
Limit switches

XC Standard range

Catalogue



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Telemecanique
Sensors

Limit switches
XC Standard range

Selection guide page 2

■ Variable composition: Simplicity through innovation page 16

■ General page 18

XC Standard

■ Miniature design, metal, XCMD

□ Presentation. page 26

□ Pre-cabled page 28

□ Integral or remote connector page 36

□ Separate components page 49

■ Miniature design for mobile equipment, metal, XCMV

□ Presentation. page 50

□ Complete units with connector page 53

□ Modular units with connector page 56

□ Pre-cabled modular units page 62

■ Compact design, plastic, XCKP

□ Presentation page 80

□ Complete units with 1 cable entry page 82

□ Integral M12 connector page 86

■ Compact design, metal, XCKD

□ Presentation. page 80

□ Complete units with 1 cable entry page 88

□ Integral M12 connector page 92

■ Compact design, plastic, XCKT

□ Presentation. page 80

□ Complete units with 2 cable entries page 94

■ Compact design, XCKD, XCKP and XCKT

□ Presentation. page 80

□ Variable composition page 96

□ Adaptable sub-assemblies: bodies, contacts page 98

XC Standard, with reset

■ Compact design, plastic, XCPR

□ Presentation. page 102

□ Complete switches with 1 cable entry. page 104

■ Compact design, plastic, XCTR

□ Presentation. page 102

□ Complete switches with 2 cable entries page 106

XC Basic

■ Miniature design, plastic, XCMH - Presentation page 68

□ Complete units, pre-cabled page 70

■ Miniature design, plastic, XCMN - Presentation page 76

□ Complete units, pre-cabled page 78

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

□ Complete units with 1 cable entry. page 110

□ Complete units with 2 cable entries page 112

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

□ Complete units with 1 cable entry. page 118

XC Standard, “Classic” format

■ Metal, XCKM - Presentation. page 120

□ Complete switches with 3 cable entries page 122

■ Metal, XCKL - Presentation page 120

□ Complete switches incorporating cable gland page 124

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

□ Complete switches with 3 cable entries page 126

■ Metal, XCKM and XCKL

□ Variable composition page 128

□ Adaptable sub-assemblies. page 130

XC Standard, EN 50041 format

■ Plastic, double insulated, XCKS - Presentation page 136

□ Complete switches with 1 cable entry. page 138

□ Variable composition page 142

□ Adaptable sub-assemblies: bodies, contact blocks page 144

XC Standard, industrial EN 50041 format

■ Metal, XCKJ - Presentation page 148

□ Complete switches

- Fixed body with 1 cable entry page 150

- Fixed body with 1 integral M12 connector page 154

- Fixed body with 1 integral 7/8"16 UN connector page 156

□ Variable composition: standard bodies, fixed or plug-in page 158

□ Adaptable sub-assemblies

- Bodies, contact blocks page 160

- For low temperature applications (- 40 °C) page 170

- For high temperature applications (+ 120 °C) page 173

■ Product reference index page 176

Limit switches

XC Standard range

Design/Applications	Miniature format	Miniature format for mobile equipments	Compact format, CENELEC EN 50047
	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	•
2 same polarity contacts	snap action	slow break with positive opening operation	•
3 electrically separate contacts	snap action	slow break	–
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	slow break with positive opening operation	•
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
Type reference	XCMD	XCMV	XCKP
Pages	28	50	82 and 86

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
94	88 and 92	104	106

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

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

Limit switches

XC Special range

Design/Applications	Very severe applications	For hoisting and material handling applications (XCR); for conveyor belt shift monitoring (XCRT)
	Metal, 1 cable entry	Metal or polyester, 1 cable entry



Enclosure	Metal	Metal or polyester
Modularity	Head and body modularity	—
Conformity/Certifications	CE, UL, CSA, EAC	CE, CSA (XCR) CCC (XCR), EAC
Body dimensions (w x h x d) in mm	40 x 81 x 41	85 x 95 x 75
Head	Linear movement (plunger) or rotary movement (lever)	Rotary movement (lever)
Contact blocks		
2 electrically separate contacts		
snap action with positive opening operation	—	—
slow break with positive opening operation	—	—
2 same polarity contacts		
snap action	●	—
slow break	—	—
3 electrically separate contacts		
snap action with positive opening operation	—	—
slow break with positive opening operation	—	—
4 electrically separate contacts		
snap action with positive opening operation	—	●
slow break with positive opening operation	—	●
4 contacts (2 x 2 same polarity contacts), snap action	●	●
Degree of protection IP/IK	IP 65, IK 08	IP 54, IK 07 or IP 65, depending on model
Operating temperature	- 25°C... + 70°C; - 40° C or + 120° C (XC2J depending on model)	
Connection		
Screw terminals (entry for cable gland)	1 entry with integral cable gland	1 tapped entry for Pg 13.5 cable gland
Pre-cabled	—	
Connector	—	
Type reference	XC2J	XCR XCRT
Pages	Please refer to our catalogue “ Limit switches XC Special ”.	

For hoisting and material handling applications	Subminiature format and microswitch. Applications requiring high precision and a low operating force
Metal or plastic, 3 cable entries	Plastic, pre-cabled



Metal or plastic	Polyester
—	—
CE, UL, CSA, CCC, EAC	CE, UL
118 x 77 x 59 (metal) 118 x 77 x 67 (plastic)	Depending on model
Rotary movement (lever)	—
—	—
—	—
—	●
—	—
—	—
—	—
●	—
—	—
IP 66, IK 07 (metal) IP 65, IK 04 (plastic)	IP 67 or IP 40 depending on model IP 00 (tags)
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
XCKMR XCKVR	XEP
Please refer to our catalogue “ Limit switches XC Special ”.	

Switch type			XCS safety limit switches		
Applications			Protection of operators by stopping the machine when the gate is opened. All machines with quick rundown time.		
Design			Miniature format		Compact format
			Pre-cabled		With 1 cable entry
					
Case			Metal		Plastic
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	20		20/22
		Centers			
Head			Plunger or rotary head Head adjustable in 15° steps through 360° Linear (plunger) or rotary (lever) actuation.		
Contact blocks			NC contacts with positive opening operation		
			2 NC + 1 NO break before make, slow break 2 NC + 1 NO and 2 NC + 2 NO snap action		XCSD: 2 NC + 1 NO break before make, slow break or snap action XCSP: 2 NC + 1 NO snap action
Degree of protection			IP 66, IP 67 and IP 68		IP 66 and IP 67
Ambient air temperature		For operation	-25...+70 °C		
Connection		Screw terminals (cable entry via cable gland)	–		Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT
		Pre-cabled	L = 1, 2 or 5 m		–
Type reference			XCSM		XCSP
					XCSD
Pages			Please refer to our catalogue “ Safety switches XCS range ”.		

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

Safety detection solutions
XCS safety switches

Switch type		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	
				
Case		Plastic		
Features		Without locking of actuating key.	Without locking of actuating key. Optional accessory: guard retaining device.	
Conformity to standards		Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no. 14	
		Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications		cULus	UL, CSA, CCC, EAC	
Dimensions		Switch	30 x 87 x 15	30 x 93.5 x 30
(w x h x d) in mm		Fixings	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)	–	
		Pre-cabled	Tapped entry for Pg 11, ISO M16 cable gland or tapped 1/2" NPT	
		L = 2, 5 or 10 m	–	–
Type reference		XCSTMP	XCSPA	XCSTA
Pages		Please refer to our catalogue “ Safety switches XCS range ”.		

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

XCS key-operated safety switches		
All heavy industrial machines with quick rundown time (1)		
Industrial format with or without locking		
With 1 cable entry, without locking	With 1 cable entry and manual locking/unlocking	
		
Metal		
Without locking of actuating key.	Manual locking and unlocking of actuating key by pushbutton (can be mounted on left or right-hand side of switch head).	Manual locking and unlocking of actuating key by key-operated lock (can be mounted on left or right-hand side of switch head).
EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508, CSA C22-2 no.14		
EN/IEC 60204-1, EN/ISO 14119		
UL, CSA, CCC, EAC		
40 x 113.5 x 44	52 x 113.5 x 44	
30 x 60	30 x 60	
Turret head: 8 positions for insertion of actuating key.	Turret head: 8 positions for insertion of actuating key.	
Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.	Safety contacts actuated by the actuating key. Slow break and NC positive opening operation.	
1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
IP 67		
-25...+70 °C		
Screw clamp terminals. Tapped entry for Pg 13.5, ISO M20 cable gland or tapped 1/2" NPT	Screw clamp terminals. Tapped entry for Pg 13.5 cable gland, ISO M20 or tapped 1/2" NPT.	
-	-	
XCSEA	XCSB	XCSC
Please refer to our catalogue “Safety switches XCS range”.		

Safety detection solutions
XCS safety switches

Switch type	XCS key-operated safety switches, locking and unlocking by solenoid		
Applications	Protection of operators by stopping the machine when the actuating key (attached to machine guard) is withdrawn from the head of the switch. All industrial machines with long rundown time (1)		
Design	Slim format		
	With 3 cable entries	With 3 cable entries	
			
Case	Plastic	Metal	
Features	Locking and unlocking of actuating key using a solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using special tool) of actuating key in abnormal conditions.		
	Locking and unlocking of actuating key by solenoid (either on energization or on de-energization). Manual unlocking (auxiliary release using key lock) of actuating key in abnormal conditions. 1 Emergency release mushroom head pushbutton (only for XCSLF●●●●4●● and XCSLF●●●●6●●).		
Conformity to standards	Products	EN/IEC 60947-5-1, EN/ISO 13849-1, EN/IEC 62061, UL 508 and CSA C22-2 no. 14	
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119	
Product certifications	UL, CSA, CCC, EAC		
Dimensions (w x h x d or Ø) in mm	Switch	51 x 205 x 43.5	
	Fixings	30 x 153.3	
	Centers		
Head	Turret head: 8 positions for insertion of actuating key.		
Resistance to forcible withdrawal of the actuator	F1max	1400 N	3000 N
	F2h	1100 N	2300 N
Contact blocks or outputs	Main safety contacts actuated by the actuating key; auxiliary contacts actuated by solenoid. Contact states given with key inserted and solenoid not energized. Slow break and NC positive opening operation		
	Main contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
	Auxiliary contacts	1 NC + 1 NO break before make 2 NC 1 NC + 2 NO break before make 2 NC + 1 NO break before make 3 NC	
Degree of protection	IP 66/IP 67		
Ambient air temperature	For operation	-25...+60 °C	
	For storage	-40...+70 °C	
Connection	Terminals	Spring terminals, 3 cable entries. Tapped entry for ISO M20 cable gland or tapped 1/2" NPT.	
	Connector	M23 (18 + 1 PE)	
Type reference	XCSLE	XCSLF	
Pages	Please refer to our catalogue "Safety switches XCS range".		

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

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

Safety detection solutions
XCS safety switches

Switch type	XCSR contactless RFID safety switches					
Applications	Highly tamper-proof protection of operators by stopping the machine when the gate is opened (transfer lines, assembly lines, automated equipment, machine tools, etc.). All light industrial machines fitted with access gates with imprecise guidance and/or subjected to frequent washing, shocks and vibrations. This safety switch is suitable for machine with low inertia.					
Design	Rectangular format					
	M12 connector					
						
Case	Thermoplastic housing (Valox TM)					
Features	Contactless system composed of a microprocessor-controlled switch and a transponder factory-paired with a unique code. Multiposition sensor transponder.					
	15 mm					
	35 mm					
	Standalone RFID switch	Daisy-chain RFID switch for direct series connection	Single RFID switch for point-to-point connection			
	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), PL=Cat. 4 (EN ISO 13849-1)				
	Machine assemblies	EN/IEC 60204-1, EN/ISO 14119				
	RFID protocol	Based on ISO 15693				
Product certifications	CE, cULus, TÜV, FCC, EAC, IC, RCM, E2, ECOLAB					
Dimensions (w x h x d or Ø) in mm	Switch	30 x 108.3 x 15	30 x 118.6 x 5	30 x 108.3 x 15		
	Transponder	50 x 15 x 15				
	Fixings	Centers	–			
		Reader	74...78			
		Transponder	30...34			
Contact blocks or outputs	Safety output	2 OSSDs (Safety outputs PNP NO). OSSDs are in the ON state when the gate is closed				
	Contact states given in presence of magnet	Maximum current 400mA	Maximum current 200 mA			
		–				
Degree of protection		–				
	Conforming to EN/IEC 60529	IP 65, IP 66, IP 67				
	Conforming to DIN 40050	IP 69K				
Ambient air temperature	For operation	-25...+70 °C				
	For storage	-40...+85 °C				
Connection	Pre-cabled	–				
	Connector	–				
	Conforming to EN/IEC 60947-5-2-A3 and EN/IEC 61076	1 M12 8-pin connector (A coding)	2 M12 5-pin connector (A coding)	1 M12 5-pin connector (A coding)		
Type reference		XCSRC●1●M12	XCSRC●2M12	XCSRC●0M12		
Pages	Please refer to our catalogue “ Safety switches XCS range ”.					

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

Limit switches

XC range

Variable composition: simplicity through innovation

Principle

Variable composition principle

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

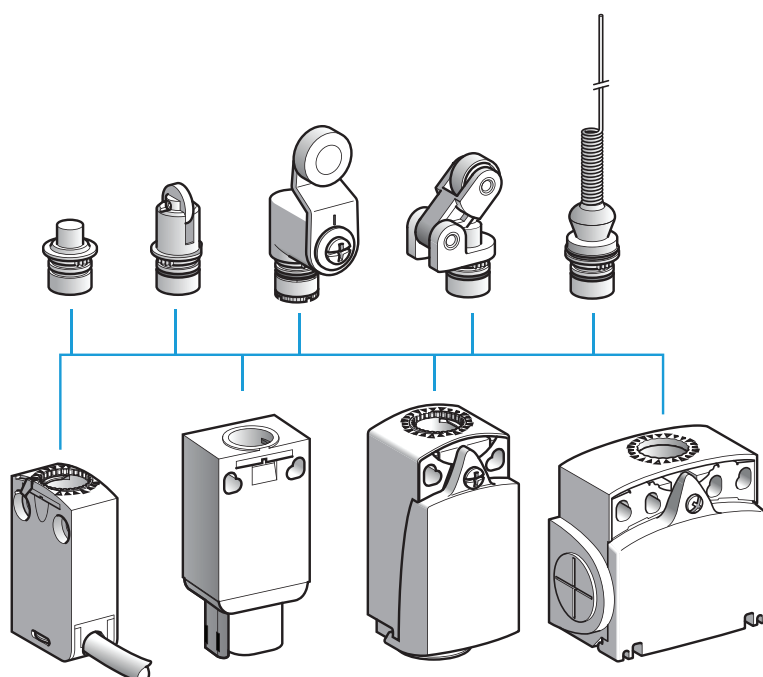
■ A worldwide detection first for improving productivity.

A complete offer for resolving the most commonly encountered detection problems:

- ☐ product selection simplified,
- ☐ product availability simplified,
- ☐ installation and setting-up simplified,
- ☐ maintenance simplified.

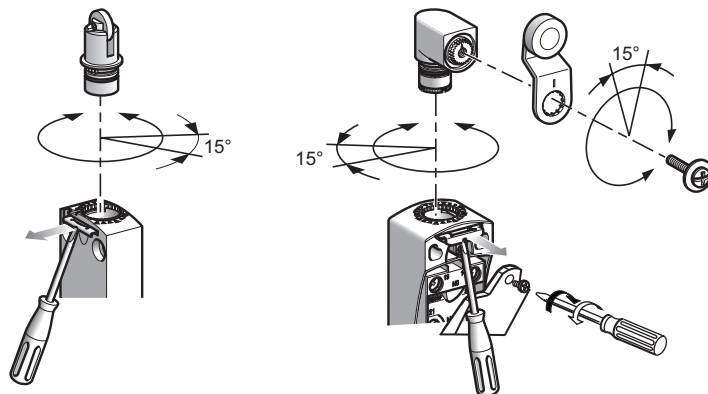
Heads

■ 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

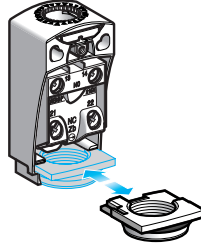
XC range

Variable composition: simplicity through innovation

Principle (continued)

Cable entries

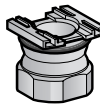
- The cable entries for Compact design XCKD and XCKP switches enable:
 - simple cabling due to unrestricted access to contacts,



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



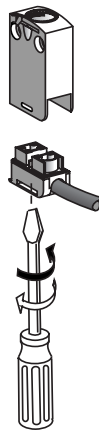
- ISO M16 x 1.5
- Pg 11



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

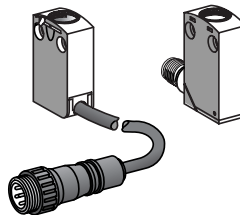
Each model is available in metal or plastic, respectively suited to Compact design XCKD and XCKP.

Connection components

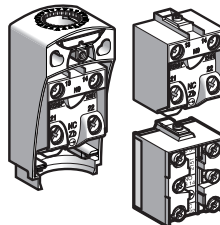


- The miniature XCMD range allows interchanging of these pre-cabled connection components:
 - a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts,
 - 6 alternative cable lengths are available as standard.

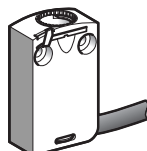
- The miniature XCMD range also includes an integral or remote connector solution.



Contact block or bodies with contact



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



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

Presentation

Electromechanical detection

Limit switches are used in all automated installations and also in a wide variety of applications, due to the numerous advantages inherent to their technology.

They transmit data to the logic processing system regarding:

- presence/absence,
- passing,
- positioning,
- end of travel.

Simplicity of installation, advantages

■ From an electrical viewpoint

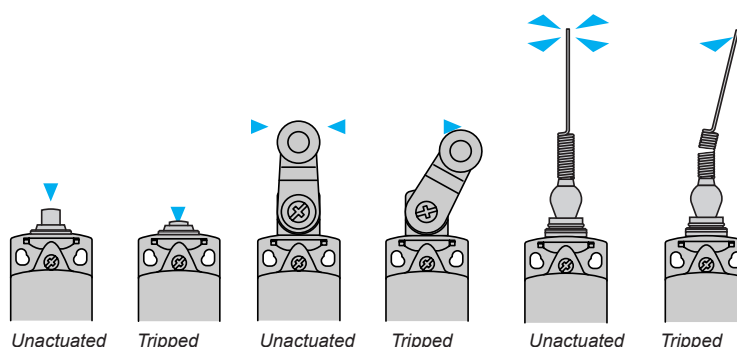
- galvanic separation of circuits,
- models suitable for low power switching combined with good electrical durability,
- very good short-circuit withstand in coordination with appropriate fuses,
- total immunity to electromagnetic interference,
- high rated operational voltage.

■ From a mechanical viewpoint

- NC contacts with positive opening operation,
- high resistance to the different ambient conditions encountered in industry (standard tests and specific tests under laboratory conditions),
- high repeat accuracy, up to 0.01 mm on the tripping points.

Detection movements

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



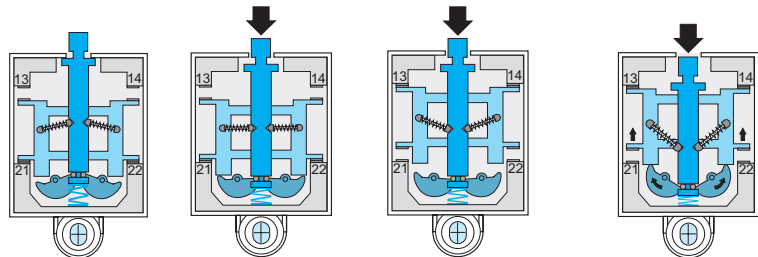
Terminology

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

Contact blocks

Snap action contacts

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



Unactuated state

Approach travel

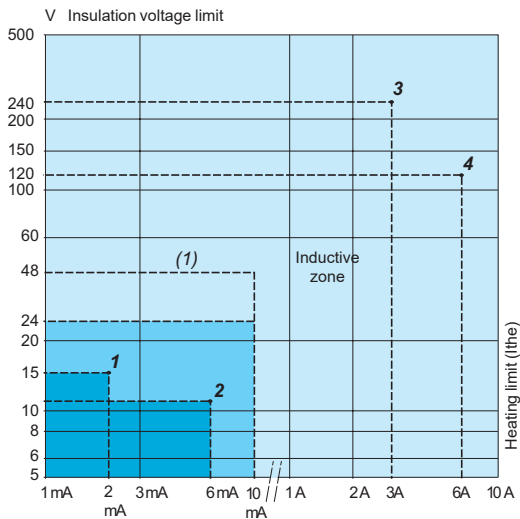
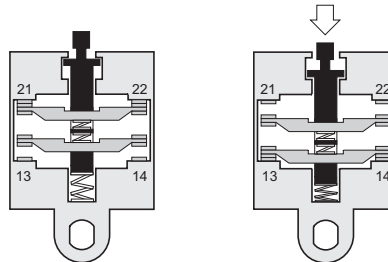
Contact change of state

Positive opening

Slow break contacts

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

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



Electrical durability for normal loads

- Normally, for inductive loads, the current value is less than 0.1 A (sealed), i.e. values of 3 to 40 VA sealed and 30 to 1000 VA inrush, depending on the voltage.

For this type of application the electrical durability will exceed 10 million operating cycles.

Application example: XCKJ161 + LC1D12●●●● (7 VA sealed, 70 VA inrush).

Electrical durability = 10 million operating cycles.

Switching capacity

- 1 Normal industrial PLC input type 1 (PLC: industrial programmable logic controllers)
- 2 Normal industrial PLC input type 2

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

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

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

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

Electrical durability for small loads

- The use of limit switches with programmable controllers is becoming more common.

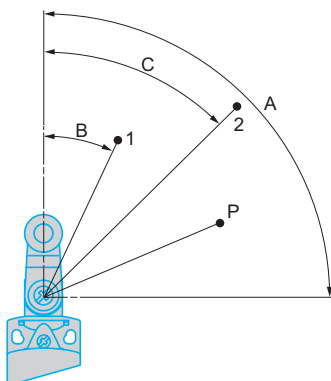
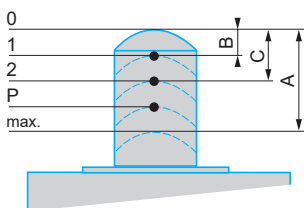
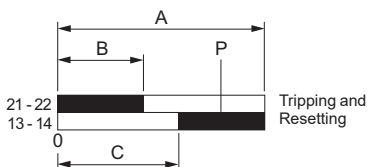
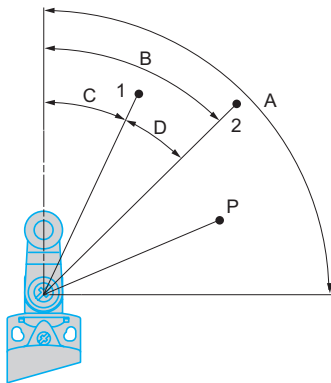
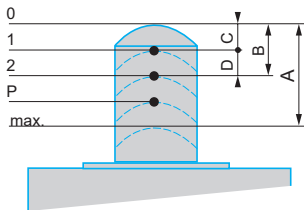
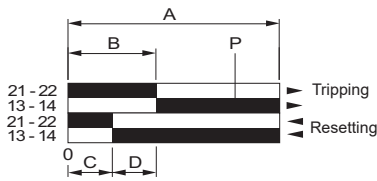
- With small loads, limit switches offer the following levels of reliability:

- failure rate of less than 1 for 100 million operating cycles using snap action contacts (contacts XE2SP),
- failure rate of less than 1 for 20 million operating cycles using slow break contacts (contacts XE●NP and XE3SP).
- failure rate of less than 1 for 5 million operating cycles using contacts XCMD.

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

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

Contact blocks (continued)



Functional diagrams of snap action contacts

■ Example: NC + NO

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

□ Linear movement (plunger)

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

□ Rotary movement (lever)

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

Functional diagrams of slow break contacts

■ Example: NC + NO break before make

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

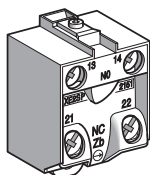
□ Linear movement (plunger)

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

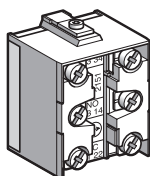
□ Rotary movement (lever)

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

Contact blocks (continued)



XE2•P screw clamp terminal connections

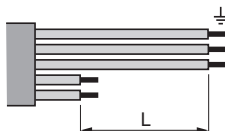


XE3•P screw clamp terminal connections

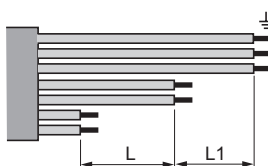
Mounting

Contact connections

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

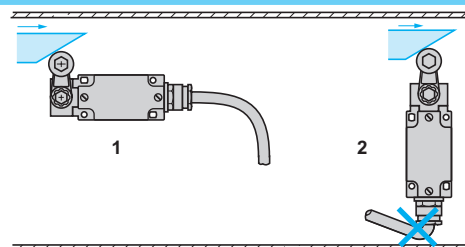


- for XE3•P, L = 14 mm, L1 = 11 mm.



