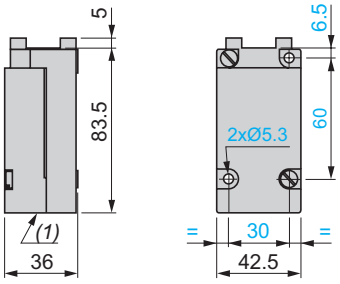
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

Bodies

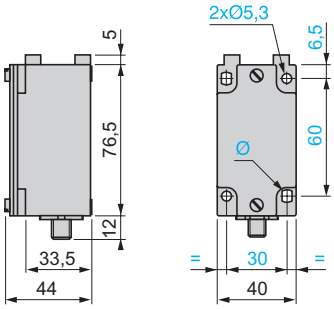
ZCKJ1, J2, J5, J4, J●2●, J●3●, J6, J7, J8, J9
ZCKJ1H29, J2H29, J5H29, J4H29, J●2●H29, J●3●H29, J6H29, J7H29, J8H29, J9H29
ZCKJ1H7, J2H7, J5H7, J4H7, J●2●H7, J●3●H7, J6H7, J7H7, J8H7, J9H7



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

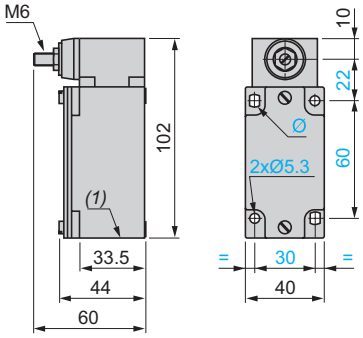


ZCKJ1D, J5D, J6D, J7D, J8D

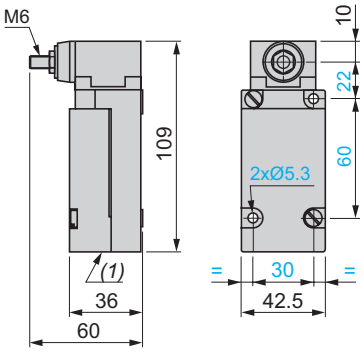


Bodies with rotary head mounted

ZCKJ404, ZCKJ404H29, ZCKJ404H7

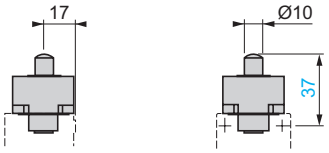


ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

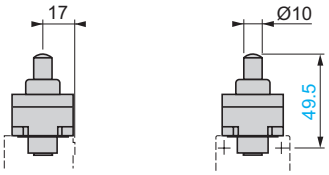


Plunger heads

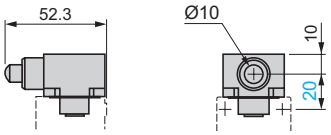
ZCKE61



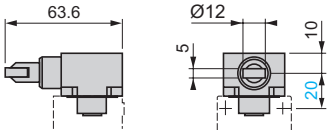
ZCKE619



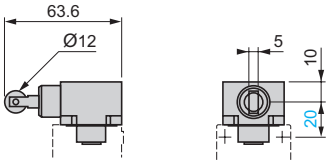
ZCKE63



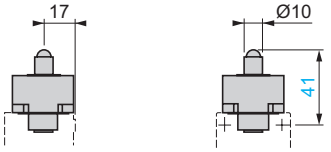
ZCKE64



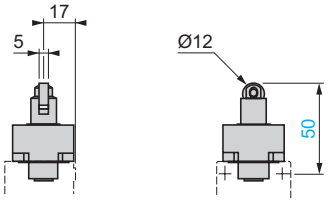
ZCKE65



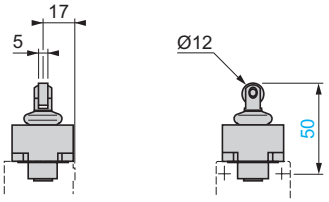
ZCKE66



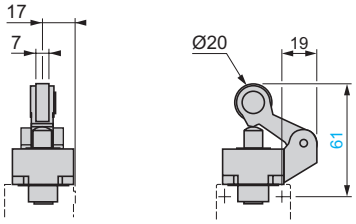
ZCKE62, ZCKE67



ZCKE629



ZCKE21, ZCKE23



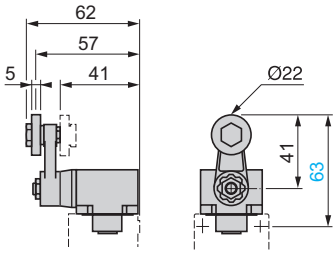
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
Ø: 2 elongated holes Ø 5.3 x 7.3.