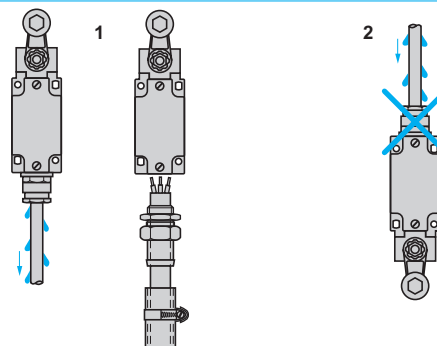
Sweep of connecting cable

- 1 Recommended
- 2 To be avoided



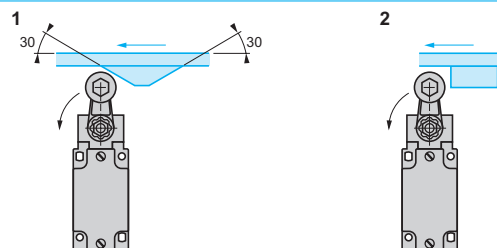
Position of cable gland

- 1 Recommended
- 2 To be avoided



Type of cam

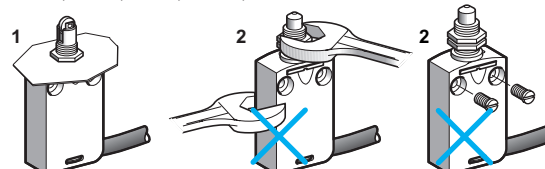
- 1 Recommended
- 2 To be avoided



Mounting and fixing limit switches by the head

- 1 Recommended
- 2 Forbidden

XCKD, XCKP, XCKT, XCMD, XCMH and XCMN



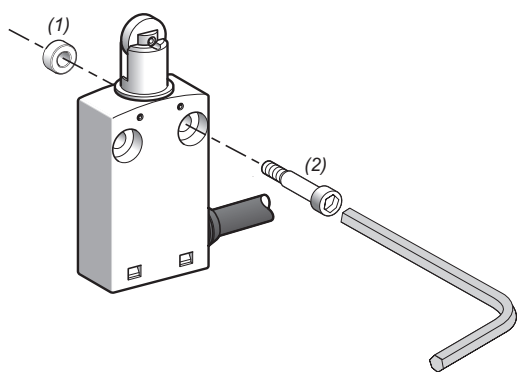
Setting-up

Tightening torque

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

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

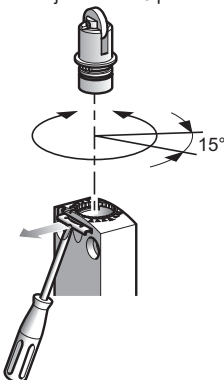
XCMH, XCMN



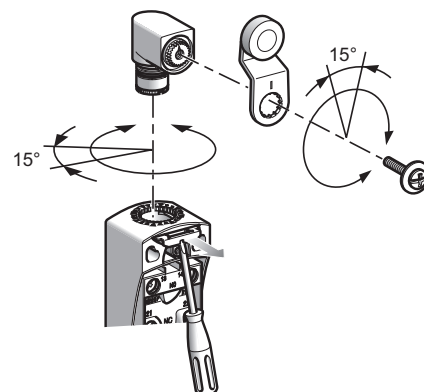
- (1) 2 spacers supplied with the switch.
(2) 2 screws Ø 4mm (not included).

XCKD, XCKP, XCKT, XCMD, XCMV

- Adjustable in 3 planes:



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

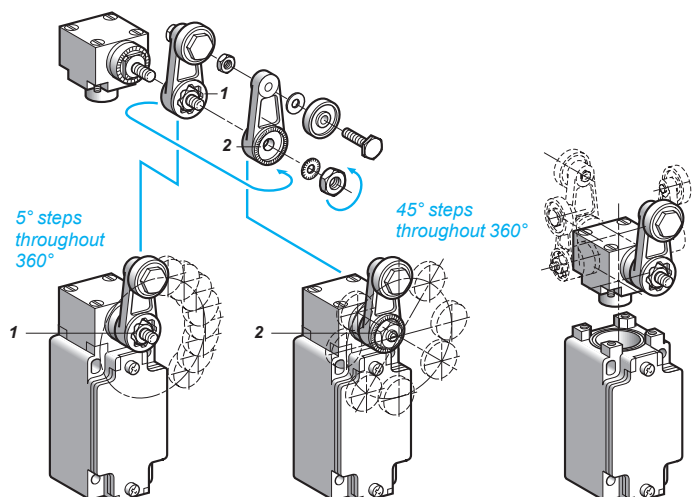


All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

XCKJ

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

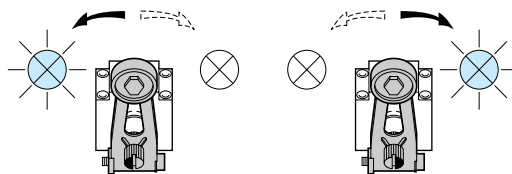
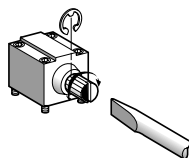
- 1 Reversed $\alpha = 5^\circ$
2 Forward $\alpha = 45^\circ$



Setting-up (continued)

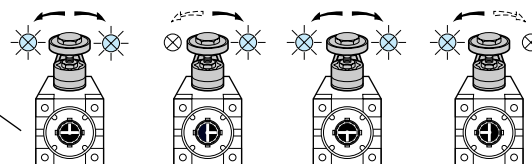
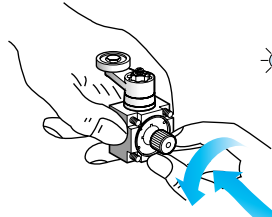
Direction of actuation programming

■ XC2J



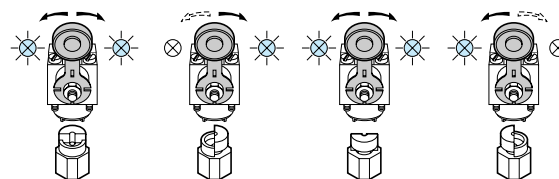
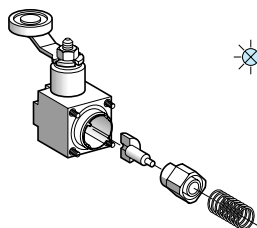
Head ZC2JE05

■ XCKJ



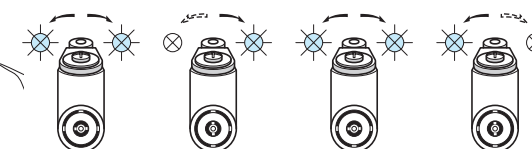
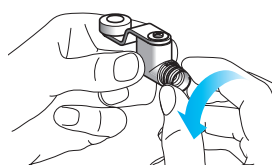
Head ZCKE05

■ XCKS



Head ZCKD05

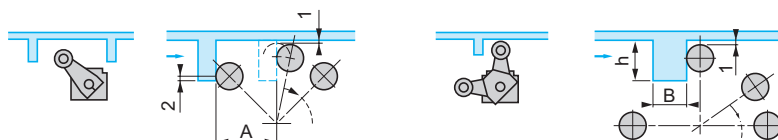
■ XCKD, XCKP, XCKT and XCMD



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

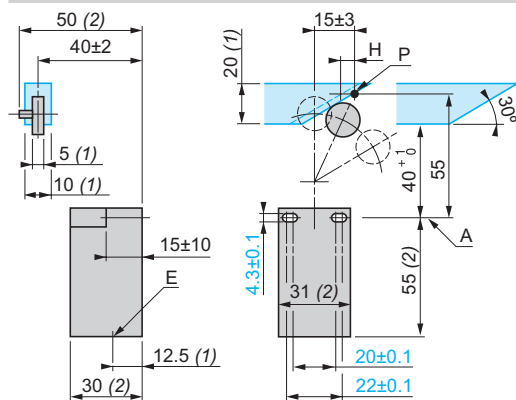
The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the first type of limit switch.

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

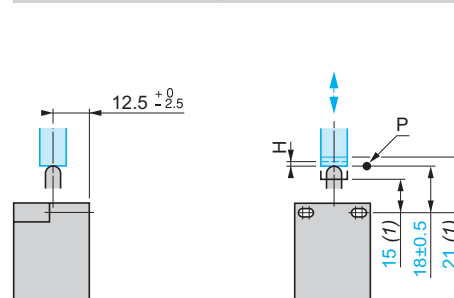
- (1) Minimum value
(2) Maximum value

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

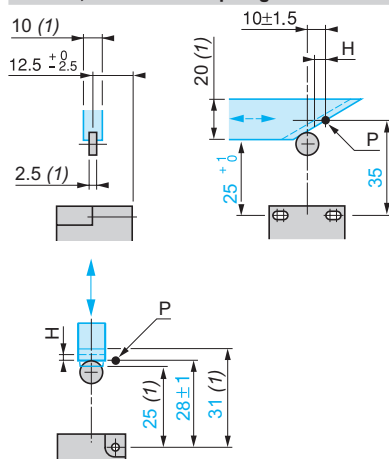
Form A, with roller lever



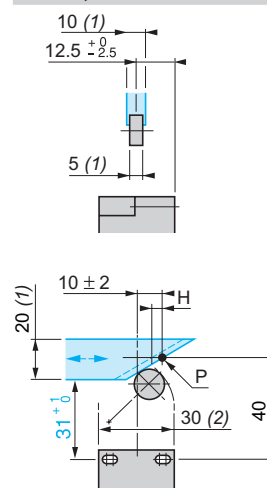
Form B, with end plunger (rounded)



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.

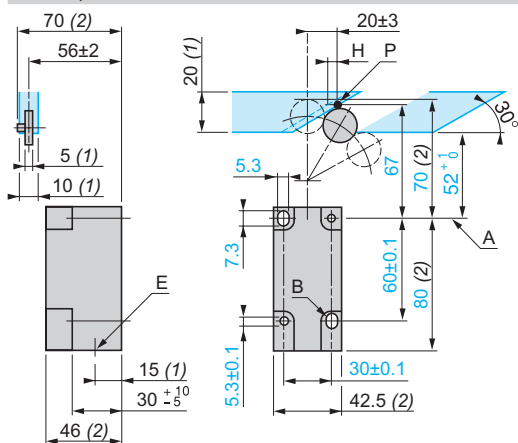
It defines 6 variants of devices (forms A, B, C, D, F, G).
Limit switches XCKJ and XCKS conform to standard EN 50041.

(1) Minimum value
(2) Maximum value

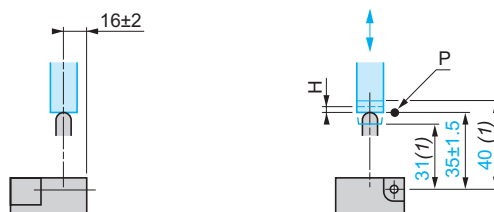
A: reference axis
B: optional elongated holes
H: differential travel
P: tripping point
E: cable entry

Za: tripping zone
Sa: tripping threshold

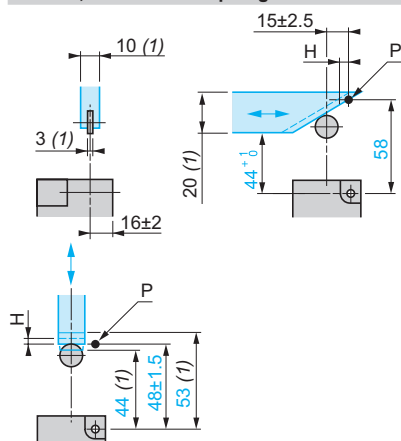
Form A, with roller lever



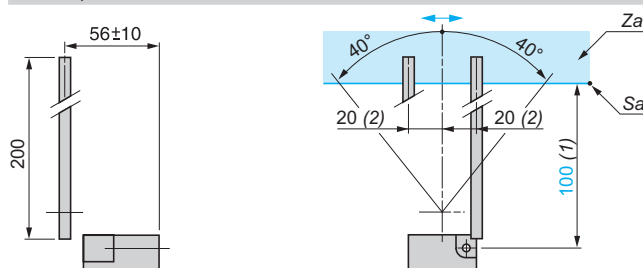
Form B, with end plunger (rounded)



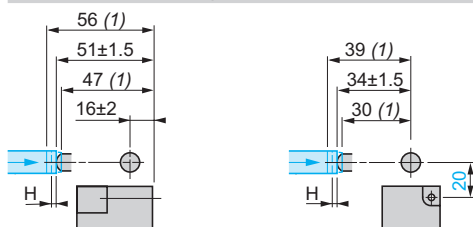
Form C, with end roller plunger



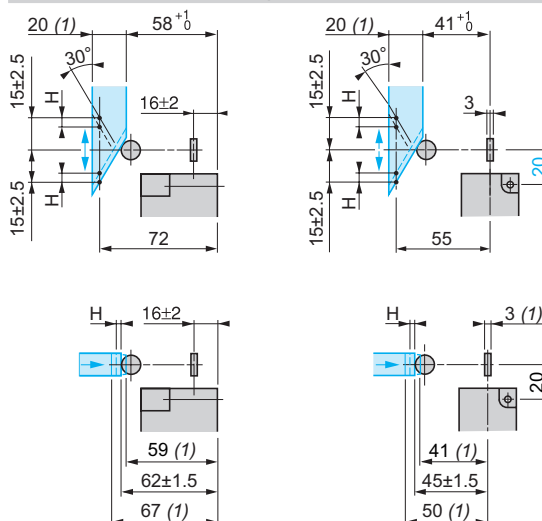
Form D, with rod lever



Form F, with side plunger (rounded)



Form G, with side roller plunger

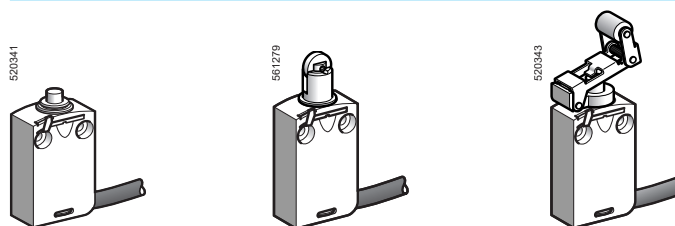


Limit switches

XC Standard range
Miniature design, metal, XCMD

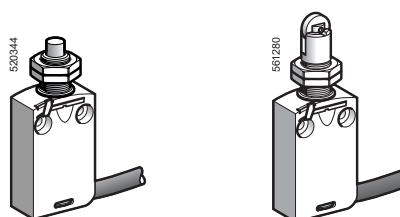
■ XCMD pre-cabled

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



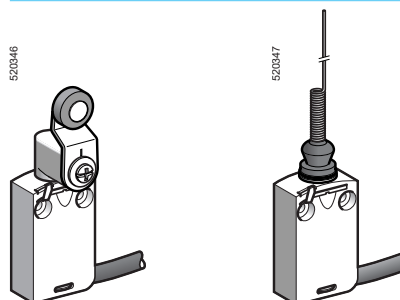
Complete switches: page 28. Variable composition: page 30

□ 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

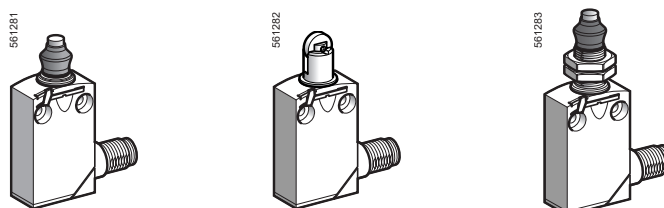


Complete switches: page 29. Variable composition: page 31

■ XCMD with connector

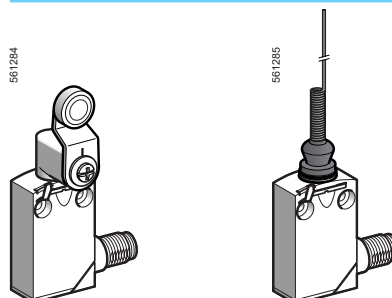
□ With head for linear movement (plunger) Fixing by the body

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

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

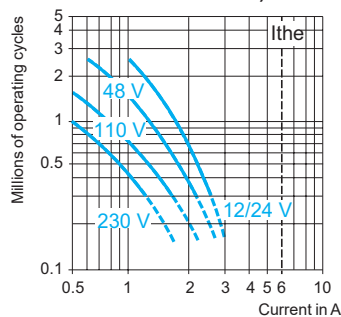
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Contact block characteristics

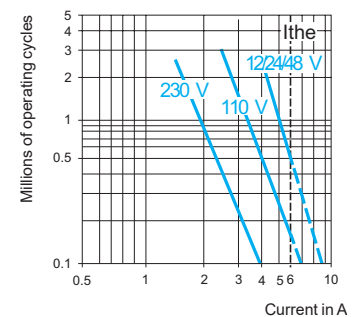
Rated operational characteristics	Switches with 2 contacts	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A) --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	Switches with 3 and 4 contacts	~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A) --- DC-13; R300 (Ue = 250 V, Ie = 0.1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

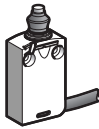
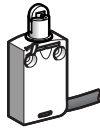
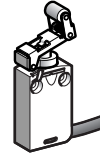
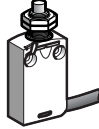
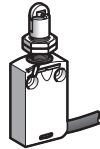
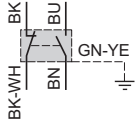
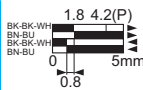
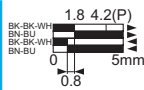
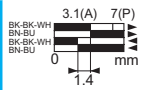
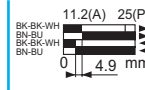
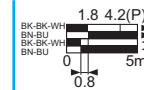
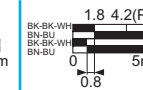
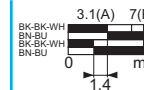
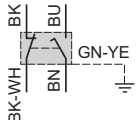
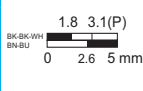
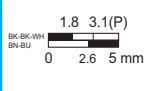
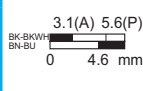
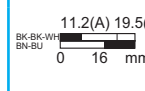
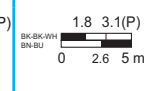
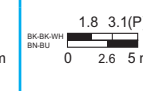
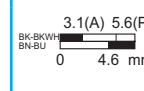
Voltage	V	24	48	120
~	W	3	2	1

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

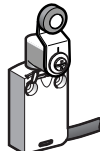
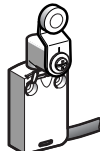
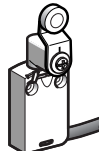
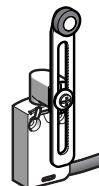
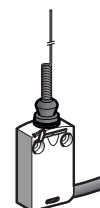
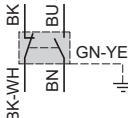
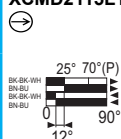
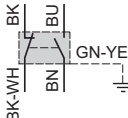
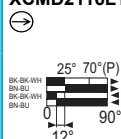
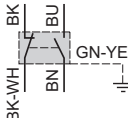
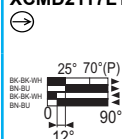
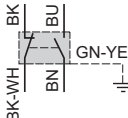
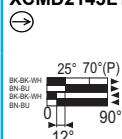
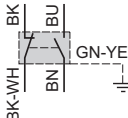
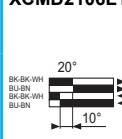
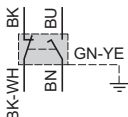
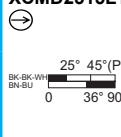
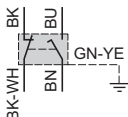
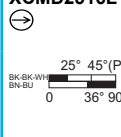
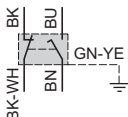
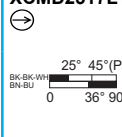
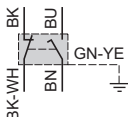
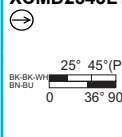
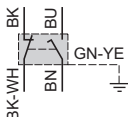
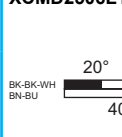
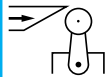
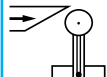
Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Metal end plunger with elastomer boot (1)	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot (1)	M12 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  	XCMD2524L1  	XCMD25F0L1  	XCMD25G1L1  	XCMD25F2L1  
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205
Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point		 NC contact with positive opening operation		

Complementary characteristics not shown under general characteristics (see page 27)						
Switch actuation		On end		By 30° cam		On end
Type of actuation						
Maximum actuation speed		0.5 m/s				0.1 m/s
Mechanical durability		10 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		PvR cable, 5 x 0.75 mm², length 1 m				

(1) Nitrile for indoor use

Limit switches

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

Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
References					
2-pole NC + NO snap action	 XCMD2115L1 	 XCMD2116L1 	 XCMD2117L1 	 XCMD2145L1 	 XCMD2106L1 
2-pole NC + NO break before make, slow break	 XCMD2515L1 	 XCMD2516L1 	 XCMD2517L1 	 XCMD2545L1 	 XCMD2506L1 
Weight (kg)	0.220	0.225	0.220	0.230	0.180
Contact operation	closed open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation				
Complementary characteristics not shown under general characteristics (see page 27)					
Switch actuation	By 30° cam				By any moving part
Type of actuation					
Maximum actuation speed	1.5 m/s				1 m/s
Mechanical durability	10 million operating cycles				5
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m			
Cabling	PvR cable, 5 x 0.75 mm ² , length 1 m				

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

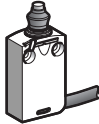
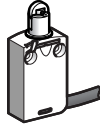
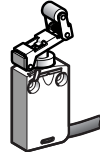
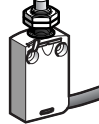
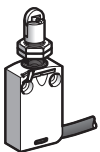
Limit switches

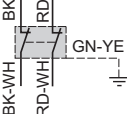
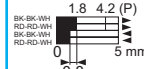
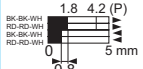
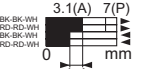
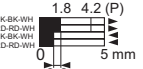
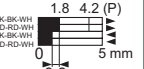
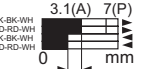
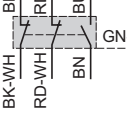
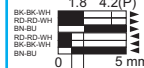
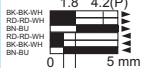
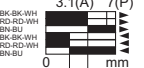
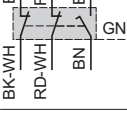
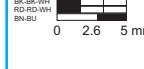
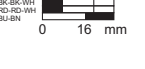
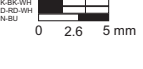
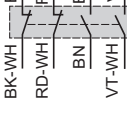
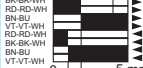
XC Standard range

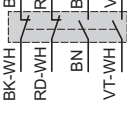
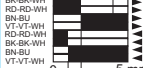
Miniature design, metal, XCMD

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 + ZCE00 	ZCMD29L1 + ZCE01 	ZCMD29L1 + ZCE02 
							
3-pole NC + NC + NO snap action 	ZCMD39L1 + ZCE10 	ZCMD39L1 + ZCE11 	ZCMD39L1 + ZCE02 	ZCMD39L1 + ZCE24 	ZCMD39L1 + ZCE00 	ZCMD39L1 + ZCE01 	ZCMD39L1 + ZCE02 
							
3-pole NC + NC + NO break before make, slow break 	ZCMD29L1 + ZCE10 	ZCMD37L1 + ZCE11 	ZCMD37L1 + ZCE02 	ZCMD37L1 + ZCE24 	ZCMD37L1 + ZCE00 	ZCMD37L1 + ZCE01 	ZCMD37L1 + ZCE02 
							
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 + ZCE00 	ZCMD4DL1 + ZCE01 	ZCMD4DL1 + ZCE02 
							
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185

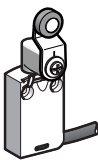
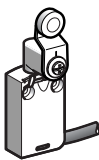
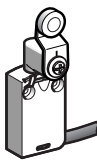
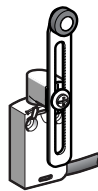
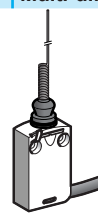
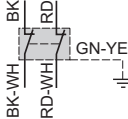
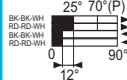
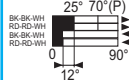
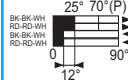
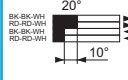
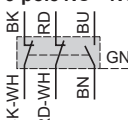
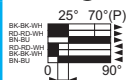
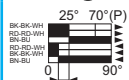
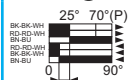
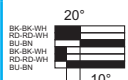
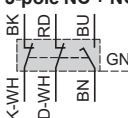
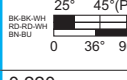
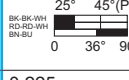
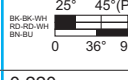
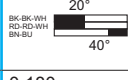
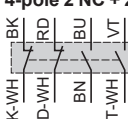
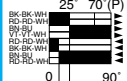
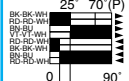
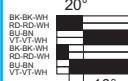
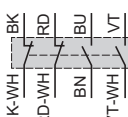
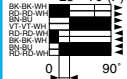
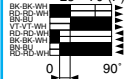
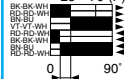
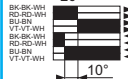
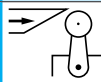
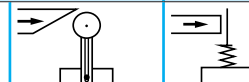
References (combined with fixed terminal block)							
4-pole 2 NC + 2 NO snap action 	ZCMD41L1 + ZCE10 	ZCMD41L1 + ZCE11 	ZCMD41L1 + ZCE02 	ZCMD41L1 + ZCE24 	ZCMD41L1 + ZCE00 	ZCMD41L1 + ZCE01 	ZCMD41L1 + ZCE02 
							
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185
Contact operation	 closed  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 mm ² length 1 m for 2-pole contact versions, 7 x 0.5 mm ² length 1 m for 3-pole contact versions, 9 x 0.34 mm ² 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	 BK RD RD-WH GN-YE	ZCMD29L1 + ZCE01 + ZCY15 	ZCMD29L1 + ZCE01 + ZCY16 	ZCMD29L1 + ZCE01 + ZCY17 	ZCMD29L1 + ZCE06 
3-pole NC + NC + NO snap action	 BK RD BU RD-WH BN GN-YE	ZCMD39L1 + ZCE01 + ZCY15 	ZCMD39L1 + ZCE01 + ZCY16 	ZCMD39L1 + ZCE01 + ZCY17 	ZCMD39L1 + ZCE06 
3-pole NC + NC + NO break before make, slow break	 BK RD BU RD-WH BN GN-YE	ZCMD37L1 + ZCE01 + ZCY15 	ZCMD37L1 + ZCE01 + ZCY16 	ZCMD37L1 + ZCE01 + ZCY17 	ZCMD37L1 + ZCE06 
Weight (kg)		0.220	0.225	0.220	0.230
4-pole 2 NC + 2 NO snap action	 BK RD BU VT RD-WH BN GN-YE	ZCMD4DL1 + ZCE01 + ZCY15 	ZCMD4DL1 + ZCE01 + ZCY16 	ZCMD4DL1 + ZCE01 + ZCY17 	ZCMD4DL1 + ZCE06 
Weight (kg)		0.200	0.205	0.200	0.210
References (combined with fixed terminal block)					
4-pole 2 NC + 2 NO snap action	 BK RD BU VT RD-WH BN GN-YE	ZCMD41L1 + ZCE01 + ZCY15 	ZCMD41L1 + ZCE01 + ZCY16 	ZCMD41L1 + ZCE01 + ZCY17 	ZCMD41L1 + ZCE06 
Weight (kg)		0.200	0.205	0.200	0.210
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 mm ² length 1 m for 2-pole contact versions, 7 x 0.5 mm ² length 1 m for 3-pole contact versions, 9 x 0.34 mm ² length 1 m for 4-pole contact versions. For other lengths, see page 48.				

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

Limit switches

XC Standard range

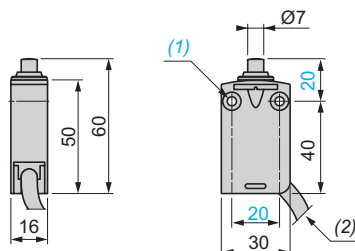
Miniature design, metal, XCMD

Complete units

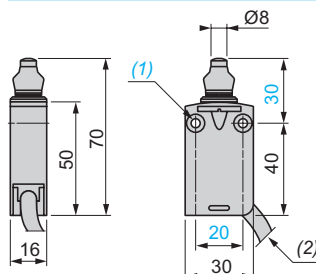
Pre-cabled

Dimensions

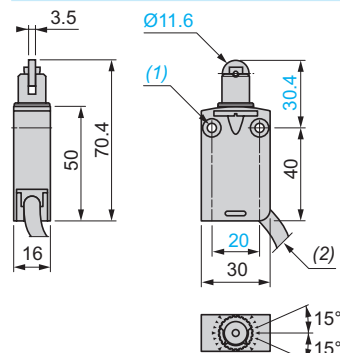
XCMD2•10L1



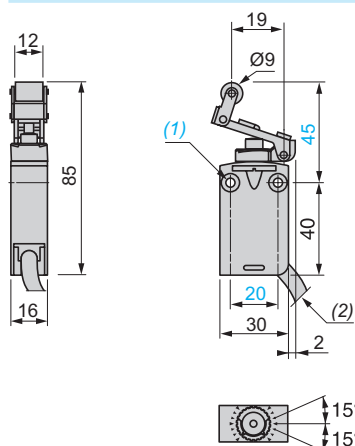
XCMD2•11L1



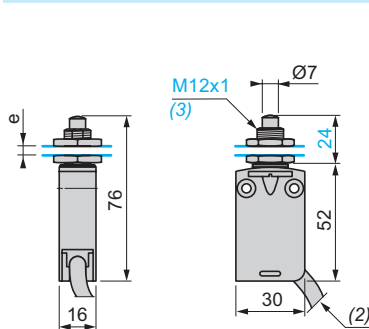
XCMD2•02L1



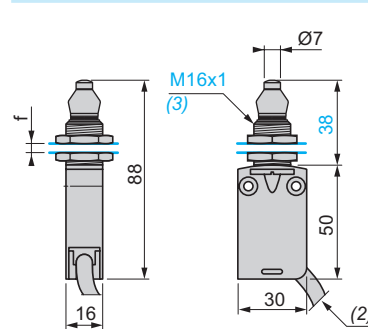
XCMD2•24L1



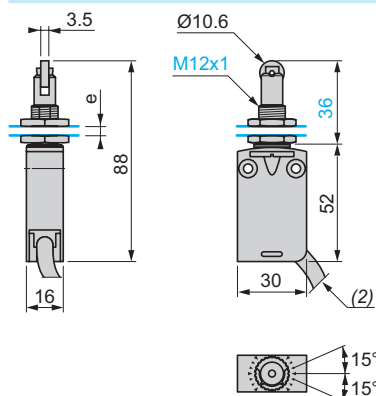
XCMD2•F0L1



XCMD2•G1L1



XCMD2•F2L1



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

(2) External diameter of cable 7.5 mm

(3) Fixing nut thickness 3.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm

f: 8 mm max, panel cut-out Ø 16.5 mm

Limit switches

XC Standard range

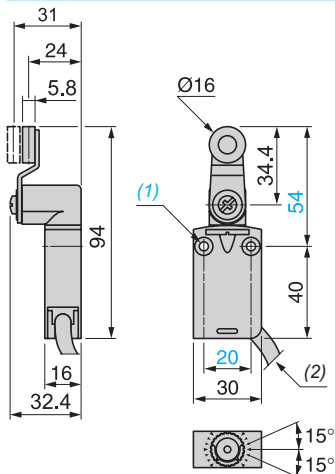
Miniature design, metal, XCMD

Complete units

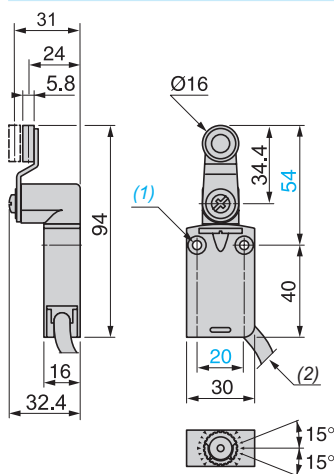
Pre-cabled

Dimensions (continued)

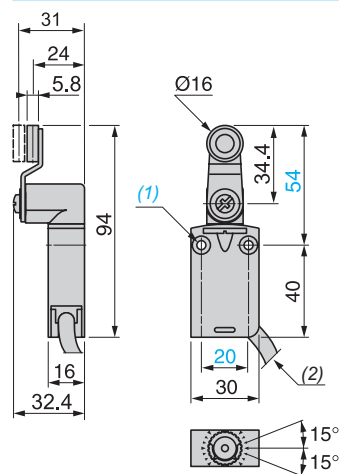
XCMD2●15L1



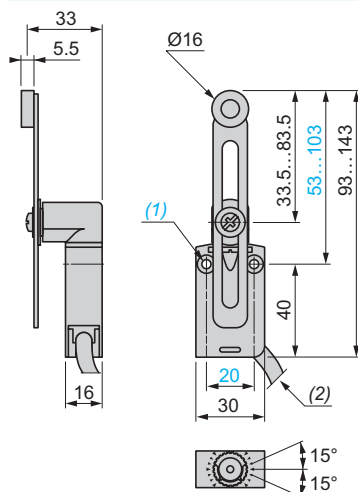
XCMD2●16L1



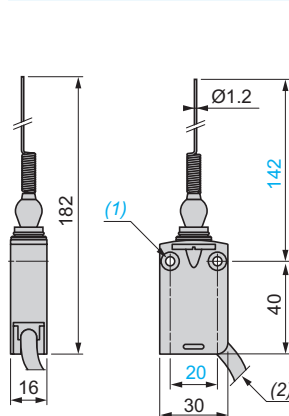
XCMD2●17L1



XCMD2●45L1

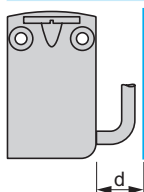


XCMD2●06L1



Mounting: distance required for connection

XCMD2●●●L1



d: 20 mm min.

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

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

(2) External diameter of cable 7.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm

f: 8 mm max, panel cut-out Ø 16.5 mm

Limit switches

XC Standard range

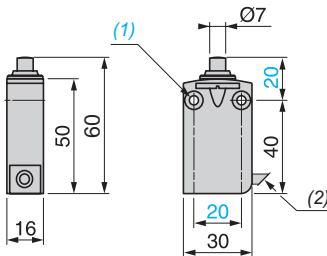
Miniature design, metal, XCMD

Modular units

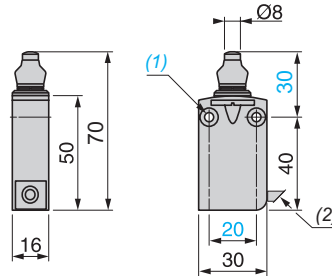
Pre-cabled

Dimensions

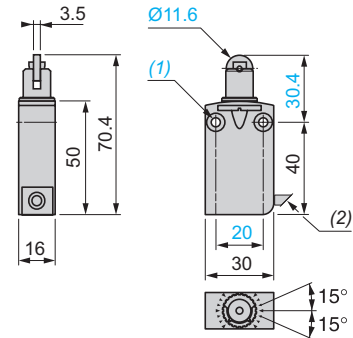
ZCMD●●L1 + ZCE10,
ZCMD4DL1 + ZCE10,
ZCMD41L1 + ZCE10



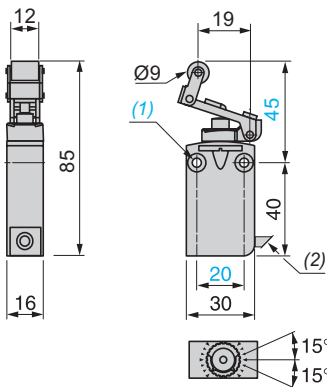
ZCMD●●L1 + ZCE11,
ZCMD4DL1 + ZCE11,
ZCMD41L1 + ZCE11



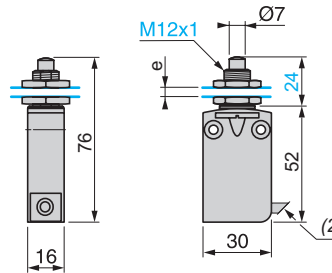
ZCMD●●L1 + ZCE02,
ZCMD4DL1 + ZCE02,
ZCMD41L1 + ZCE02



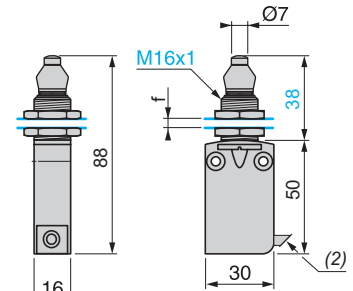
ZCMD●●L1 + ZCE24,
ZCMD4DL1 + ZCE24,
ZCMD41L1 + ZCE24



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



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



(1) 2 fixing holes $\varnothing 4.2$ mm, counterbored $\varnothing 8$ mm by 4 mm deep

(2) External diameter of cable 7.5 mm

e: 8 mm max, panel cut-out $\varnothing 12.5$ mm, fixing nut thickness 3.5 mm.

f: 8 mm max, panel cut-out $\varnothing 16.5$ mm, fixing nut thickness 3.5 mm.

Limit switches

XC Standard range

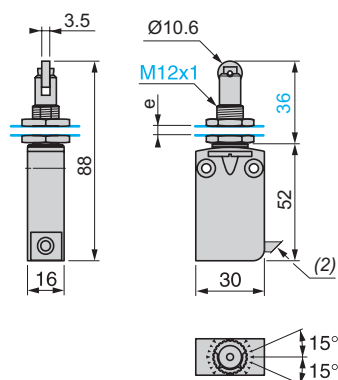
Miniature design, metal, XCMD

Modular units

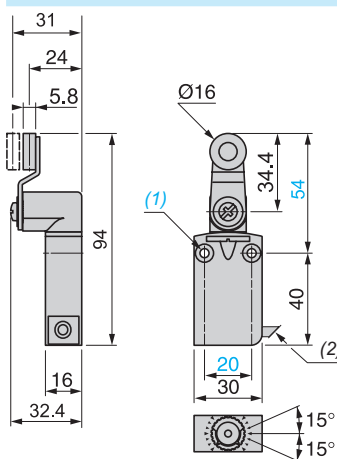
Pre-cabled

Dimensions (continued)

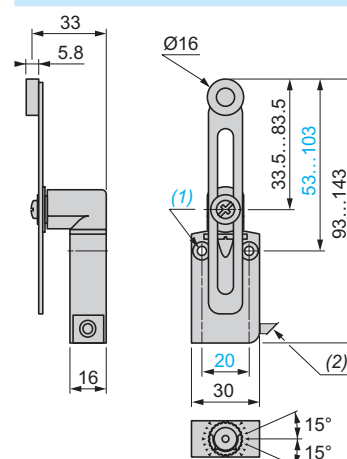
ZCMD●●L1 + ZCEF2,
ZCMD4DL1 + ZCEF2,
ZCMD41L1 + ZCEF2



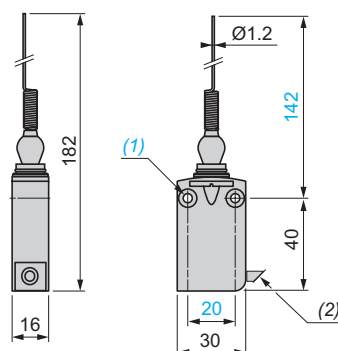
ZCMD●●L1 + ZCE01 + ZCY15/16/17 ,
ZCMD4DL1 + ZCE01 + ZCY15/16/17,
ZCMD41L1 + ZCE01 +
ZCY15/16/17



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



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



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

(2) External diameter of cable 7.5 mm

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

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

Limit switches

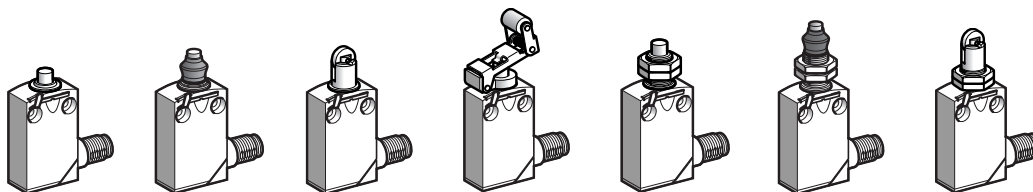
XC Standard range

Miniature design miniature, metal, XCMD

Complete units

Connector

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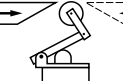


Type of operator	Metal end plunger	Metal end plunger with elastomer boot (1)	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot (1)	M12 with steel roller plunger
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References

Single-pole CO snap action + integral M12 4-pin connector	XCMD2110M12	XCMD2111M12	XCMD2102M12	XCMD2124M12	XCMD21F0M12	XCMD21G1M12	XCMD21F2M12
2-pole NC + NO snap action + integral M12 5-pin connector	XCMD2110C12	XCMD2111C12	XCMD2102C12	XCMD2124C12	XCMD21F0C12	XCMD21G1C12	XCMD21F2C12
Weight (kg)	0.085	0.085	0.090	0.105	0.100	0.125	0.110
Contact operation	closed open		(A) = cam displacement (P) = positive opening point		NC contact with positive opening operation		

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

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

(1) Nitrile for indoor use.

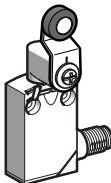
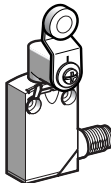
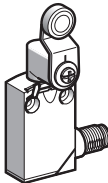
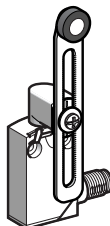
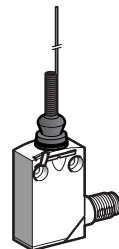
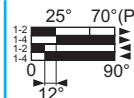
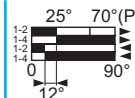
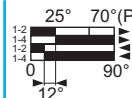
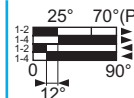
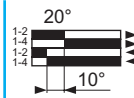
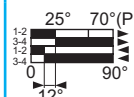
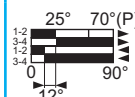
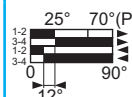
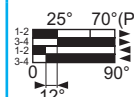
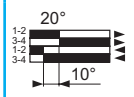
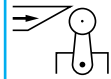
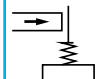
Limit switches

XC Standard range

Miniature design miniature, metal, XCMD

Complete units

Connector

Type of head	Rotary (fixing by the body)				Multi-directional
					
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
References					
 Single-pole CO snap action With integral M12 4-pin connector	XCMD2115M12 	XCMD2116M12 	XCMD2117M12 	XCMD2145M12 	XCMD2106M12 
 2-pole NC + NO snap action With integral M12 5-pin connector	XCMD2115C12 	XCMD2116C12 	XCMD2117C12 	XCMD2145C12 	XCMD2106C12 
Weight (kg)	0.125	0.130	0.125	0.135	0.085
Contact operation	closed open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation				
Complementary characteristics not shown under general characteristics (see page 27)					
Switch actuation	By 30° cam				By any moving part
Type of actuation					
Maximum actuation speed	1.5 m/s				1 m/s
Mechanical durability	10 million operating cycles				5
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m			
Positive operation	Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the  symbol because they are single-pole CO.				

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

Limit switches

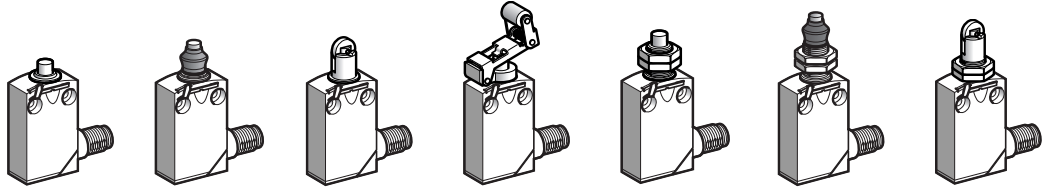
XC Standard range

Miniature design miniature, metal, XCMD

Modular units

Connector

Type of head	Plunger (fixing by the body)				Plunger (fixing by the body)		
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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
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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
	For positive opening	42.5 N	35 N	12.5 N	42.5 N
Positive operation	Although their design is identical to the pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked with the ⊕ symbol because they are single-pole CO.				

(1) Nitrile for indoor use.

Limit switches

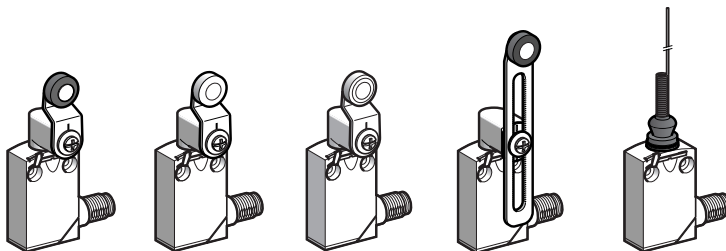
XC Standard range

Miniature design miniature, metal, XCMD

Modular units

Connector

Type of head	Rotary (fixing by the body)				Multi-directional
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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)
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References

Single-pole CO snap action With integral M12 4-pin connector	ZCMD21M12 + ZCE01 + ZCY15 ⊕	ZCMD21M12 + ZCE01 + ZCY16 ⊕	ZCMD21M12 + ZCE01 + ZCY17 ⊕	ZCMD21M12 + ZCE01 + ZCY45 ⊕	ZCMD21M12 + ZCE06
2-pole NC + NO snap action With integral M12 5-pin connector	ZCMD21C12 + ZCE01 + ZCY15 ⊕	ZCMD21C12 + ZCE01 + ZCY16 ⊕	ZCMD21C12 + ZCE01 + ZCY17 ⊕	ZCMD21C12 + ZCE01 + ZCY45 ⊕	ZCMD21C12 + ZCE06
2-pole NC + NC snap action With integral M12 5-pin connector	ZCMD29C12 + ZCE01 + ZCY15 ⊕	ZCMD29C12 + ZCE01 + ZCY16 ⊕	ZCMD29C12 + ZCE01 + ZCY17 ⊕	ZCMD29C12 + ZCE01 + ZCY45 ⊕	ZCMD29C12 + ZCE06
Weight (kg)	0.125	0.130	0.125	0.135	0.085
2-pole NC + NO snap action With M12 5-pin connector on 0.8 m flying lead	ZCMD21L08R12 + ZCE01 + ZCY15 ⊕	ZCMD21L08R12 + ZCE01 + ZCY16 ⊕	ZCMD21L08R12 + ZCE01 + ZCY17 ⊕	ZCMD21L08R12 + ZCE01 + ZCY45 ⊕	ZCMD21L08R12 + ZCE06
2-pole NC + NO snap action With 7/8"-16 UN 5-pin connector on 0.8 m flying lead	ZCMD21L08U78 + ZCE01 + ZCY15 ⊕	ZCMD21L08U78 + ZCE01 + ZCY16 ⊕	ZCMD21L08U78 + ZCE01 + ZCY17 ⊕	ZCMD21L08U78 + ZCE01 + ZCY45 ⊕	ZCMD21L08U78 + ZCE06
Weight (kg)	0.200	0.205	0.200	0.210	0.160
Contact operation					

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.

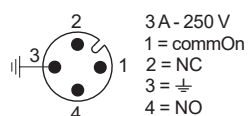
References of suitable pre-wired female connectors

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

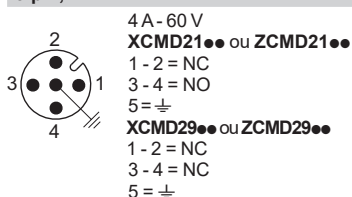
Connections

XCMD with connector

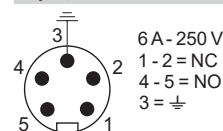
4-pin, M12



5-pin, M12

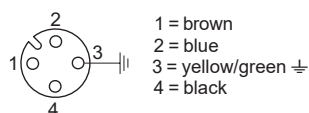


5-pin, 7/8"-16 UN

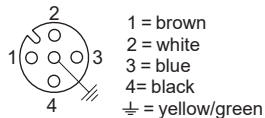


XZCP pre-wired female connectors

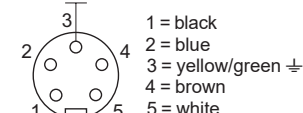
4-pin, M12



5-pin, M12

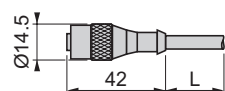


5-pin, 7/8"-16 UN

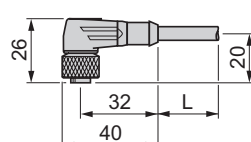


Dimensions

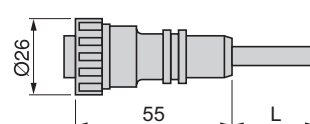
XZCP116...L



XZCP1264L



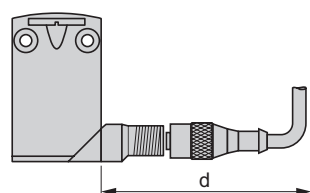
XZCP1771L



L: cable length 2, 5 or 10 m.