Limit switches

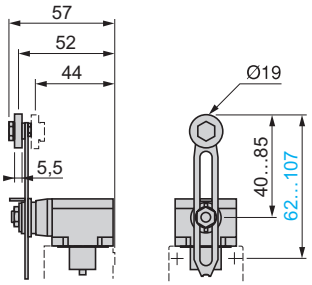
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body
Adaptable sub-assemblies

Rotary head ZCKE05 with operating lever

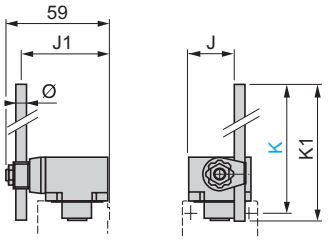
ZCKY11, ZCKY13, ZCKY14



ZCKY41, ZCKY43

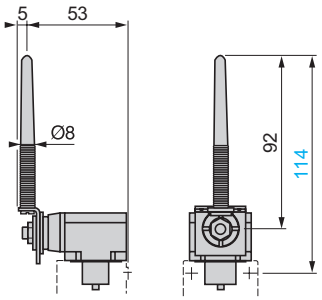


ZCKY51, ZCKY52, ZCKY53, ZCKY59

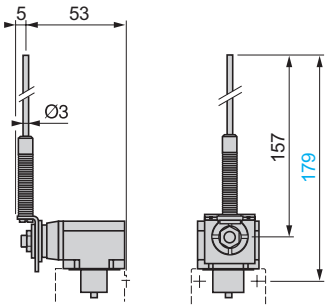


	J	J1	K max.	K1	Ø
ZCKY51	20	49	137	123	Ø 3
ZCKY52	20	49	137	125	Ø 3
ZCKY53	20	49	137	125	Ø 3
ZCKY59	26.2	48	212	200	Ø 6

ZCKY81

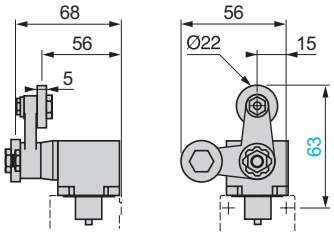


ZCKY91

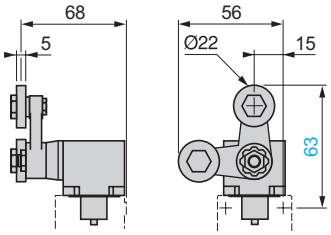


Rotary head ZCKE09 with operating lever

ZCKY61

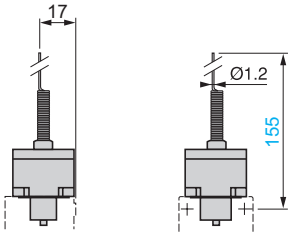


ZCKY71

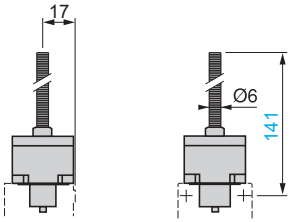


Multi-directional heads

ZCKE06

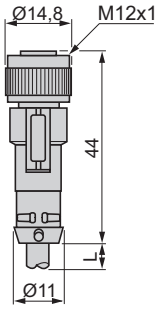


ZCKE08



Note: *operating lever spindle threaded M6.*

Pre-wired connectors XZCP1164L●

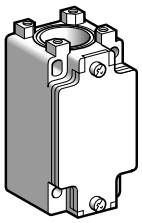


L = 2, 5 or 10 m.

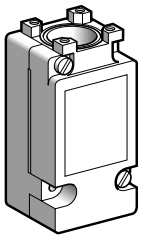
Limit switches

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)

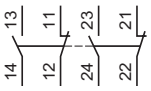
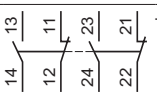
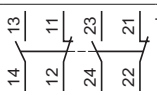
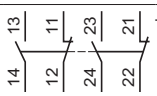


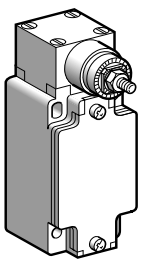
ZCKJ1



ZCKJ11

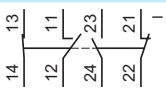
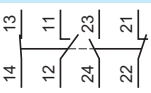
Bodies with contacts for plunger or rotary head

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 (XESP2021)		–	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)		⊖	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
2 step	Double-pole 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
Plug-in bodies						
1 step	Single-pole 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



ZCKJ4046

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

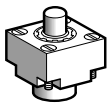
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		–	Pg 13.5	**ZCKJ4046**	0.455
				ISO M20 x 1.5	**ZCKJ4046H29**	0.455
Plug-in body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		–	ISO M20 x 1.5	**ZCKJ41046H29**	0.465

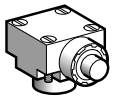
(1) ⊖: head assuring positive opening operation.