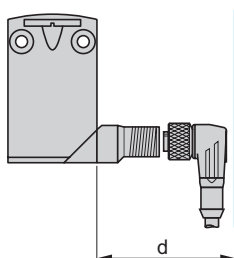
Distances required for plug-in connectors

M12 straight connector



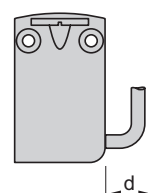
d: min. 65 mm, recommended 69 mm

M12 elbowed connector



d: min. 42 mm, recommended 45 mm

Connector on flying lead



d: min. 20 mm

Limit switches

XC Standard range

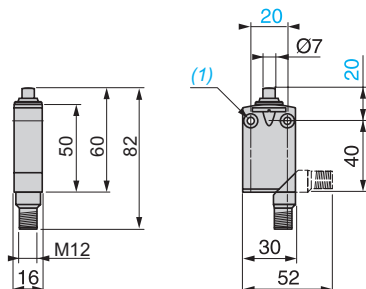
Miniature design, metal, XCMD

Complete units

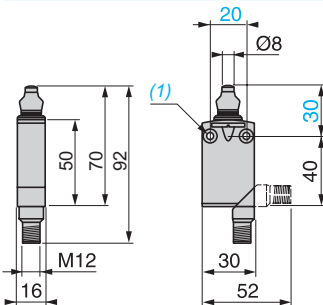
Connector

Dimensions

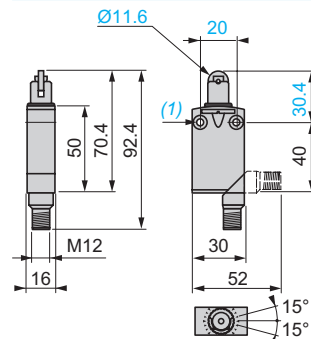
XCMD2110M12 and XCMD2110C12



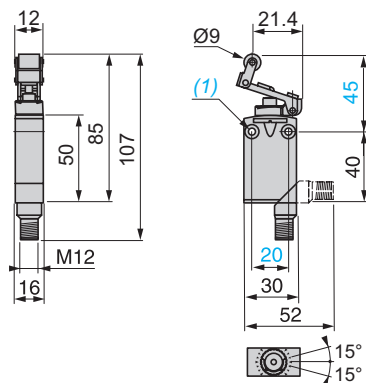
XCMD2111M12 and XCMD2111C12



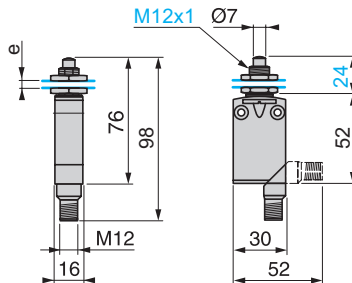
XCMD2102M12 and XCMD2102C12



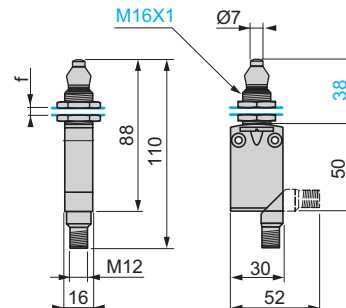
XCMD2124M12 and XCMD2124C12



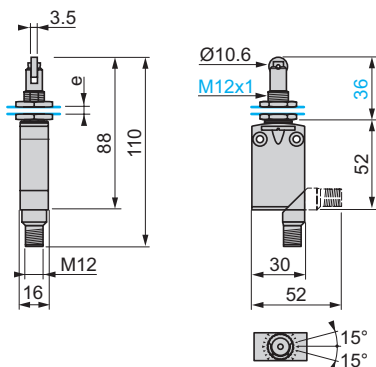
XCMD21F0M12 and XCMD21F0C12



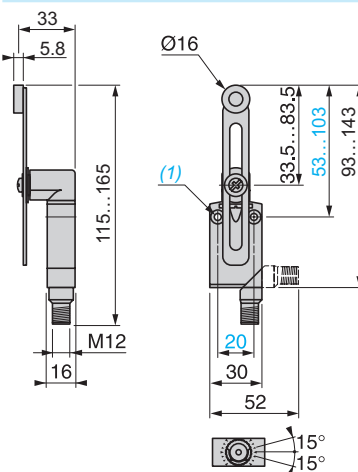
XCMD21G1M12 and XCMD21G1C12



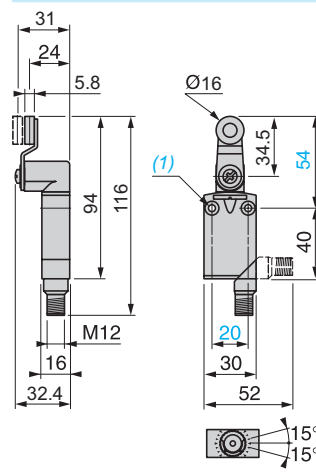
XCMD21F2M12 and XCMD21F2C12



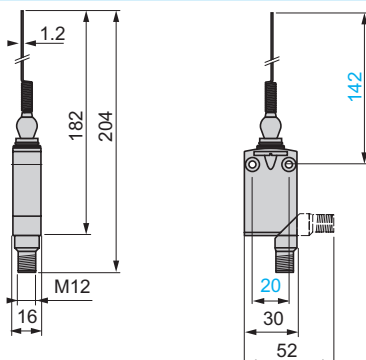
XCMD2145M12 and XCMD2145C12



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



XCMD2106M12 and XCMD2106C12



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

Limit switches

XC Standard range

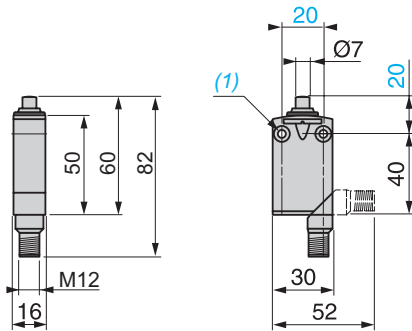
Miniature design, metal, XCMD

Modular units

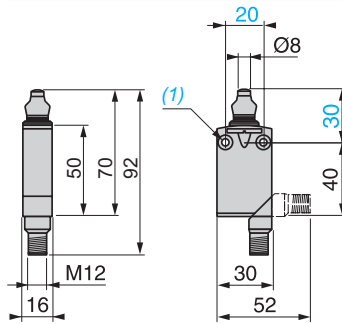
Connector

Dimensions (continued)

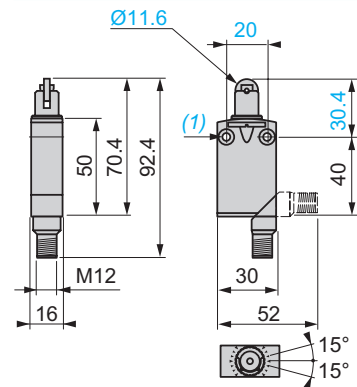
ZCMD21M12 + ZCE10
ZCMD2●C12 + ZCE10
ZCMD21L08●●● + ZCE10



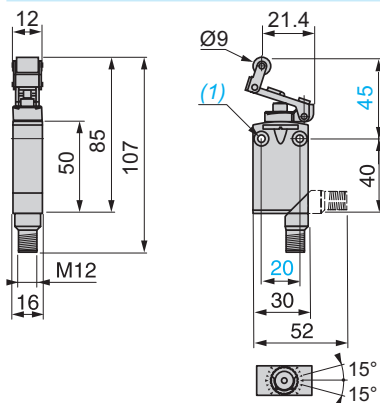
ZCMD21M12 + ZCE11
ZCMD2●C12 + ZCE11
ZCMD21L08●●● + ZCE11



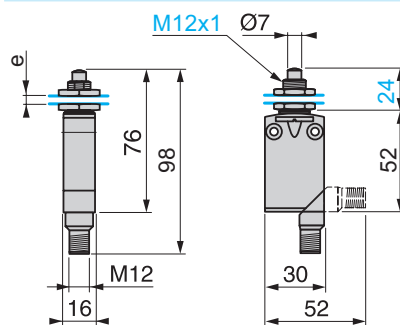
ZCMD21M12 + ZCE02
ZCMD2●C12 + ZCE02
ZCMD21L08●●● + ZCE02



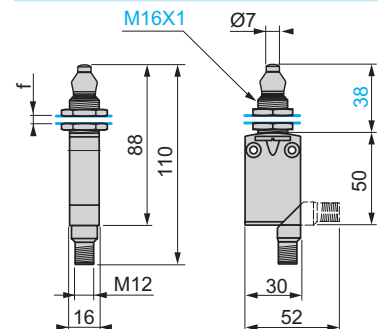
ZCMD21M12 + ZCE24
ZCMD2●C12 + ZCE24
ZCMD21L08●●● + ZCE24



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



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



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

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

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

Limit switches

XC Standard range

Miniature design, metal, XCMD

Modular units

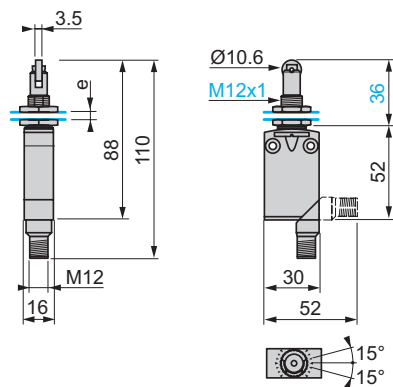
Connector

Dimensions (continued)

ZCMD21M12 + ZCEF2

ZCMD2●C12 + ZCEF2

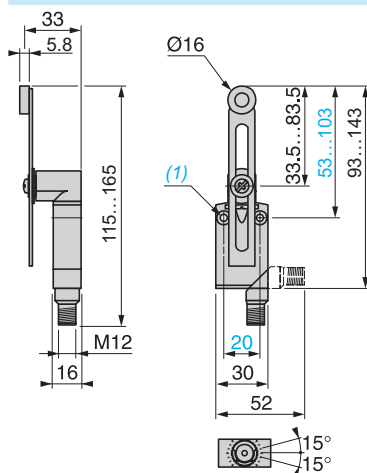
ZCMD21L08●●● + ZCEF2



ZCMD21M12 + ZCE01 + ZCY45

ZCMD2●C12 + ZCE01 + ZCY45

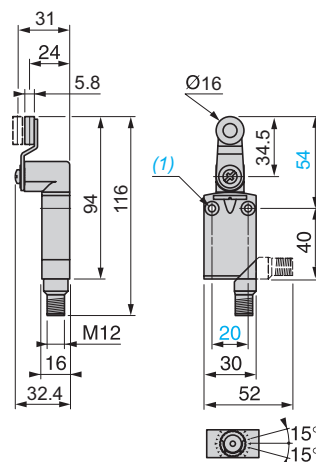
ZCMD21L08●●● + ZCE01 + ZCY45



ZCMD21M12 + ZCE01 + ZCY1●

ZCMD2●C12 + ZCE01 + ZCY1●

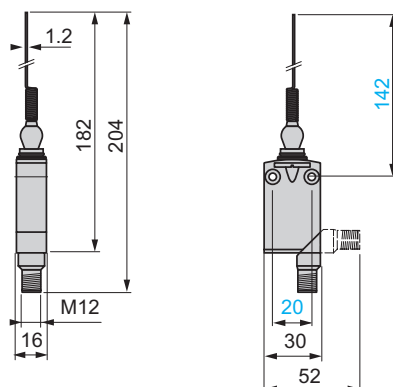
ZCMD21L08●●● + ZCE01 + ZCY1●



ZCMD21M12 + ZCE06

ZCMD2●C12 + ZCE06

ZCMD21L08●●● + ZCE06

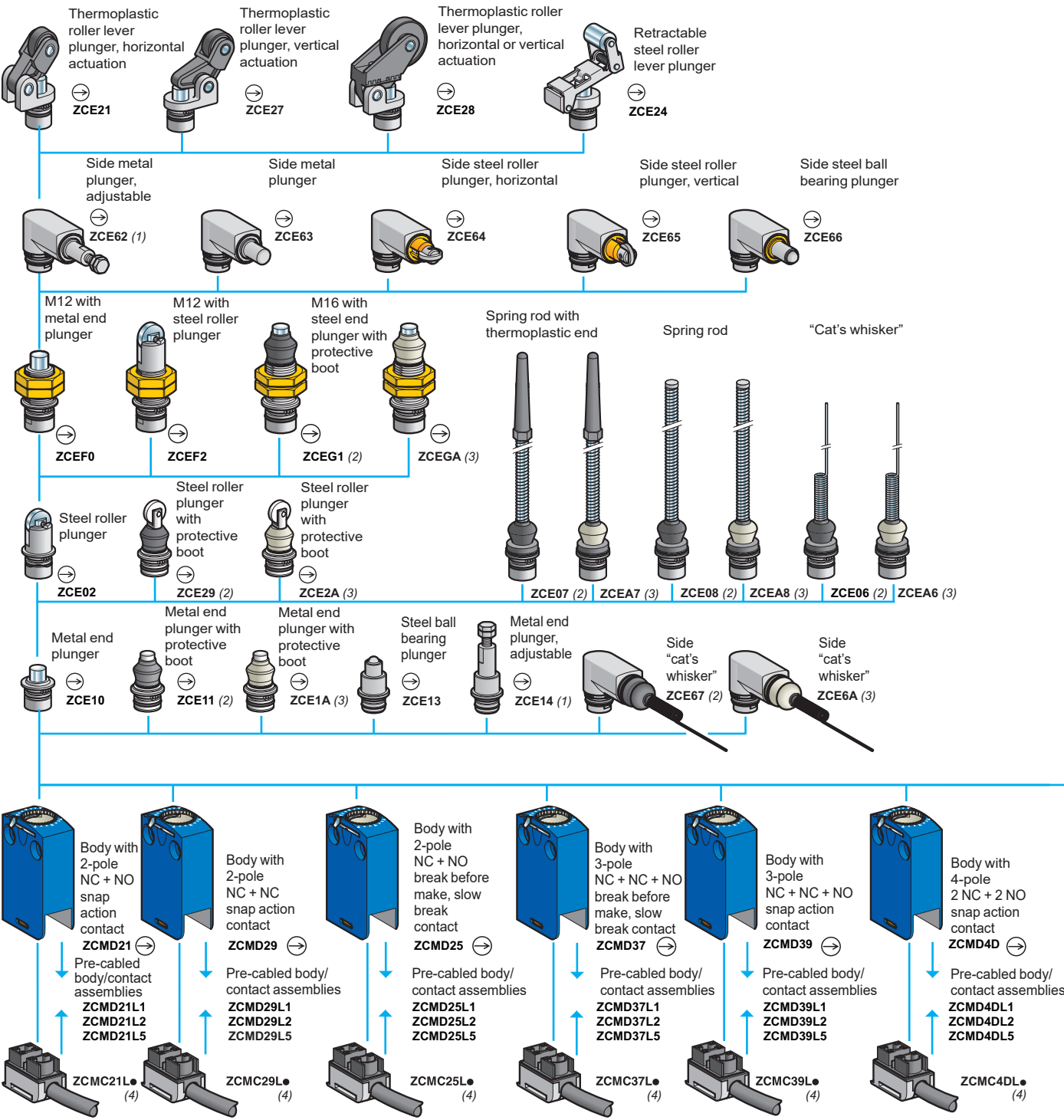


(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep.

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

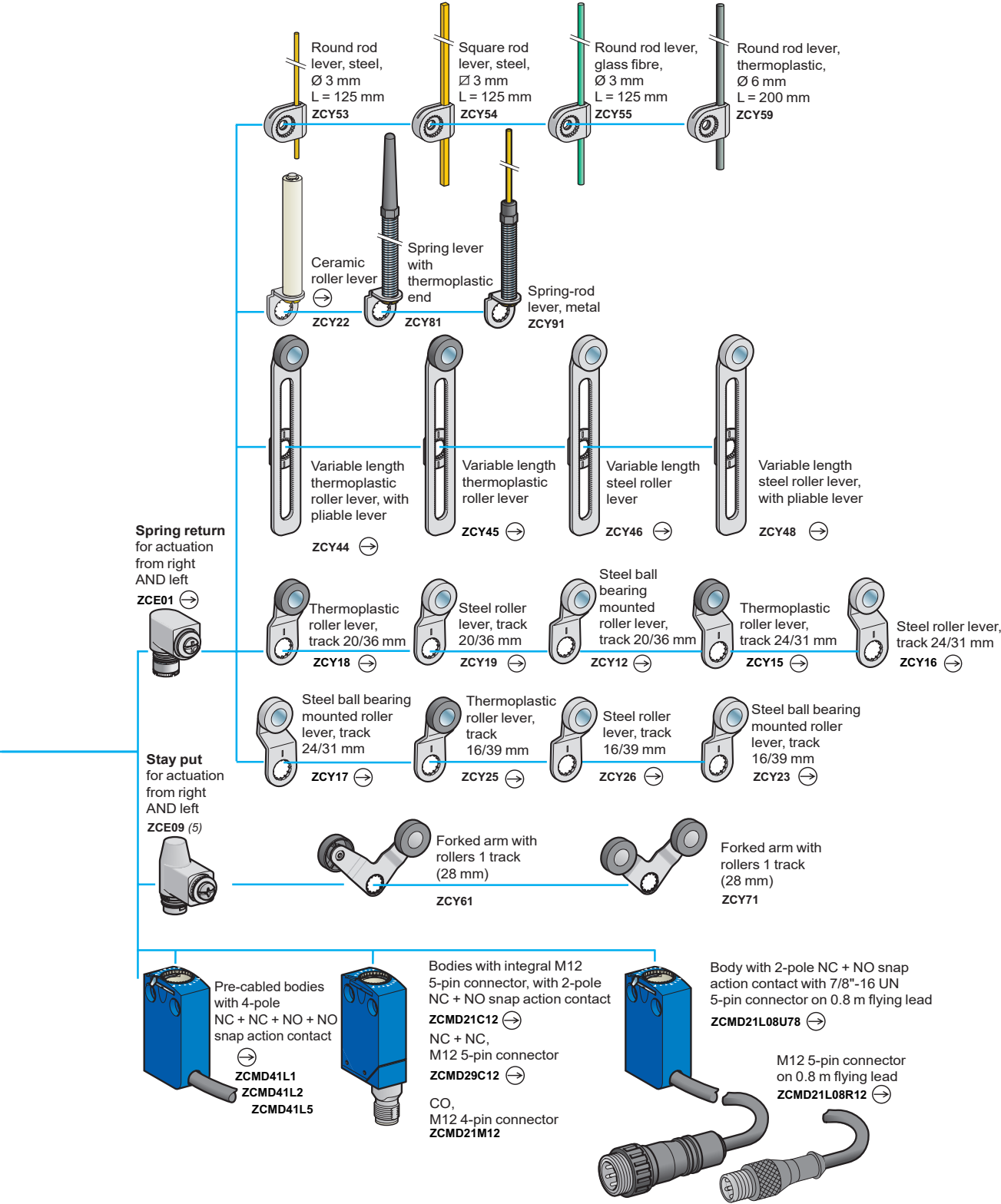


(1) A minimum 5 mm of threaded length must be maintained inside the head. Plunger length can be adjusted from 30.5 to 35.5 mm.

(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●●●.

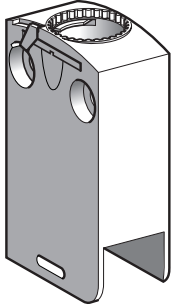
Limit switches

XC Standard range

Miniature design, metal, XCMD

Body/contact assemblies

520720



ZCMD6●
ZCMD7●
ZCMD4D

Body/contact assemblies

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

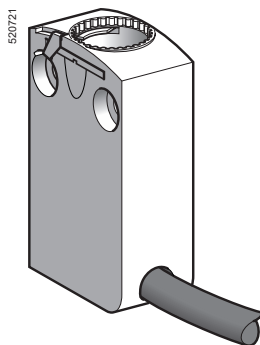
(1) ⊙ bodies with contacts assuring positive opening operation.

Limit switches

XC Standard range

Miniature design, metal, XCMD

Pre-cabled body/contact assemblies



ZCMD●●L●

Body/contact assemblies with removable cable

Type of contact	Positive operation (1)	Scheme	Length of cable in metres	Reference	Weight kg
2-pole					
NC + NO snap action	⊕		1	ZCMD21L1	0.160
			2	ZCMD21L2	0.250
			5	ZCMD21L5	0.520
NC + NC snap action	⊕		1	ZCMD29L1	0.160
			2	ZCMD29L2	0.250
			5	ZCMD29L2	0.520
NC + NO break before make, slow break	⊕		1	ZCMD25L1	0.160
			2	ZCMD25L2	0.250
			5	ZCMD25L5	0.520

3-pole

NC + NC + NO break before make, slow break	⊕		1	ZCMD37L1	0.160
			2	ZCMD37L2	0.250
			5	ZCMD37L5	0.520
NC + NC + NO snap action	⊕		1	ZCMD39L1	0.160
			2	ZCMD39L2	0.250
			5	ZCMD39L5	0.520

4-pole

2 NC + 2 NO snap action	⊕		1	ZCMD4DL1	0.160
			2	ZCMD4DL2	0.250
			5	ZCMD4DL5	0.520

Pre-cabled bodies/contact assemblies (fixed cable)

4-pole

2 NC + 2 NO snap action	⊕		1	ZCMD41L1	0.160
			2	ZCMD41L2	0.250
			5	ZCMD41L5	0.520

Pre-cabled bodies with gold contacts (fixed cable)

4-pole

2 NC + 2 NO snap action	⊕		1	ZCMD81L1	0.160
			2	ZCMD81L2	0.250
			5	ZCMD81L5	0.520

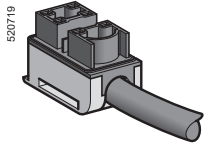
(1) ⊕ bodies with contacts assuring positive opening operation.

Limit switches

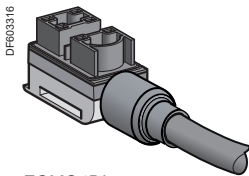
XC Standard range

Miniature design, metal, XCMD

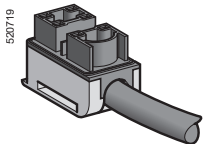
Connection components



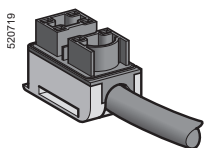
ZCMC2●L●●
ZCMC3●L●●



ZCMC4DL●



ZCMC21E●



ZCMC25T06
ZCMC21T●

Pre-cabled connection components with PVC cable

2-pole

NC + NO snap action		1	ZCMC21L1	0.100
		2	ZCMC21L2	0.190
		3	ZCMC21L3	0.280
		5	ZCMC21L5	0.460
		7	ZCMC21L7	0.700
		10	ZCMC21L10	0.970

NC + NC snap action		1	ZCMC29L1	0.100
		2	ZCMC29L2	0.190
		3	ZCMC29L3	0.280
		5	ZCMC29L5	0.460
		7	ZCMC29L7	0.700
		10	ZCMC29L10	0.970

NC + NO break before make, slow break		1	ZCMC25L1	0.100
		2	ZCMC25L2	0.190
		3	ZCMC25L3	0.280
		5	ZCMC25L5	0.460
		7	ZCMC25L7	0.700
		10	ZCMC25L10	0.970

3-pole

NC + NC + NO break before make, slow break		1	ZCMC37L1	0.100
		2	ZCMC37L2	0.190
		5	ZCMC37L5	0.460

NC + NC + NO snap action		1	ZCMC39L1	0.100
		2	ZCMC39L2	0.190
		5	ZCMC39L5	0.460

4-pole

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

Pre-cabled connection components with CEI cable

(Connitato Elettrotecnico Italiano) (1)

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

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

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

(1) Cable not UL or CSA certified.

(2) For other types of contacts and cable, please contact our Customer Care Centre.

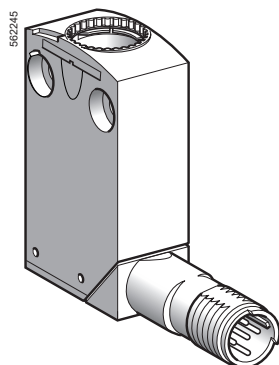
(3) ⊕ bodies with contacts assuring positive opening operation.

Limit switches

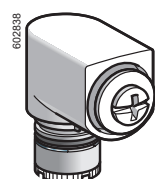
XC Standard range

Miniature design, metal, XCMD

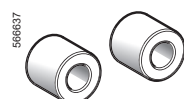
Separate parts



ZCMD61●●●



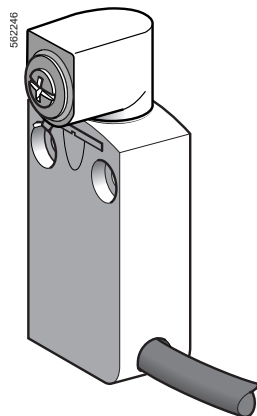
ZCE05



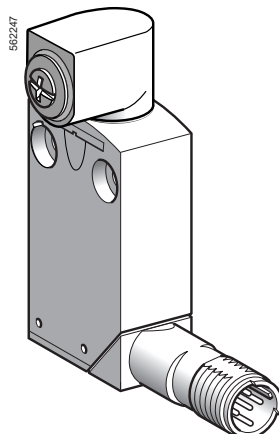
XCMZ06



XCMZ07



XCMD2●01L1



XCMD2101●12

Bodies with gold contacts, connector

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

Accessories

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

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

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

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

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

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

Limit switches

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

The range of XCMV limit switches is an offer dedicated to mobile equipment:

- special connectors
- a metal body for robustness
- compact dimensions (among the smallest on the market)
- IP 69 degree of protection, for high-pressure cleaning
- for outdoor use at -25 °...+70 °C

Complete units
with Deutsch DT04-4P connector

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



Page 53

Complete units
with AMP Superseal 1.5 connector

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



Page 54

Complete units
with M12 connector

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



Page 55

Limit switches

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

Modular units

Body with Deutsch DT04-4P connector

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



Pages 56 and 57

Modular units

Body with AMP Superseal 1.5 connector

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



Pages 58 and 59

Modular units

Body with M12 connector

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



Pages 60 and 61

Modular units

Pre-cabled body

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



Pages 62 and 63

Limit switches

XC Standard range

Miniature design, metal, XCMV for mobile equipment

Environmental characteristics

Product certifications	CE, cURus	
Conformity to standards	Products	EN/IEC 60947-5-1, UL 508, CSA C22-2 n°14, GB/T 14048.5
	Machine assemblies	EN/IEC 60204-1
Protective treatment	Standard version: "TC"	
Ambient air temperature	For operation	- 25...+ 70 °C (- 40...+ 70 °C with ZCE106, ZCE026 and ZCE016 heads)
	For storage	- 40...+ 70 °C
Vibration resistance	± 1.76 mm (10...60 Hz), 25 gn (61...500 Hz) conforming to IEC 60068-2-6	
Shock resistance	40 gn (11 ms) conforming to IEC 60068-2-27	
Protection against electric shock	Class III conforming to IEC 61140, class 2 conforming to UL 508	
Degree of protection	Switches with 4-pin M12 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC 60529 ; IK 04 conforming to EN 62262
	Switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	IP 66, IP 67 and IP 69 conforming to EN/IEC 60529 ; IK 06 conforming to EN 62262
	Pre-cabled switches	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; U _e = 24 V, I _e = 3 A, I _{th} = 4 A --- DC-13; U _e = 24 V, I _e = 1 A, conforming to IEC 60947-5-1, EN 60947-5-1
	Pre-cabled switches or switches with 4-pin Deutsch DT04-4P or AMP Superseal 1.5 connector	~ AC-14; U _e = 24 V, I _e = 3 A, I _{th} = 6 A --- DC-13; U _e = 24 V, I _e = 1 A, conforming to IEC 60947-5-1, EN 60947-5-1
Rated insulation voltage	U _i = 36 V degree of pollution 3 conforming to IEC 60947-5-1 U _i = 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

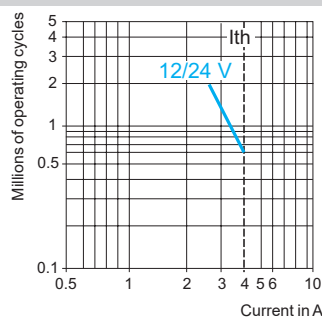
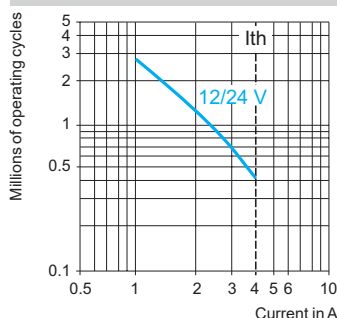
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-14 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
~ 50/60 Hz
~ inductive circuit

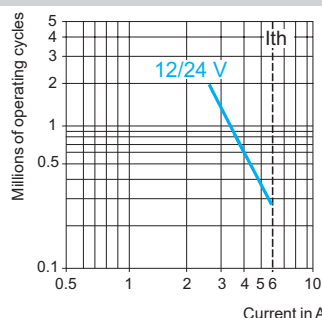
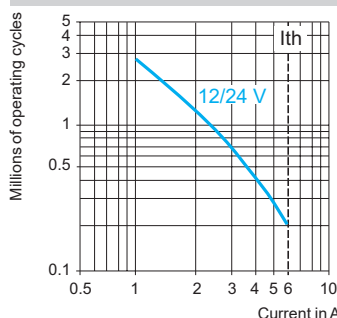
XCMV snap-action (NC+NO contact)

XCMV slow-break (NC+NO contact)

Switches with M12 connector



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

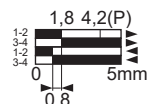
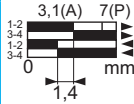
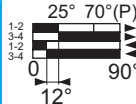
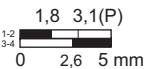
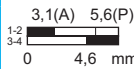
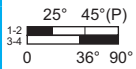
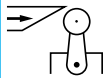
Voltage	V	24
~	A	0.5

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			(A) = cam displacement (P) = positive opening point	
Complementary characteristics not shown under general characteristics (see page 51)				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s	0.5 m/s	1.5 m/s	
Mechanical durability (in millions of operating cycles)	10			
Minimum force or torque	For tripping	8.5 N	7 N	0.1 N.m
	For positive opening	42.5 N	35 N	0.5 N.m

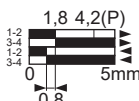
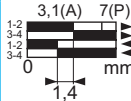
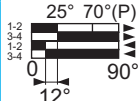
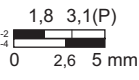
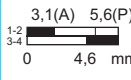
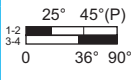
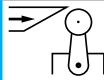
(1) Can be adjusted throughout 360° in 15° steps.

Limit switches

XC Standard range

Miniature design, metal, XCMV

Complete units for mobile equipment

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

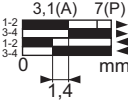
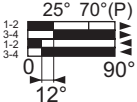
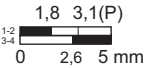
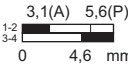
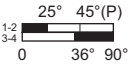
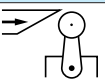
(1) Can be adjusted throughout 360° in 15° steps.

Limit switches

XC Standard range

Miniature design, metal, XCMV

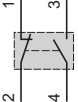
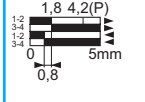
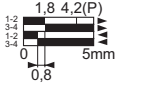
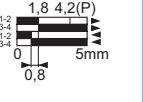
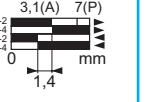
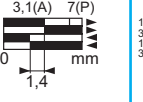
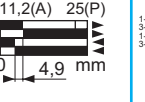
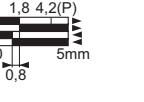
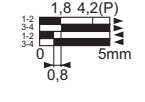
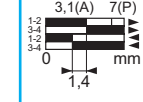
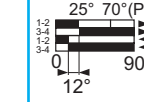
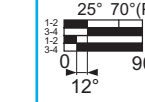
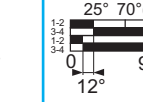
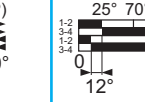
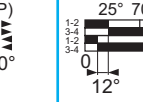
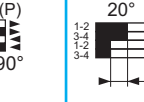
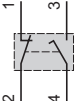
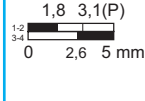
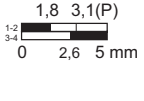
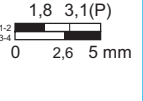
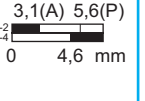
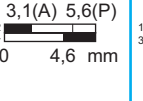
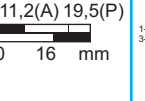
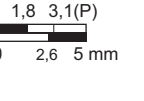
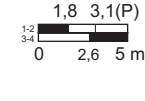
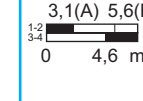
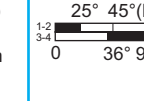
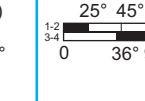
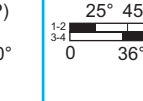
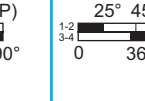
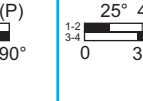
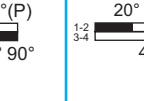
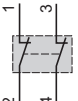
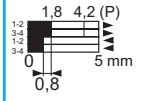
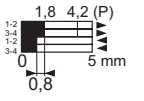
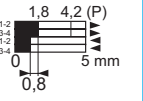
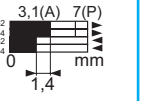
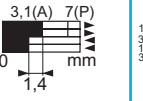
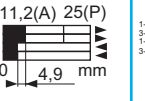
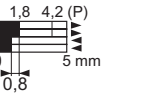
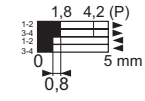
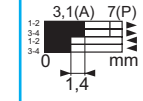
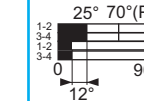
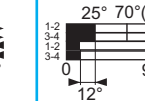
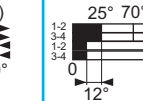
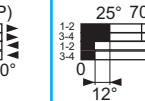
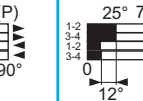
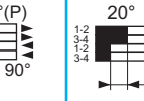
Complete units for mobile equipment

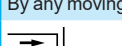
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body)	
				
Form conforming to EN 50047	B	C	A	
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (1)	
Positive operation				
References of complete units with M12 connector				
2-pole NC + NO snap action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

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

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

Type of head	Plunger (fixing by the body)							Plunger (fixing by the head)	Rotary (fixing by the body)							Multi-directional
																
Type of operator	Metal end plunger	Metal end plunger - 40 °C (1)	Metal end plunger with elastomer boot (2)	Steel roller plunger	Steel roller plunger - 40 °C (1)	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C (1)	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)	

References of modular units (body with male Deutsch DT04-4P connector and removable terminal block)																
2-pole NC + NO snap action	ZCMV21D44 + ZCE10	ZCMV21D44 + ZCE106	ZCMV21D44 + ZCE11	ZCMV21D44 + ZCE02	ZCMV21D44 + ZCE026	ZCMV21D44 + ZCE24	ZCMV21D44 + ZCEF0	ZCMV21D44 + ZCEG1	ZCMV21D44 + ZCEF2	ZCMV21D44 + ZCY15	ZCMV21D44 + ZCE016 + ZCY15	ZCMV21D44 + ZCE01 + ZCY16	ZCMV21D44 + ZCE01 + ZCY17	ZCMV21D44 + ZCE01 + ZCY45	ZCMV21D44 + ZCE06	
																
2-pole NC + NO break before make, slow break	ZCMV25D44 + ZCE10	ZCMV25D44 + ZCE106	ZCMV25D44 + ZCE11	ZCMV25D44 + ZCE02	ZCMV25D44 + ZCE026	ZCMV25D44 + ZCE24	ZCMV25D44 + ZCEF0	ZCMV25D44 + ZCEG1	ZCMV25D44 + ZCEF2	ZCMV25D44 + ZCY15	ZCMV25D44 + ZCE016 + ZCY15	ZCMV25D44 + ZCE01 + ZCY16	ZCMV25D44 + ZCE01 + ZCY17	ZCMV25D44 + ZCE01 + ZCY45	ZCMV25D44 + ZCE06	
																
2-pole NC + NC snap action	ZCMV29D44 + ZCE10	ZCMV29D44 + ZCE106	ZCMV29D44 + ZCE11	ZCMV29D44 + ZCE02	ZCMV29D44 + ZCE026	ZCMV29D44 + ZCE24	ZCMV29D44 + ZCEF0	ZCMV29D44 + ZCEG1	ZCMV29D44 + ZCEF2	ZCMV29D44 + ZCY15	ZCMV29D44 + ZCE016 + ZCY15	ZCMV29D44 + ZCE01 + ZCY16	ZCMV29D44 + ZCE01 + ZCY17	ZCMV29D44 + ZCE01 + ZCY45	ZCMV29D44 + ZCE06	
																
Contact operation	(A) = cam displacement (P) = positive opening point							(A) = cam displacement (P) = positive opening point							(A) = cam displacement (P) = positive opening point	

Complementary characteristics not shown under general characteristics (see page 51)																												
Switch actuation		On end		By 30° cam		On end											On end		By 30° cam						By any moving part			
Type of actuation																												
Maximum actuation speed		0.5 m/s															0.5 m/s		0.1 m/s		1.5 m/s				1.5 m/s		1 m/s	
Mechanical durability		10 million operating cycles															10 million operating cycles								10 million		5 million	
Nominal force or torque		For tripping		8.5 N		7 N		2.5 N		8.5 N											8.5 N		7 N.m		0.1 N.m		0.1 N.m	
		For positive opening		42.5 N		35 N		12.5 N		42.5 N											42.5 N		35 N.m		0.5 N.m		–	
Connection		Deutsch DT04-4P connector															Deutsch DT04-4P connector											

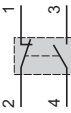
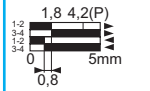
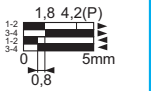
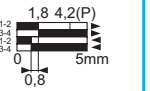
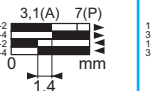
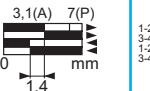
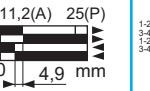
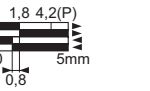
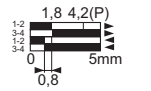
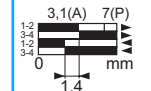
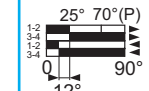
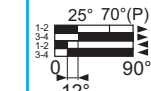
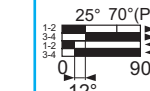
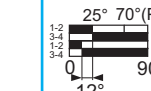
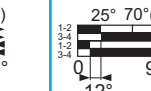
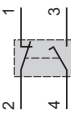
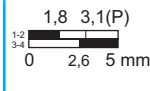
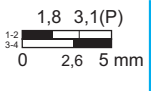
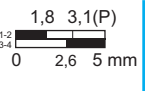
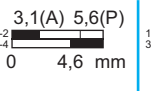
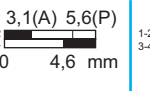
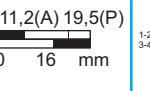
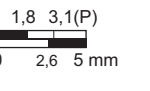
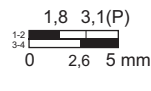
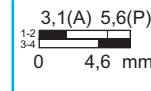
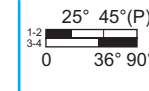
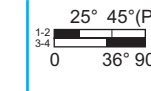
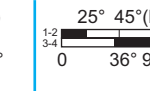
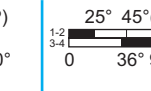
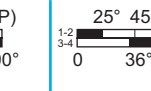
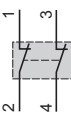
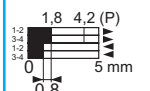
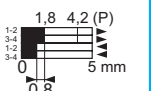
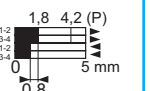
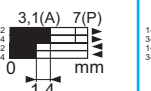
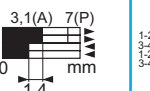
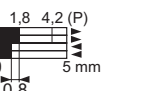
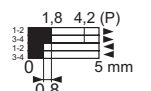
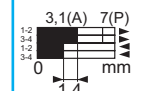
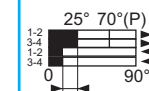
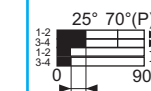
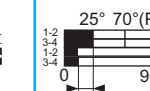
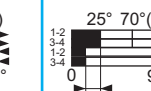
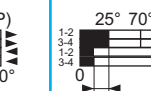
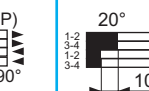
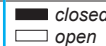
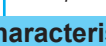
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

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

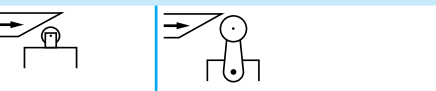
Type of head	Plunger (fixing by the body)						Plunger (fixing by the head)	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional	
															

Type of operator	Metal end plunger	Metal end plunger -40 °C (1)	Metal end plunger with elastomer boot (2)	Steel roller plunger	Steel roller plunger -40 °C (1)	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C (1)	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)
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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	ZCMD21AM4 + ZCEG1	ZCMD21AM4 + ZCEF2	ZCMD21AM4 + ZCE01 + ZCY15	ZCMD21AM4 + ZCE016 + ZCY15	ZCMD21AM4 + ZCE01 + ZCY16	ZCMD21AM4 + ZCE01 + ZCY17	ZCMD21AM4 + ZCE01 + ZCY45	ZCMD21AM4 + ZCE06
															
2-pole NC + NO break before make, slow break	ZCMD25AM4 + ZCE10	ZCMD25AM4 + ZCE106	ZCMD25AM4 + ZCE11	ZCMD25AM4 + ZCE02	ZCMD25AM4 + ZCE026	ZCMD25AM4 + ZCE24	ZCMD25AM4 + ZCEF0	ZCMD25AM4 + ZCEG1	ZCMD25AM4 + ZCEF2	ZCMD25AM4 + ZCE01 + ZCY15	ZCMD25AM4 + ZCE016 + ZCY15	ZCMD25AM4 + ZCE01 + ZCY16	ZCMD25AM4 + ZCE01 + ZCY17	ZCMD25AM4 + ZCE01 + ZCY45	ZCMD25AM4 + ZCE06
															
2-pole NC + NC snap action	ZCMD29AM4 + ZCE10	ZCMD29AM4 + ZCE106	ZCMD29AM4 + ZCE11	ZCMD29AM4 + ZCE02	ZCMD29AM4 + ZCE026	ZCMD29AM4 + ZCE24	ZCMD29AM4 + ZCEF0	ZCMD29AM4 + ZCEG1	ZCMD29AM4 + ZCEF2	ZCMD29AM4 + ZCE01 + ZCY15	ZCMD29AM4 + ZCE016 + ZCY15	ZCMD29AM4 + ZCE01 + ZCY16	ZCMD29AM4 + ZCE01 + ZCY17	ZCMD29AM4 + ZCE01 + ZCY45	ZCMD29AM4 + ZCE06
															
Contact operation	 closed  open							(A) = cam displacement (P) = positive opening point ⊕ NC contact with positive opening operation							

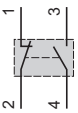
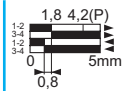
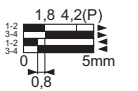
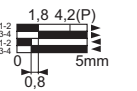
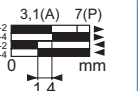
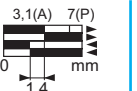
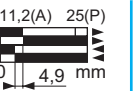
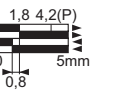
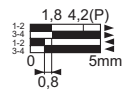
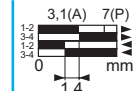
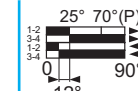
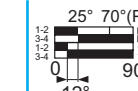
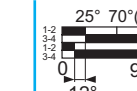
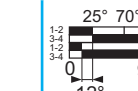
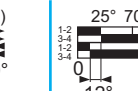
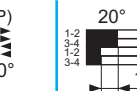
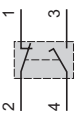
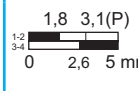
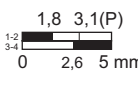
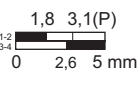
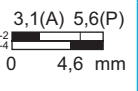
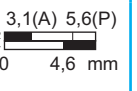
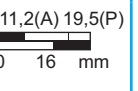
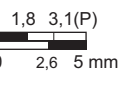
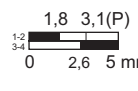
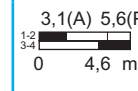
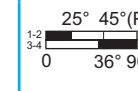
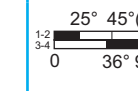
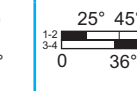
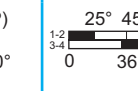
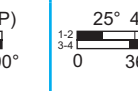
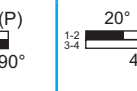
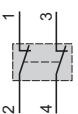
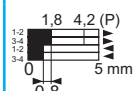
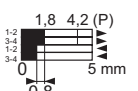
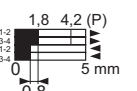
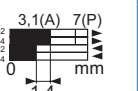
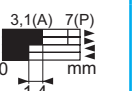
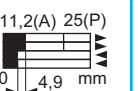
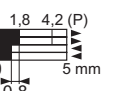
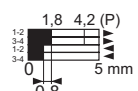
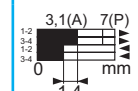
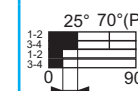
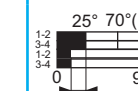
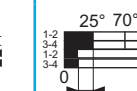
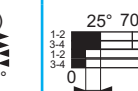
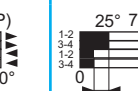
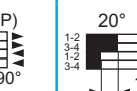
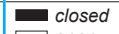
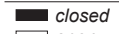
Complementary characteristics not shown under general characteristics (see page 51)

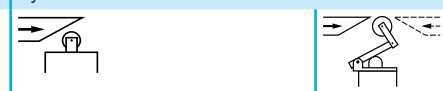
Switch actuation	On end	By 30° cam	On end	On end	By 30° cam	By any moving part
Type of actuation						
Maximum actuation speed	0.5 m/s				0.1 m/s	1.5 m/s
Mechanical durability	10 million operating cycles				10 million operating cycles	10 million
Nominal force or torque	For tripping	8.5 N	7 N	2.5 N	8.5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

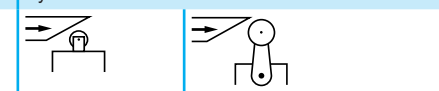
(1) For use at -40 °C.
(2) Nitrile for indoor use.
(3) Value taken with actuation by moving part at 100 mm from the fixing.

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

Type of head	Plunger (fixing by the body)							Plunger (fixing by the head)	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional
															
Type of operator	Metal end plunger	Metal end plunger - 40 °C (1)	Metal end plunger with elastomer boot (2)	Steel roller plunger	Steel roller plunger - 40 °C (1)	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot	M12 with steel roller plunger	Thermoplastic roller lever	Thermoplastic roller lever -40 °C (1)	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (3)

References of modular units (body with male M12 connector and removable terminal block)															
2-pole "NC + NO" snap action	ZCMV21M12 + ZCE10	ZCMV21M12 + ZCE106	ZCMV21M12 + ZCE11	ZCMV21M12 + ZCE02	ZCMV21M12 + ZCE026	ZCMV21M12 + ZCE24	ZCMV21M12 + ZCEF0	ZCMV21M12 + ZCEG1	ZCMV21v + ZCEF2	ZCMV21M12 + ZCE01 + ZCY15	ZCMV21M12 + ZCE016 + ZCY15	ZCMV21M12 + ZCE01 + ZCY16	ZCMV21M12 + ZCE01 + ZCY17	ZCMV21M12 + ZCE01 + ZCY45	ZCMV21M12 + ZCE06
															
2-pole NC + NO break before make, slow break	ZCMV25M12 + ZCE10	ZCMV25M12 + ZCE106	ZCMV25M12 + ZCE11	ZCMV25M12 + ZCE02	ZCMV25M12 + ZCE026	ZCMV25M12 + ZCE24	ZCMV25M12 + ZCEF0	ZCMV25M12 + ZCEG1	ZCMV25M12 + ZCEF2	ZCMV25M12 + ZCE01 + ZCY15	ZCMV25M12 + ZCE016 + ZCY15	ZCMV25M12 + ZCE01 + ZCY16	ZCMV25M12 + ZCE01 + ZCY17	ZCMV25M12 + ZCE01 + ZCY45	ZCMV25M12 + ZCE06
															
2-pole NC + NC snap action	ZCMV29M12 + ZCE10	ZCMV29M12 + ZCE106	ZCMV29M12 + ZCE11	ZCMV29M12 + ZCE02	ZCMV29M12 + ZCE026	ZCMV29M12 + ZCE24	ZCMV29M12 + ZCEF0	ZCMV29M12 + ZCEG1	ZCMV29M12 + ZCEF2	ZCMV29M12 + ZCE01 + ZCY15	ZCMV29M12 + ZCE016 + ZCY15	ZCMV29M12 + ZCE01 + ZCY16	ZCMV29M12 + ZCE01 + ZCY17	ZCMV29M12 + ZCE01 + ZCY45	ZCMV29M12 + ZCE06
															
Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point		⊕ NC contact with positive opening operation			 closed  open		(A) = cam displacement (P) = positive opening point		⊕ NC contact with positive opening operation			

Complementary characteristics not shown under general characteristics (see page 51)									
Switch actuation		On end		By 30° cam		On end			
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							

Switch actuation		On end		By 30° cam		By any moving part	
Type of actuation							
Maximum actuation speed		0.5 m/s	0.1 m/s	1.5 m/s	1.5 m/s	1 m/s	
Mechanical durability		10 million operating cycles		10 million		5 million	
Nominal force or torque		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	–	
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.

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 + ZCE0
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	
	For positive opening	42.5 N		35 N		12.5 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.