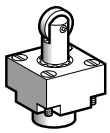
Limit switches

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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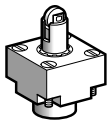
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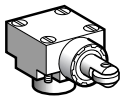
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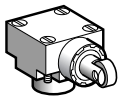
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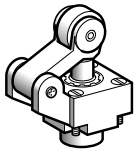
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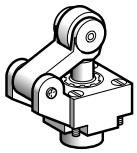
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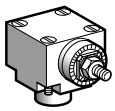
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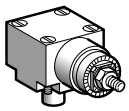
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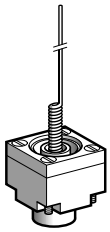
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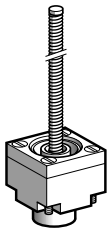

ZCKE086

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.

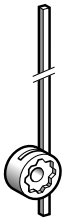
Limit switches

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

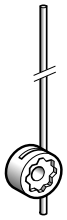
Adaptable sub-assemblies for low temperature applications (- 40°C)

ZCKY1●

ZCKY4●

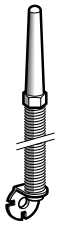


ZCKY51

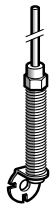


ZCKY5●

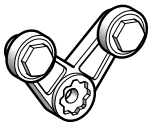
ZCKY59



ZCKY81



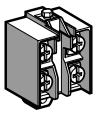
ZCKY91



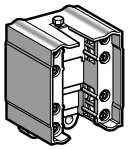
ZCKY71

ZCKY61

XE2SP21●1



XE2NP21●1

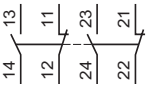
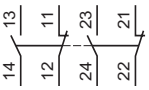


XES P20●1

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)	⌀ 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

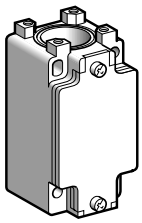
Type of contact	Scheme	For body	Positive operation (1)	Reference	Weight kg
NC + NO snap action		ZCKJ1	⊖	**XE2SP2151**	0.020
NC + NO break before make, slow break		ZCKJ5	⊖	**XE2NP2151**	0.020
2 CO simultaneous, snap action		ZCKJ2	–	**XESP2021**	0.045
2 CO staggered, snap action		ZCKJ4	–	**XESP2031**	0.045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

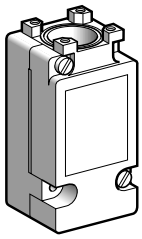
Limit switches

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

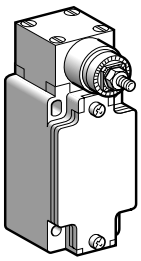
Adaptable sub-assemblies for high temperature applications (+ 120°C)



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)	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 (XESP20215)	13 11 23 21 / 14 12 24 22	–	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)	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
2 step	Double-pole 2 CO staggered, snap action (XESP20315)	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ45**	0.310
Plug-in bodies						
1 step	Single-pole CO snap action	13 11 / 14 12	–	Pg 13.5	**ZCKJ115**	0.300
				ISO M20 x 1.5	**ZCKJ115H29**	0.300
	Double-pole 2 CO simultaneous, snap action	13 11 23 21 / 14 12 24 22	–	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	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ415**	0.300

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

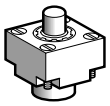
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left **AND** 1 from the right	Double-pole 2 CO staggered, snap action	13 11 23 21 / 14 12 24 22	–	Pg 13.5	**ZCKJ4045**	0.455
				ISO M20 x 1.5	**ZCKJ4045H29**	0.455
				1/2" NPT	**ZCKJ4045H7**	0.455

(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)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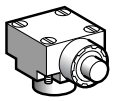
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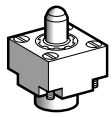
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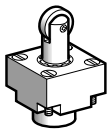
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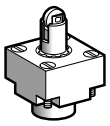
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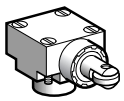
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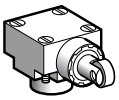
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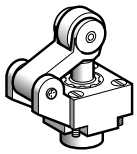
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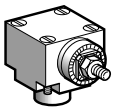
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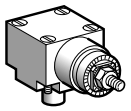
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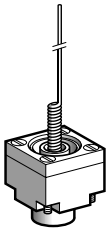
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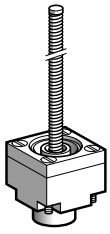

ZCKE085

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.

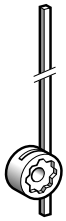
Limit switches

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

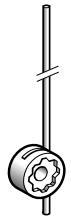
Adaptable sub-assemblies for high temperature applications (+ 120°C)

ZCKY1●

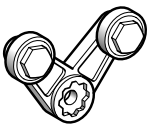
ZCKY43



ZCKY51

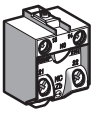


ZCKY5●

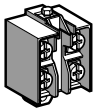


ZCKY715

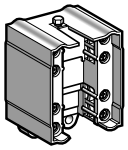
ZCKY615



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

Z

Limit switches
XC Standard range
Product reference index

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