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)
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ZCMV41L03 + ZCEG1	ZCMV41L03 + ZCEF2	ZCMV41L03 + ZCE01 + ZCY15	ZCMV41L03 + ZCE016 + ZCY15	ZCMV41L03 + ZCE01 + ZCY16	ZCMV41L03 + ZCE01 + ZCY17	ZCMV41L03 + ZCE01 + ZCY45	ZCMV41L03 + ZCE06
Contact operation	closed open (A) = cam displacement (P) = positive opening point ⊖ NC contact with positive opening operation						

On end	By 30° cam	By any moving part	
0.5 m/s	0.1 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
42.5 N	35 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

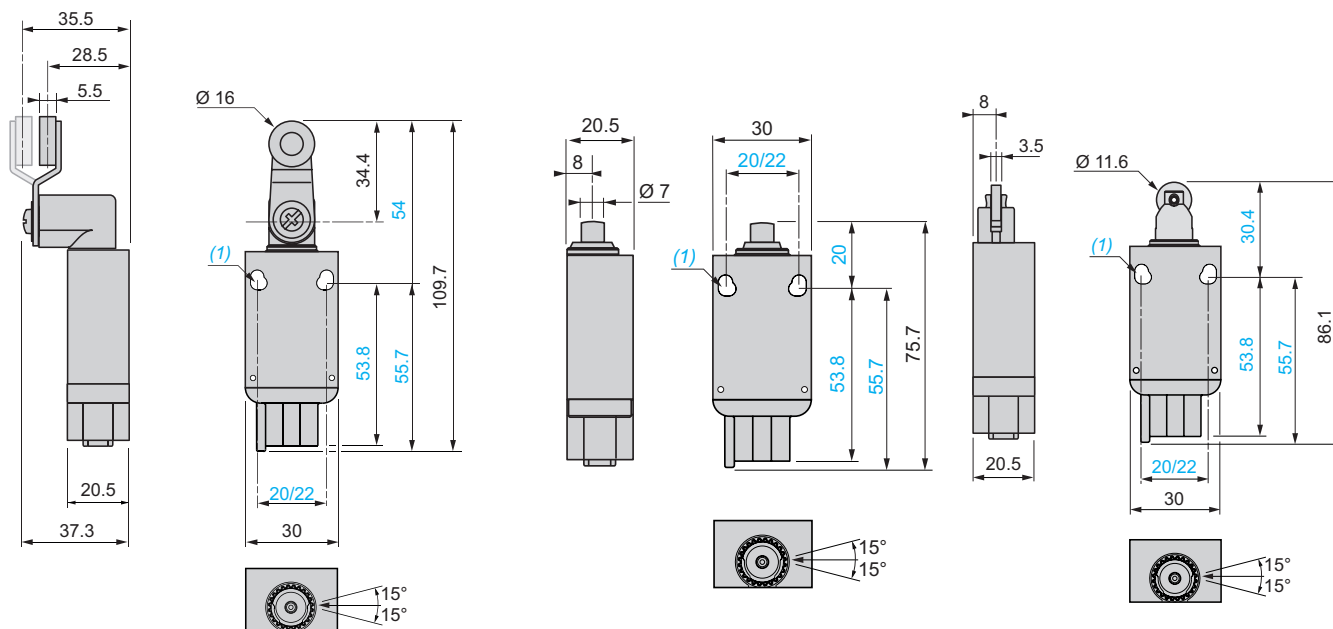
Dimensions

Switches with Deutsch DT04-4P connector

XCMV2115D44, XCMV2515D44

XCMV2110D44, XCMV2510D44

XCMV2102D44, XCMV2502D44

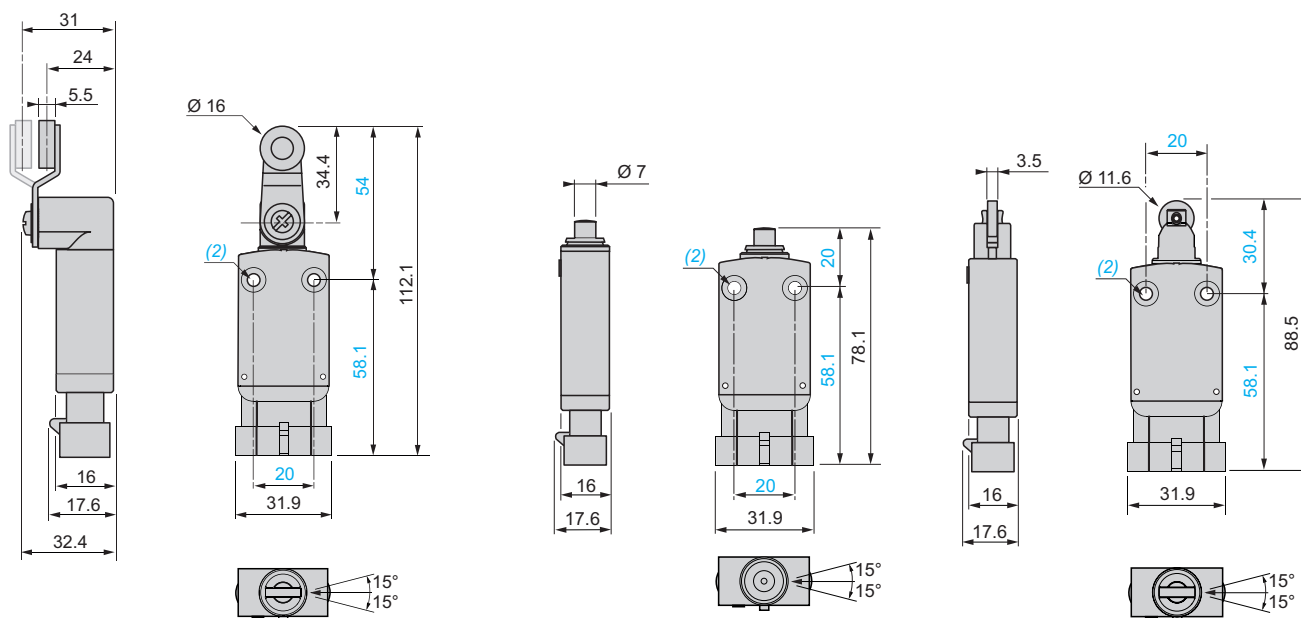


Switches with AMP Superseal 1.5 connector

XCMD2115AM4, XCMD2515AM4

XCMD2110AM4, XCMD2510AM4

XCMD2102AM4, XCMD2502AM4



(1) 2 elongated fixing holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 elongated fixing holes $\varnothing 4.3$ on 20 mm centres.
 (2) 2 fixing holes $\varnothing 4.2$ mm, counterbored $\varnothing 8$ mm by 4 mm deep.

Limit switches

XC Standard range

Miniature design, metal, XCMV

Complete units for mobile equipment

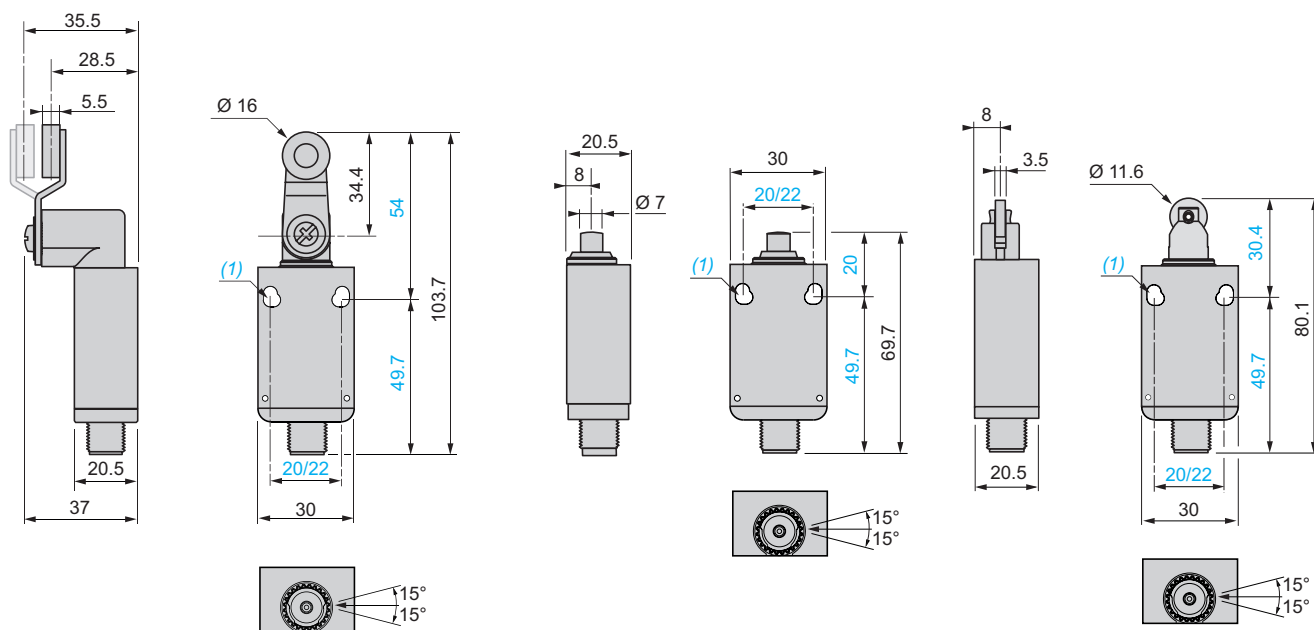
Dimensions (continued)

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

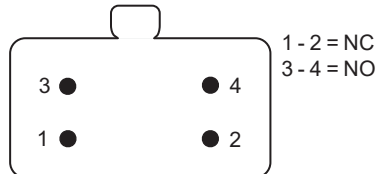
XCMV2●●●AM4



1 - 2 = NC
3 - 4 = NO

Male Deutsch DT04-4P connector

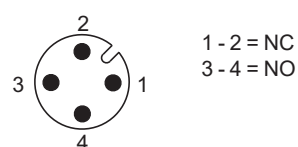
XCMV2●●●D44



1 - 2 = NC
3 - 4 = NO

Male M12 connector

XCMV2●●●M12



1 - 2 = NC
3 - 4 = NO

Limit switches

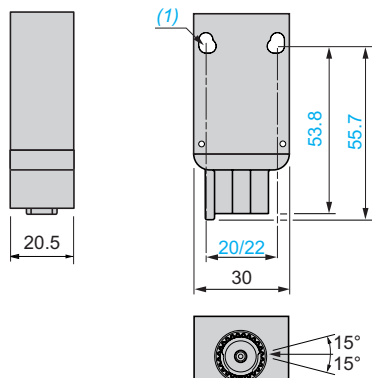
XC Standard range

Miniature design, metal, XCMV

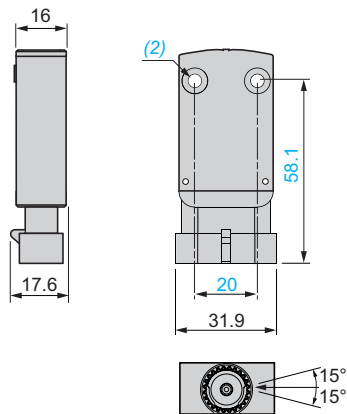
Modular units for mobile equipment

Dimensions of bodies

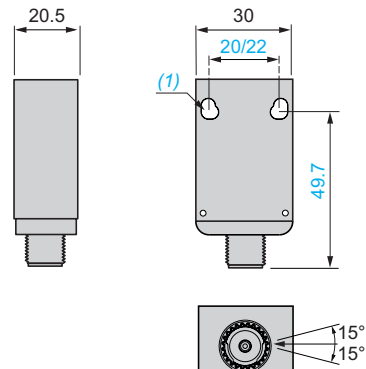
ZCMV2●D44



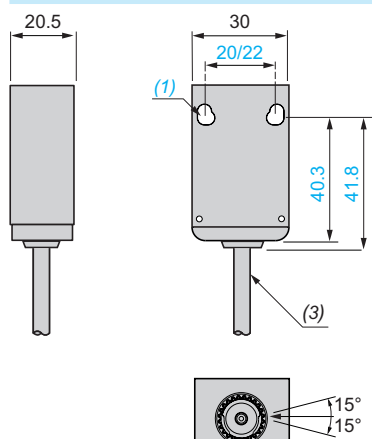
ZCMD2●AM4



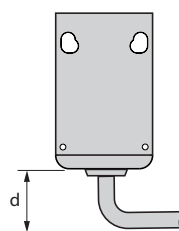
ZCMV2●M12



ZCMV41L03



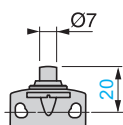
Mounting: distance required for connection



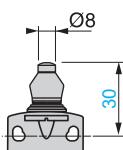
d: min. 20 mm

Dimensions of heads

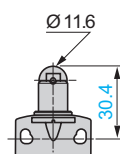
ZCE106, ZCE10



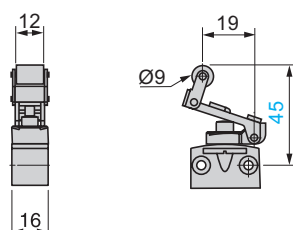
ZCE11



ZCE02, ZCE026



ZCE24



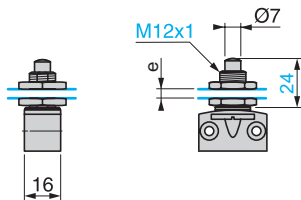
(1) 2 elongated fixing holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 elongated fixing holes Ø 4.3 on 20 mm centres.

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

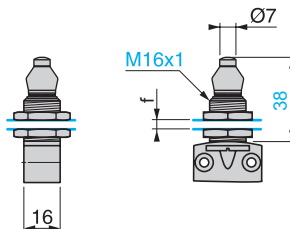
(3) External diameter of cable 6.4 mm.

Dimensions of heads (continued)

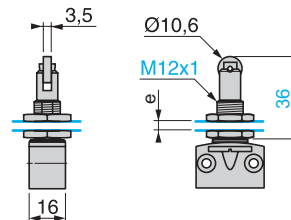
ZCEF0



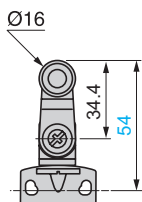
ZCEG1



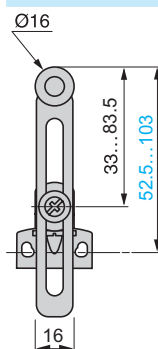
ZCEF2



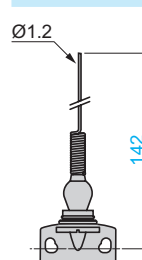
ZCE01 + ZCY15, ZCE01 + ZCY16 or ZCE01 + ZCY17



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

Environment characteristics

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

Contact block characteristics

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

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 ⤵	XCMH2110LA1 ▲	XCMH211AL05 ⤵	XCMH211AL1 ⤵	XCMH2102L1 ⤵	XCMH2102LA1 ▲	XCMH2103L1 ⤵	XCMH2121L1 ⤵
		XCMH2110L2 ⤵				XCMH2102L2 ⤵		XCMH2103L2 ⤵	XCMH2121L2 ⤵
		XCMH2110L3 ⤵				XCMH2102L3 ⤵		XCMH2103L3 ⤵	XCMH2121L5 ⤵
						XCMH2102L5 ⤵		XCMH2103L5 ⤵	
	2-pole NC + NC snap action	XCMH2910L1 ⤵	—	—	XCMH2902L1 ⤵	—	XCMH2903L1 ⤵	—	
		XCMH2910L2 ⤵							
		XCMH2910L3 ⤵							
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 (A) = cam displacement NC contact with positive opening operation
 open (P) = positive opening point

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
Mechanical durability	5 million operating cycles	0.5 m/s
Minimum force or torque	For tripping: 8.5 N.m For positive opening: 42.5 N.m	For tripping: 0.1 N.m For positive opening: 0.5 N.m
Cabling	PvR cable, 4 x 0.34 mm ²	7 N.m 35 N.m

(1) Silicone boot for outdoor use.

▲ Available 2nd semester 2023.

Limit switches

XC Basic range

Miniature design, plastic, XCMH

Pre-cabled

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



Type of operator	Thermoplastic roller lever plunger, horizontal actuation in 1 direction Head oriented at 270°	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	Thermoplastic roller lever		Thermoplastic roller lever Head oriented at 180°
Cable output	Lateral	Lateral	Lateral	Lateral	Axial	Lateral

References

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

Contact operation closed (A) = cam displacement NC contact with positive opening operation
 open (P) = positive opening point

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

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

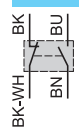
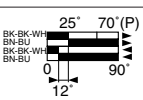
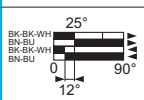
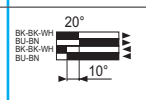
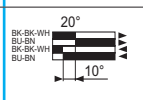
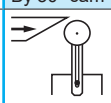
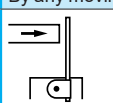
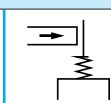
▲ Available 2nd semester 2023.

Limit switches

XC Basic range

Miniature design, plastic, XCMH

Pre-cabled

Type of head		Rotary (fixing by the body)		Multi-directional	
					
					
					
Type of operator		Variable length thermoplastic roller lever		Round thermoplastic rod lever, Ø 6 mm (1)	
Cable output		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	
Mechanical durability		5 million operating cycles		1 m/s (any direction)	
Minimum force or torque	For tripping	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

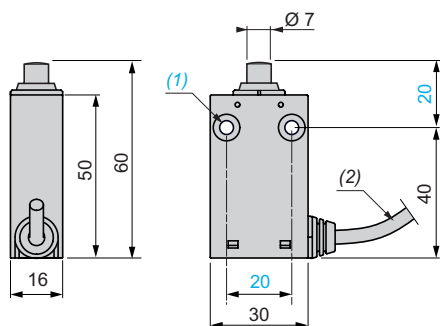
XC Basic range

Miniature design, plastic, XCMH

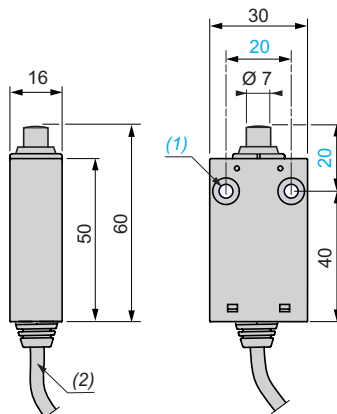
Pre-cabled

Dimensions

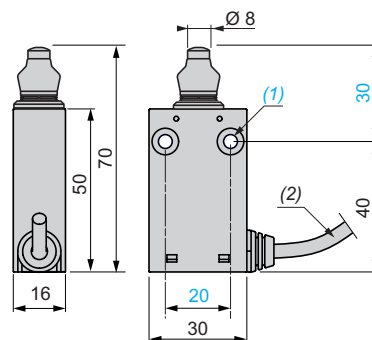
**XCMH2110L1, XCMH2110L2, XCMH2110L3,
XCMH2910L1, XCMH2910L2 and XCMH2910L3**



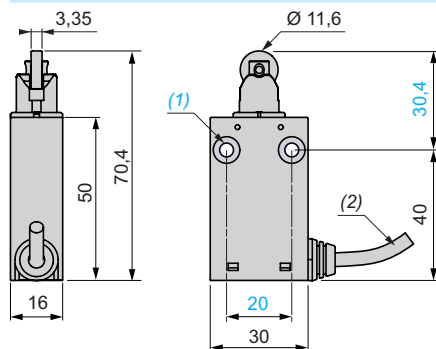
XCMH2110LA1



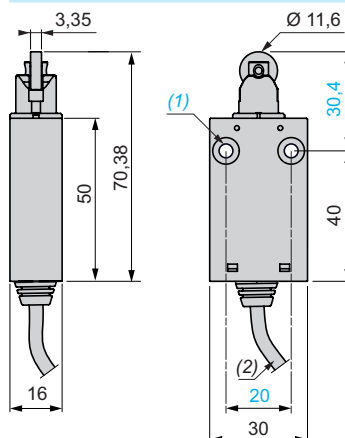
XCMH211AL05 and XCMH211AL1



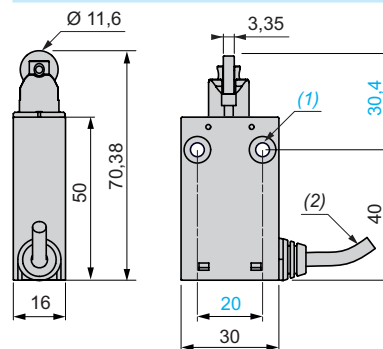
**XCMH2102L1, XCMH2102L2, XCMH2102L3,
XCMH2102L5, XCMH2102L6, XCMH2102L7,
XCMH2102L8, XCMH2102L9, XCMH2902L1
and XCMH2902L5**



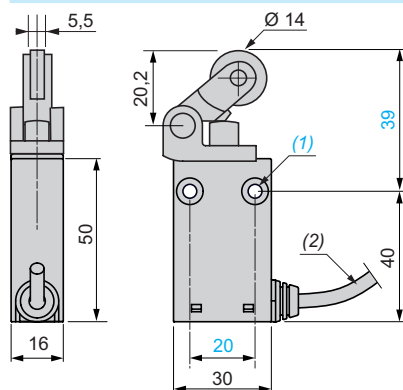
XCMH2102LA1



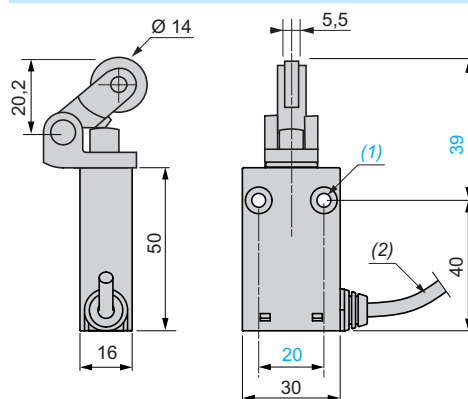
**XCMH2103L1, XCMH2103L2,
XCMH2103L3, XCMH2103L5
and XCMH2103L8**



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.

Limit switches

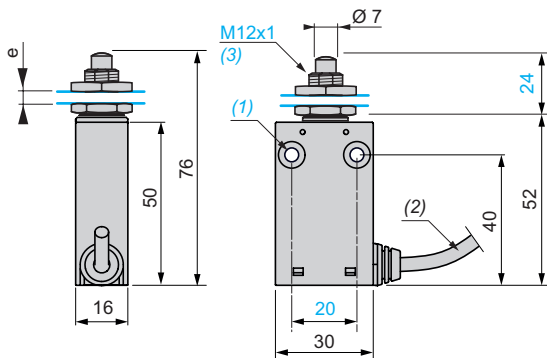
XC Basic range

Miniature design, plastic, XCMH

Pre-cabled

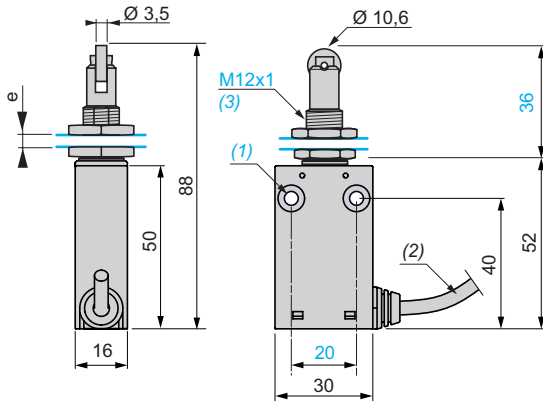
Dimensions (continued)

XCMH21F0L1 and XCMH21F0L2



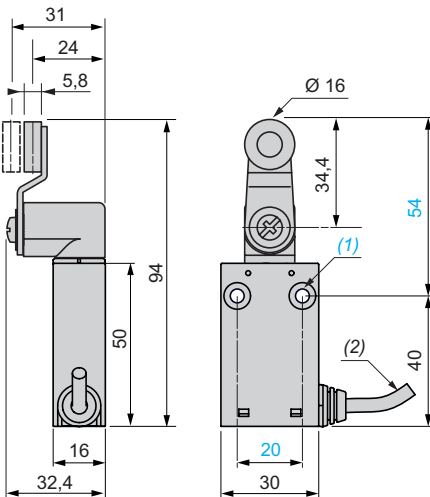
e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

XCMH21F2L1 and XCMH21F2L2

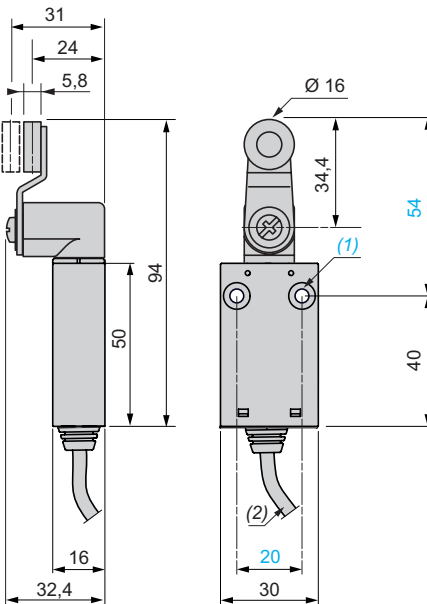


e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

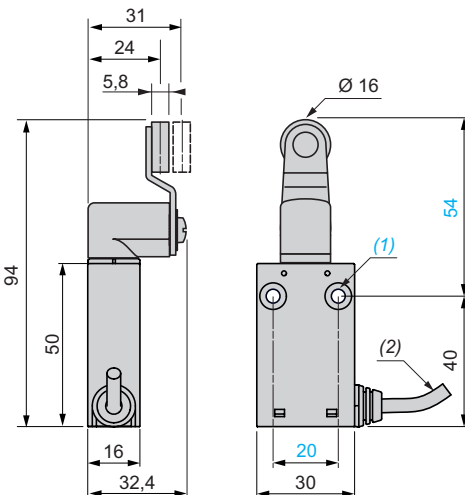
XCMH2115L1, XCMH2115L2, XCMH2115L5 and XCMH2115L8



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.

Limit switches

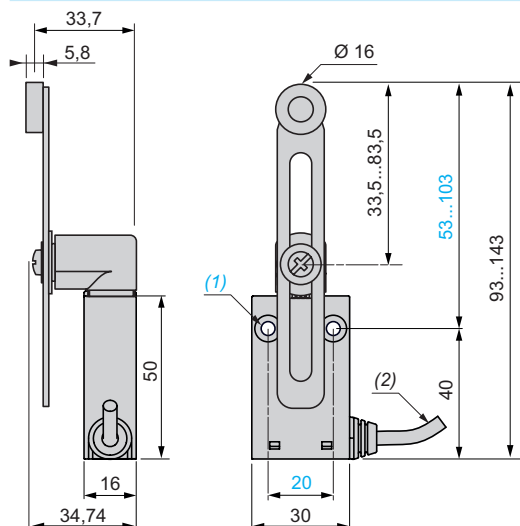
XC Basic range

Miniature design, plastic, XCMH

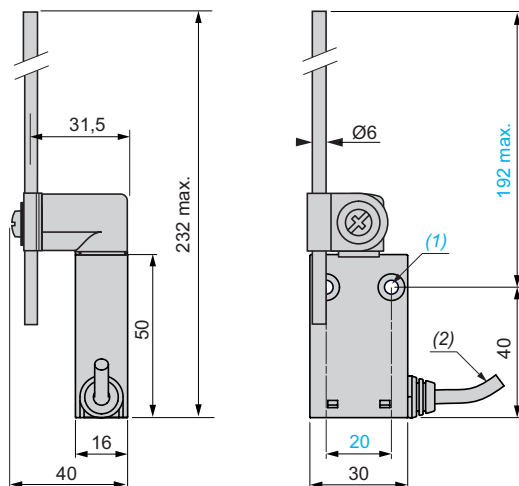
Pre-cabled

Dimensions (continued)

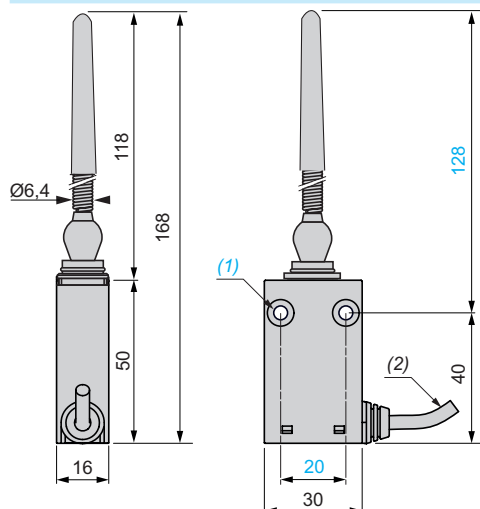
XCMH2145L1 and XCMH2145L2



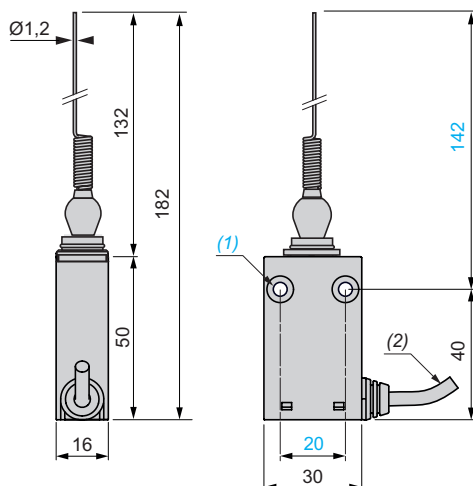
XCMH2159L1 and XCMH2159L2



XCMH2107L1, XCMH2107L2 and XCMH2107L3

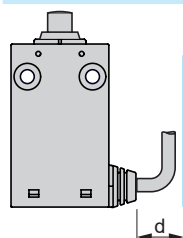


XCMH2106L1 and XCMH2106L2

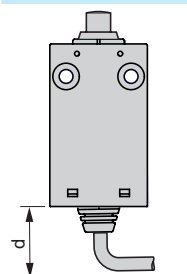


Mounting: distance required for connection

Limit switches with cable lateral output



Limit switches with cable axial output



d: min. 15 mm.

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

(2) External diameter 4.2 mm.

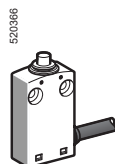
Limit switches

XC Basic range

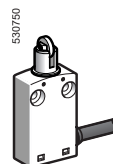
Miniature design, plastic, XCMN

■ XCMN pre-cabled

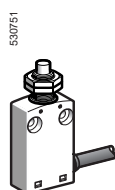
□ With head for linear movement (plunger). Fixing by the body



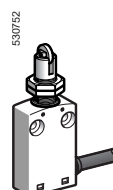
Page 78



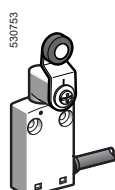
□ With head for linear movement (plunger). Fixing by the head



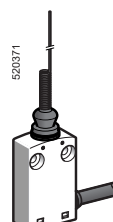
Page 78



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



Page 79



Environment characteristics

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

Contact block characteristics

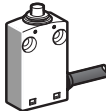
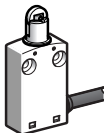
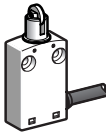
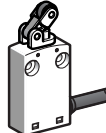
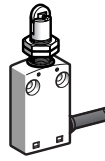
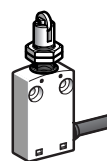
Rated operational characteristics	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A
	⋯ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2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

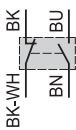
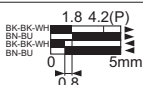
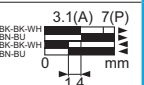
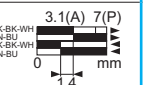
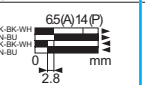
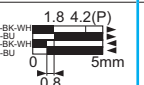
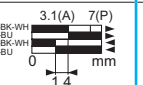
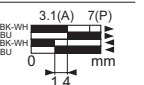
Limit switches

XC Basic range

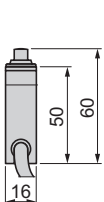
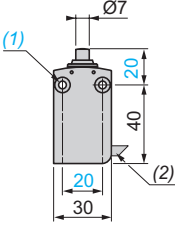
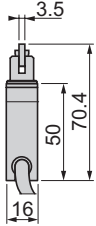
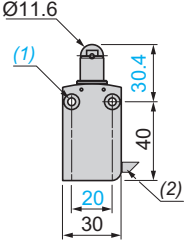
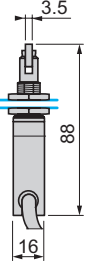
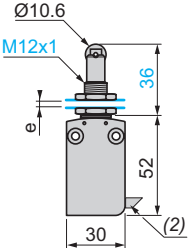
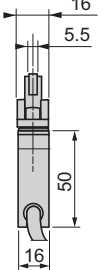
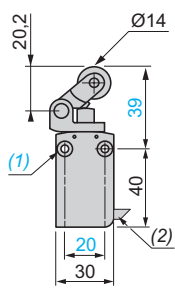
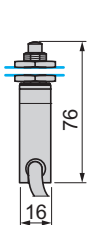
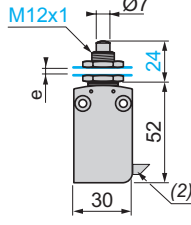
Miniature design, plastic, XCMN

Pre-cabled

Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)		
							
Type of operator	Metal end plunger	Steel roller plunger for lateral cam approach	Steel roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	M12 with metal end plunger	M12 with steel roller plunger for lateral cam approach	M12 with steel roller plunger for traverse cam approach

References							
 2-pole NC + NO snap action	XCMN2110L1	XCMN2102L1	XCMN2103L1	XCMN2121L1	XCMN21F0L1	XCMN21F2L1	XCMN21F3L1
	 BK-BK-WH 1.8 4.2(P) BN-BU 0 5mm 0.8	 BK-BK-WH 3.1(A) 7(P) BN-BU 0 1.4 mm	 BK-BK-WH 3.1(A) 7(P) BN-BU 0 1.4 mm	 BK-BK-WH 65(A) 14(P) BN-BU 0 2.8 mm	 BK-BK-WH 1.8 4.2(P) BN-BU 0 5mm 0.8	 BK-BK-WH 3.1(A) 7(P) BN-BU 0 1.4 mm	 BK-BK-WH 3.1(A) 7(P) BN-BU 0 1.4 mm
Weight (kg)	0.080	0.080	0.080	0.090	0.065	0.095	0.095
Contact operation	 closed  open			(A) = cam displacement (P) = positive opening point  NC contact with positive opening operation			

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

Dimensions					
XCMN2110L1		XCMN2102L1, XCMN2103L1		XCMN21F2L1, XCMN21F3L1	
					
XCMN2121L1		XCMN21F0L1			
					

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

(2) External diameter 7.5 mm.

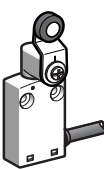
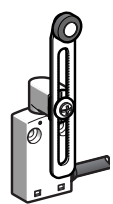
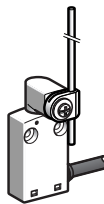
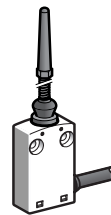
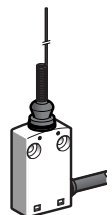
e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

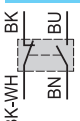
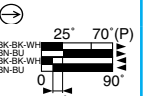
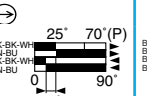
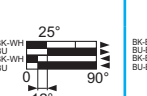
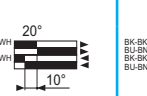
Limit switches

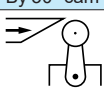
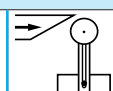
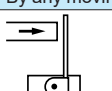
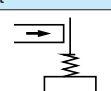
XC Basic range

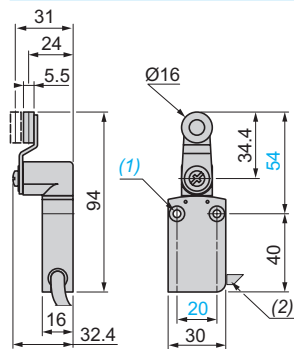
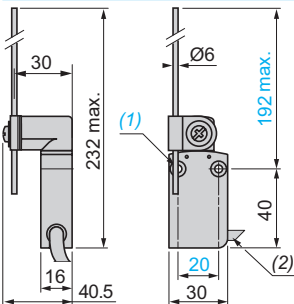
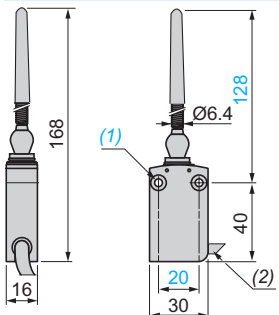
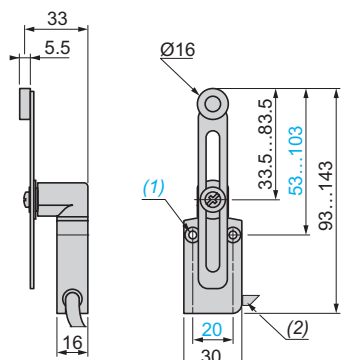
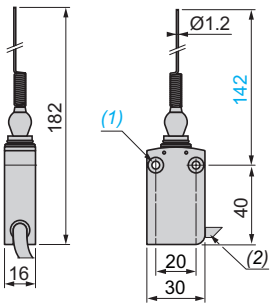
Miniature design, plastic, XCMN

Pre-cabled

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

References					
 2-pole NC + NO snap action	XCMN2115L1 	XCMN2145L1 	XCMN2159L1 	XCMN2107L1 	XCMN2106L1 
Weight (kg)	0.100	0.105	0.080	0.085	0.080
Contact operation	 closed  open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation				
(1) Value taken with actuation by moving part at 100 mm from the fixing.					

Characteristics				
Switch actuation	By 30° cam		By any moving part	
Type of actuation				
Maximum actuation speed	1.5 m/s		1 m/s	1 m/s (any direction)
Mechanical durability	5 million operating cycles			
Minimum force or torque	For tripping	0.1 N.m		
	For positive opening	0.5 N.m	—	—
Cabling	PvR cable, 4 x 0.75 mm ² , length 1 metre			

Dimensions				
XCMN2115L1		XCMN2159L1		XCMN2107L1
				
XCMN2145L1		XCMN2106L1		
				

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

Limit switches

XC Standard range

Compact design, plastic, XCKP and XCKT

Compact design, metal, XCKD

■ XCKP, XCKD

with 1 cable entry

Conforming to CENELEC EN 50047

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

XCKD

XCKP



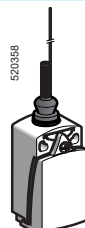
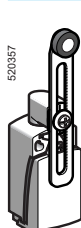
Pages 88 and 92

Pages 82 and 86

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

XCKD

XCKP



Pages 89 and 93

Pages 83 and 87

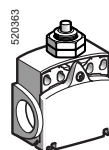
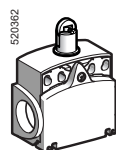
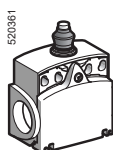
■ XCKT

with 2 cable entries

Tripping/resetting points and fixing centres
conform to CENELEC EN 50047

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

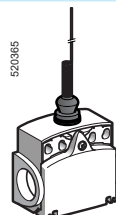
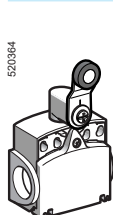
XCKT



Page 94

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

XCKT



Page 94

Environment characteristics

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

Limit switches

XC Standard range

Compact design, plastic, XCKP and XCKT

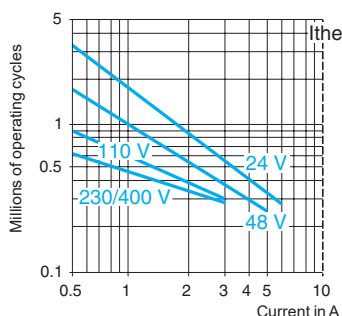
Compact design, metal, XCKD

Contact block characteristics

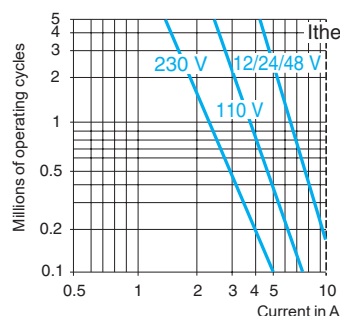
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation withstand 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 mm ² , max: 2 x 1.5 mm ²
	XE2NP21●1 and XE2NP31●1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
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
~ in	W	10	7	4

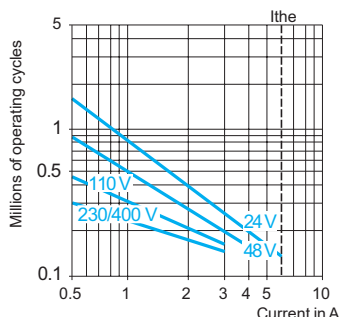
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~ in	W	13	9	7

AC supply
50/60 Hz ~
~ inductive circuit

XE3SP●●●●

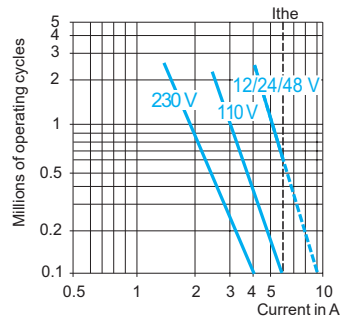


DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~ in	W	3	2	1

XE3NP●●●●

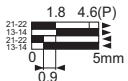
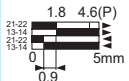
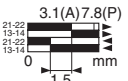
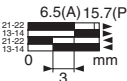
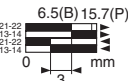
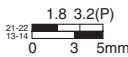
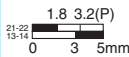
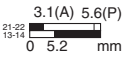
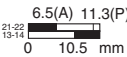
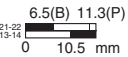
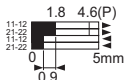
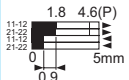
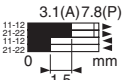
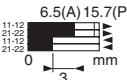
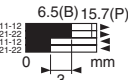
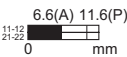
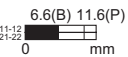
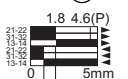
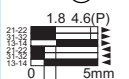
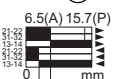
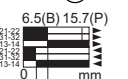
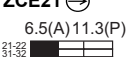
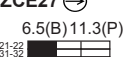


Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~ in	W	4	3	2

Limit switches

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

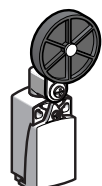
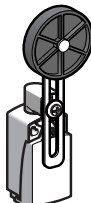
Type of head	Plunger (fixing by the body)					
	Form B (1)		Form C (1)		Form E (1)	
						
Type of operator	Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical 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 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm
	2-pole NC + NO break before make, slow break (XE2NP2151)	XCKP2510P16 	XCKP2511P16 	XCKP2502P16 	XCKP2521P16 	XCKP2527P16 
		1.8 3.2(P) 0 3 5mm	1.8 3.2(P) 0 3 5mm	3.1(A) 5.6(P) 0 5.2 mm	6.5(A) 11.3(P) 0 10.5 mm	6.5(B) 11.3(P) 0 10.5 mm
	2-pole NC + NC snap action (XE2SP2141)	ZCP29 + ZCPEP16 + ZCE10 	ZCP29 + ZCPEP16 + ZCE11 	ZCP29 + ZCPEP16 + ZCE02 	ZCP29 + ZCPEP16 + ZCE21 	ZCP29 + ZCPEP16 + ZCE27 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCP27 + ZCPEP16 + ZCE10 	ZCP27 + ZCPEP16 + ZCE11 	ZCP27 + ZCPEP16 + ZCE02 	ZCP27 + ZCPEP16 + ZCE21 	ZCP27 + ZCPEP16 + ZCE27 
		1.8 3.2(P) 0 5mm	1.8 3.2(P) 0 5mm	3.1 5.6(P) 0 mm	6.6(A) 11.6(P) 0 mm	6.6(B) 11.6(P) 0 mm
	3-pole NC + NC + NO snap action (XE3SP2141)	ZCP39 + ZCPEP16 + ZCE10 	ZCP39 + ZCPEP16 + ZCE11 	ZCP39 + ZCPEP16 + ZCE02 	ZCP39 + ZCPEP16 + ZCE21 	ZCP39 + ZCPEP16 + ZCE27 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm
	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 
		1.8 3.2(P) 0 3 5mm	1.8 3.2(P) 0 3 5mm	3.1(A) 5.6(P) 0 5.2 mm	6.5(A) 11.3(P) 0 10.5 mm	6.5(B) 11.3(P) 0 10.5 mm
Weight (kg)		0.090	0.090	0.095	0.105	0.100
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		
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					

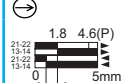
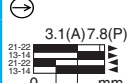
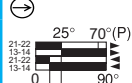
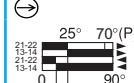
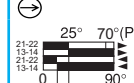
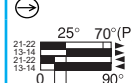
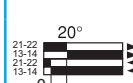
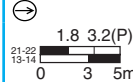
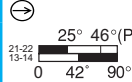
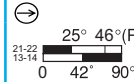
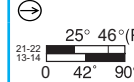
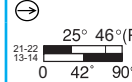
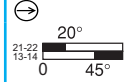
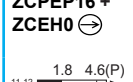
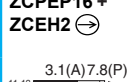
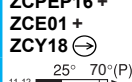
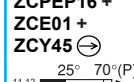
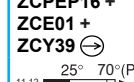
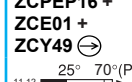
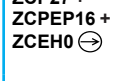
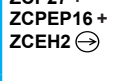
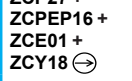
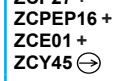
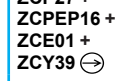
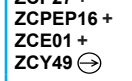
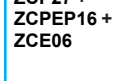
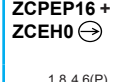
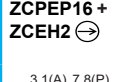
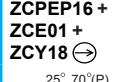
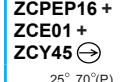
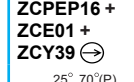
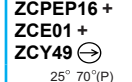
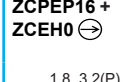
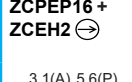
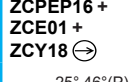
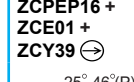
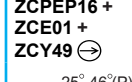
(1) Form conforming to EN 50047, see page 24.

(2) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

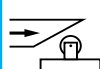
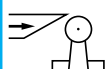
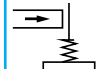
Limit switches

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)							
	XCKP21H0P16 	XCKP21H2P16 	XCKP2118P16 	XCKP2145P16 	XCKP2139P16 	XCKP2149P16 	XCKP2106P16 
	XCKP25H0P16 	XCKP25H2P16 	XCKP2518P16 	XCKP2545P16 	XCKP2539P16 	XCKP2549P16 	XCKP2506P16 
	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 
	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 
	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 
	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	(A) = cam displacement		 NC contact with positive opening operation			
	 open	(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	1.5 m/s		1 m/s (any direct.)
Mechanical durability	10 million operating cycles			5 million
Minimum force or torque	For tripping 15 N For positive opening 45 N	10 N 36 N	0.1 N.m 0.25 N.m	0.13 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.

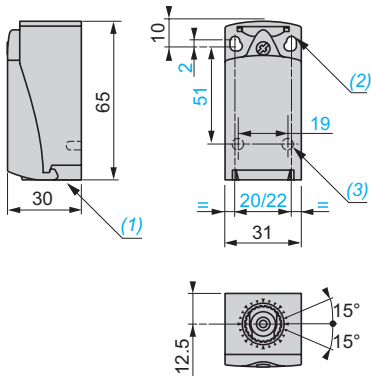
Limit switches

XC Standard range

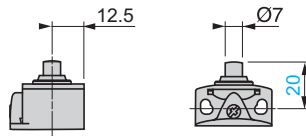
Compact design, plastic, XCKP

Complete switches with 1 cable entry

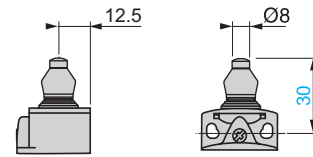
ZCP2● + ZCPEP16/ZCP3● + ZCPEP16



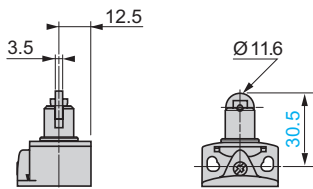
ZCE10



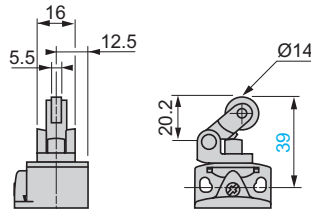
ZCE11



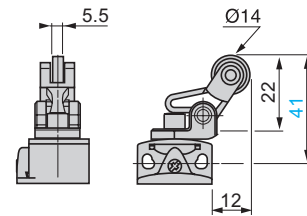
ZCE02



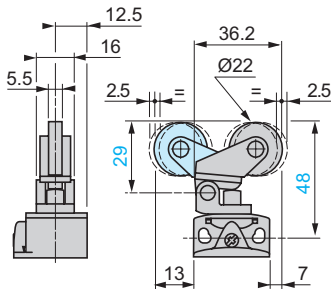
ZCE21



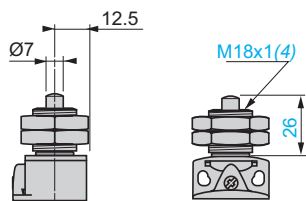
ZCE27



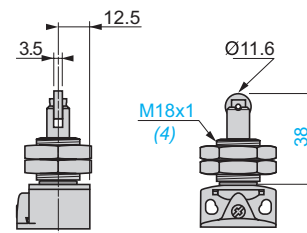
ZCE28



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.

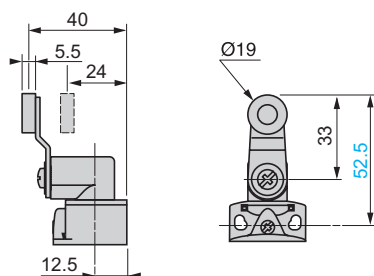
Limit switches

XC Standard range

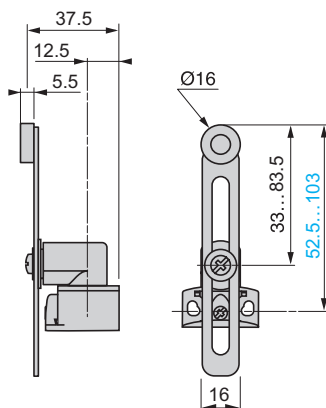
Compact design, plastic, XCKP

Complete switches with 1 cable entry

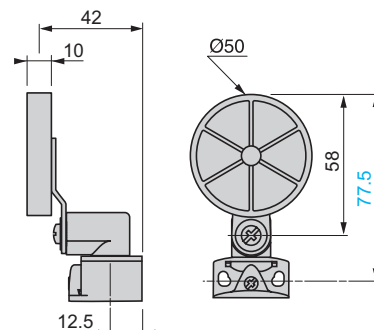
ZCE01 + ZCY18



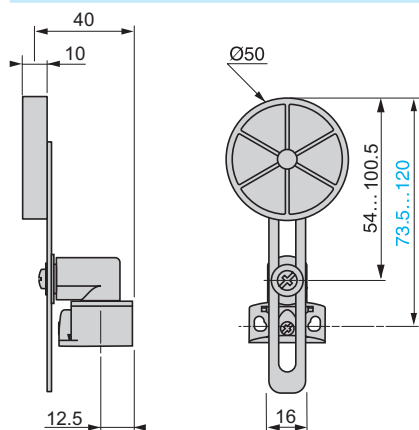
ZCE01 + ZCY45



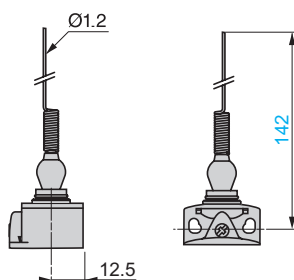
ZCE01 + ZCY39



ZCE01 + ZCY49



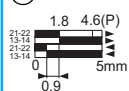
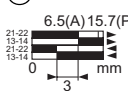
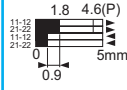
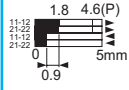
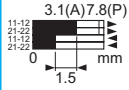
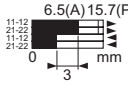
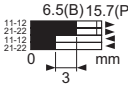
ZCE06



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 
2-pole NC + NC snap action (XE2SP2141)		ZCP29M12 + ZCE10 	ZCP29M12 + ZCE11 	ZCP29M12 + ZCE02 	ZCP29M12 + ZCE21 	ZCP29M12 + ZCE28 
Weight (kg)		0.100	0.100	0.100	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.

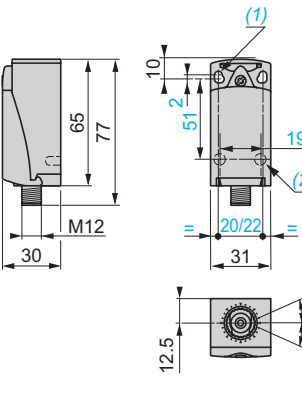
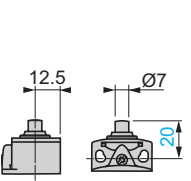
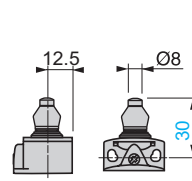
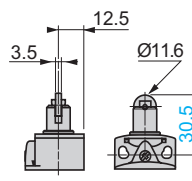
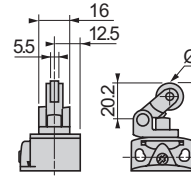
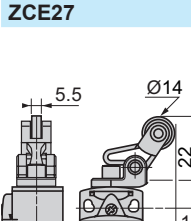
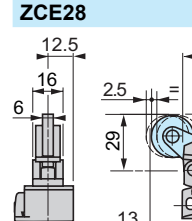
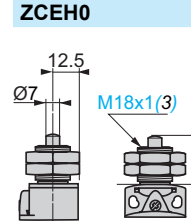
Characteristics			
Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s		1 m/s
Mechanical durability (in millions of operating cycles)	15	10	15
Minimum force or torque	15 N	12 N	6 N
	For tripping		
	For positive opening	45 N	18 N
Connection	M12 connector, Ui = 250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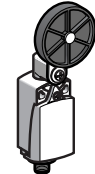
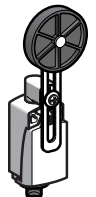
Dimensions

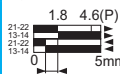
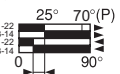
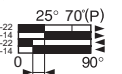
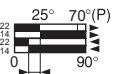
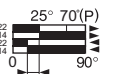
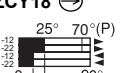
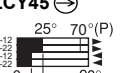
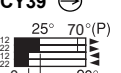
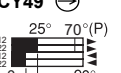
ZCP2●M12	ZCE10	ZCE11	ZCE02	ZCE21
				
				

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

Limit switches

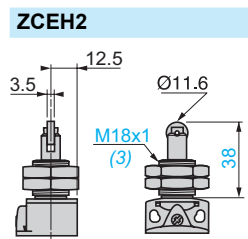
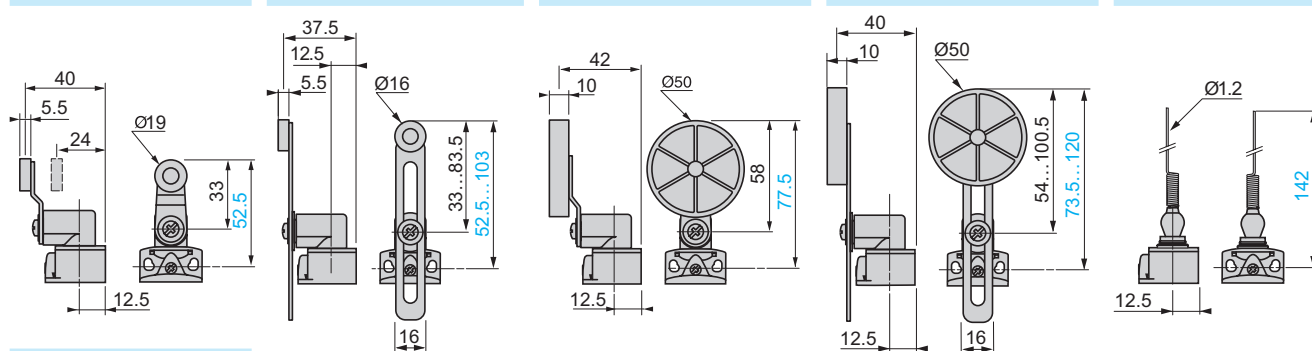
XC Standard range
Compact design, plastic, XCKP
M12 connector

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)	 						
2-pole NC + NC snap action (XE2SP2141)	 						
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		
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)	10	5		
Minimum force or torque	For tripping For positive opening	15 N 45 N	10 N 36 N	0.1 N.m 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



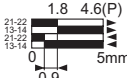
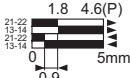
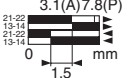
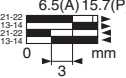
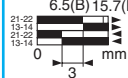
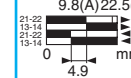
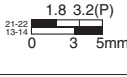
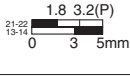
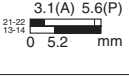
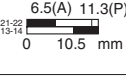
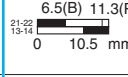
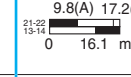
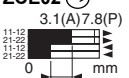
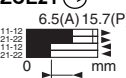
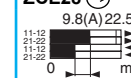
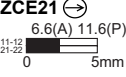
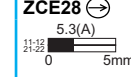
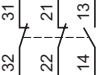
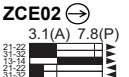
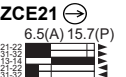
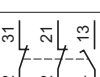
(3) Fixing nut thickness 3.5 mm.

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						

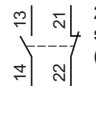
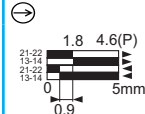
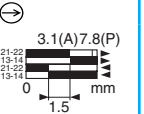
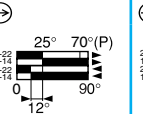
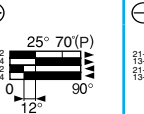
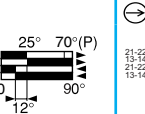
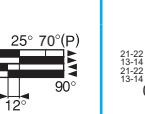
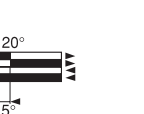
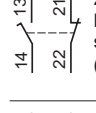
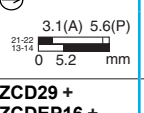
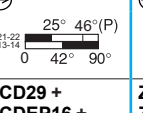
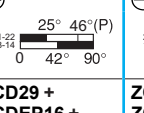
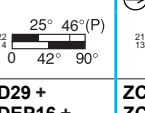
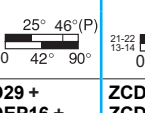
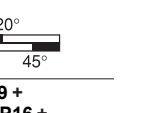
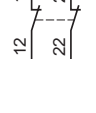
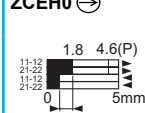
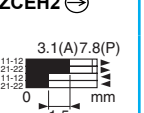
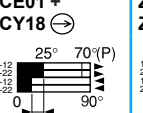
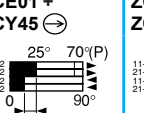
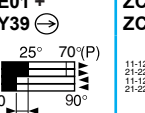
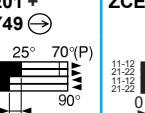
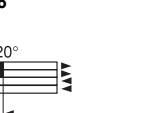
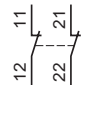
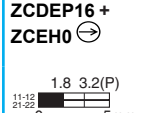
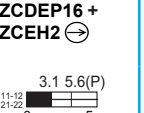
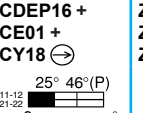
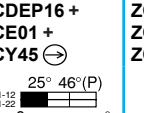
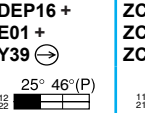
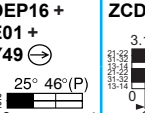
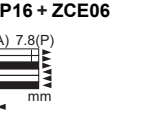
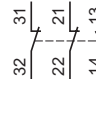
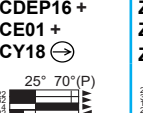
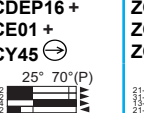
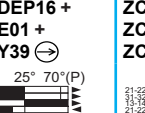
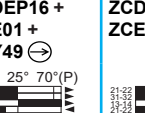
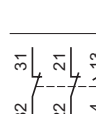
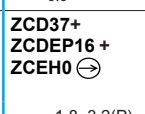
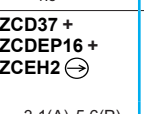
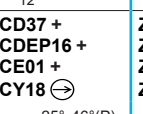
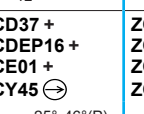
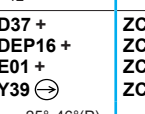
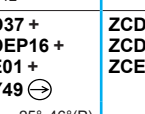
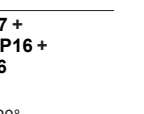
(1) Form conforming to EN 50047, see page 24.

(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)								
	XCKD21H0P16 	XCKD21H2P16 	XCKD21H8P16 	XCKD2145P16 	XCKD2139P16 	XCKD2149P16 	XCKD2106P16 	
	XCKD25H0P16 	XCKD25H2P16 	XCKD25H8P16 	XCKD2545P16 	XCKD2539P16 	XCKD2549P16 	XCKD2506P16 	
	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 	
	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 	
	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 	
	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: XCKD21H0P16 becomes XCKD21H0G11 or ZCDEP16 becomes ZCDEG11.

Contact operation  closed (A) = cam displacement  NC contact with positive opening operation
 open (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	1.5 m/s		1 m/s (any direct.)
Mechanical durability	10 million operating cycles			5 million
Minimum force or torque	15 N For tripping 45 N For positive opening	10 N 36 N	0.1 N.m 0.25 N.m	0.13 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.

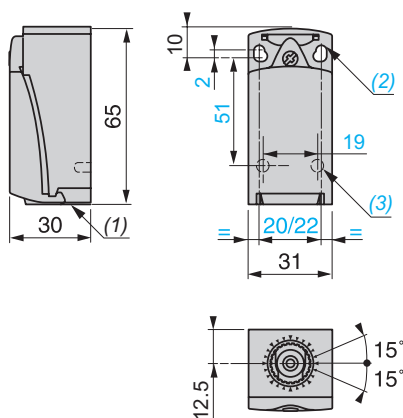
Limit switches

XC Standard range

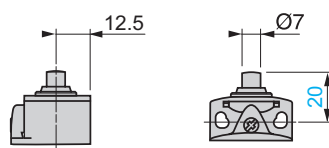
Compact design, metal, XCKD

Complete switches with 1 cable entry

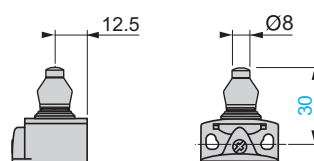
ZCD2● + ZCDEP16/ZCD3● + ZCDEP16



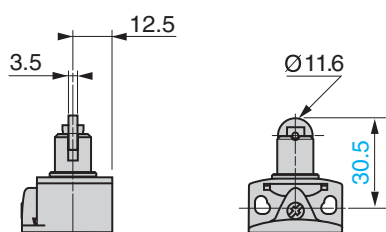
ZCE10



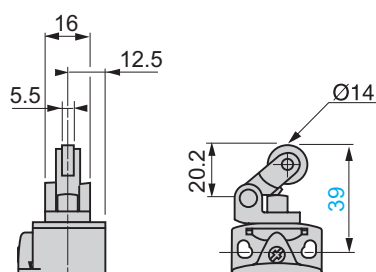
ZCE11



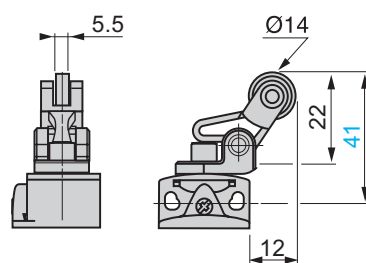
ZCE02



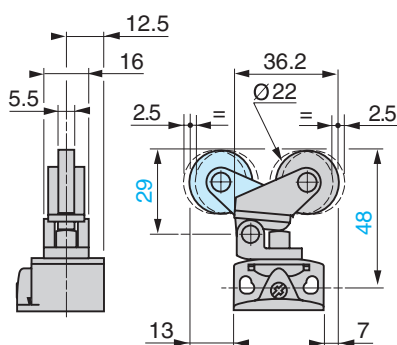
ZCE21



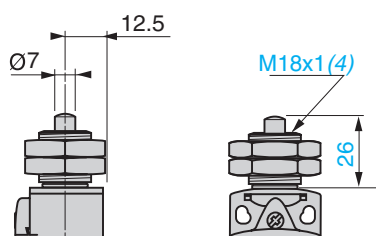
ZCE27



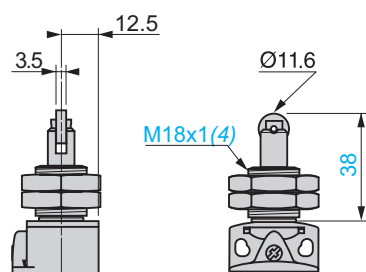
ZCE28



ZCEH0



ZCEH2



(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.

(2) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres.

(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

(4) Fixing nut thickness 3.5 mm.

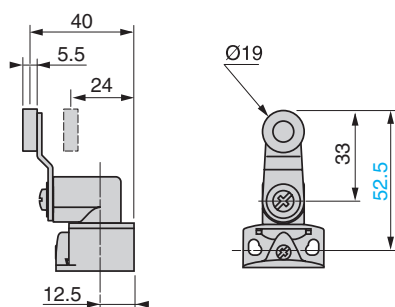
Limit switches

XC Standard range

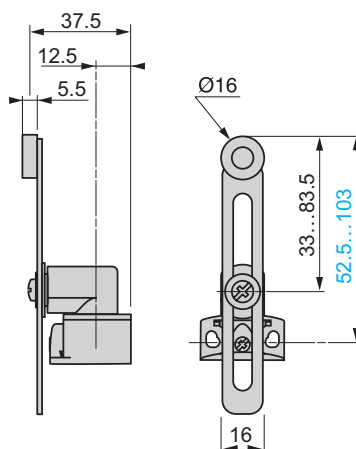
Compact design, metal, XCKD

Complete switches with 1 cable entry

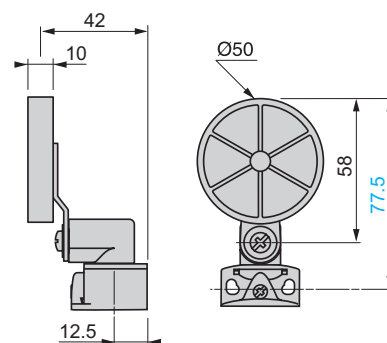
ZCE01 + ZCY18



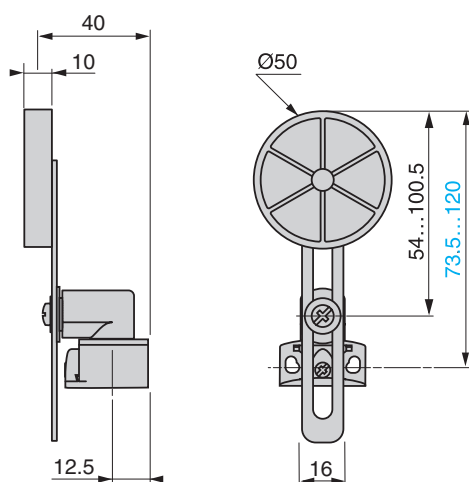
ZCE01 + ZCY45



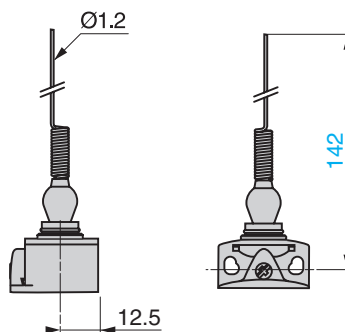
ZCE01 + ZCY39



ZCE01 + ZCY49



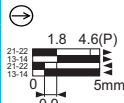
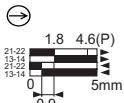
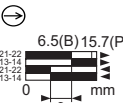
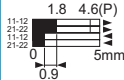
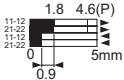
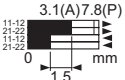
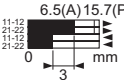
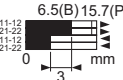
ZCE06



Limit switches

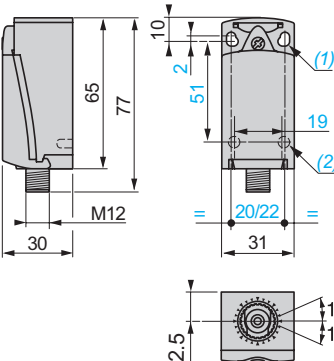
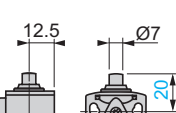
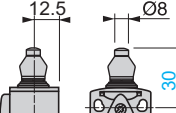
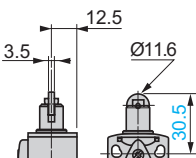
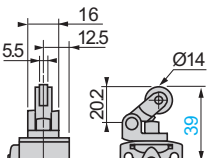
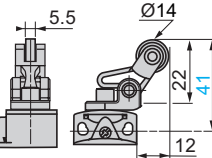
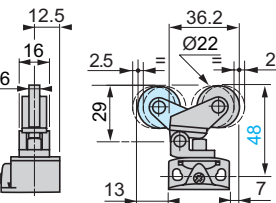
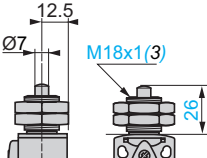
XC Standard range
Compact design, metal, XCKD
M12 connector

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 
2-pole NC + NC snap action (XE2S P2141)		ZCD29M12 + ZCE10 	ZCD29M12 + ZCE11 	ZCD29M12 + ZCE02 	ZCD29M12 + ZCE21 	ZCD29M12 + ZCE27 
Weight (kg)		0.190	0.190	0.195	0.205	0.200
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
	For positive opening	45 N	36 N
Connection	M12 connector, Ui = 60 V, Ie = 4 A maximum, Ith = 4 A		

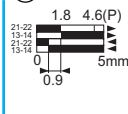
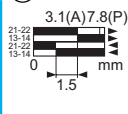
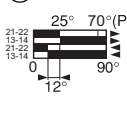
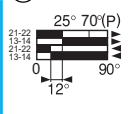
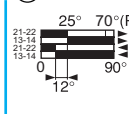
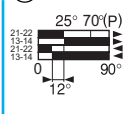
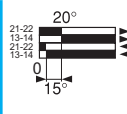
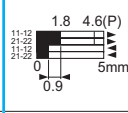
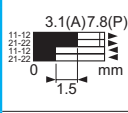
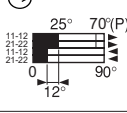
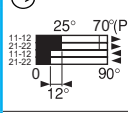
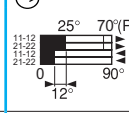
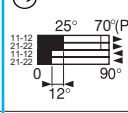
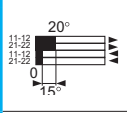
Connections			
M12 connector			
	XE2S P2151 1-2: NC 3-4: NO 5: $\perp$	XE2S P2141 1-2: NC 3-4: NO 5: $\perp$	

Dimensions				
ZCD2●M12	ZCE10	ZCE11	ZCE02	ZCE21
				
	ZCE27 	ZCE28 		ZCEH0 
(1) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres. (2) 2 x $\varnothing 3$ holes for support studs, depth 4 mm. (3) Fixing nut thickness 3.5 mm.				

Limit switches

XC Standard range
Compact design, metal, XCKD
M12 connector

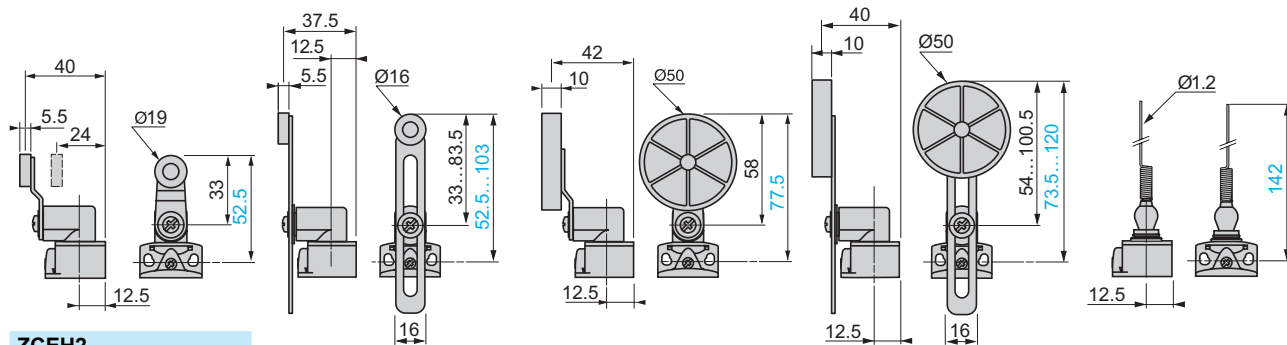
Type of head	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional
		Form A (1)					
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable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

References							
2-pole NC + NO snap action (XE2S P2151)	XCKD21H0M12	XCKD21H2M12	XCKD2118M12	XCKD2145M12	XCKD2139M12	XCKD2149M12	XCKD2106M12
							
2-pole NC + NC snap action (XE2S P2141)	ZCD29M12 + ZCEH0	ZCD29M12 + ZCEH2	ZCD29M12 + ZCE01 + ZCY18	ZCD29M12 + ZCE01 + ZCY45	ZCD29M12 + ZCE01 + ZCY39	ZCD29M12 + ZCE01 + ZCY49	ZCD29M12 + ZCE06
							
Weight (kg)	0.235	0.235	0.220	0.220	0.220	0.220	0.185
Contact operation	 closed  open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation						

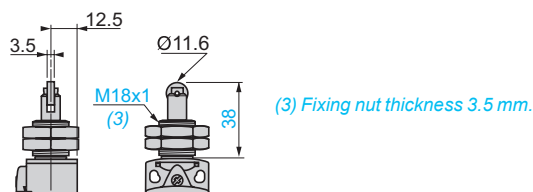
(1) Form conforming to EN 50047, see page 24.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

Characteristics				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)	10	5		
Minimum force or torque	For tripping For positive opening	15 N 45 N	10 N 36 N	0.1 N.m 0.25 N.m
Connection	M12 connector, U _i = 60 V, I _e = 4 A maximum, I _{th} = 4 A			

Dimensions	ZCE01 + ZCY18	ZCE01 + ZCY45	ZCE01 + ZCY39	ZCE01 + ZCY49	ZCE06
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ZCEH2

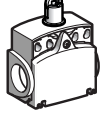
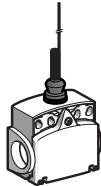


Limit switches

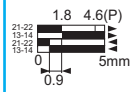
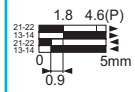
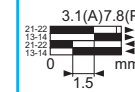
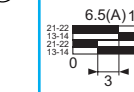
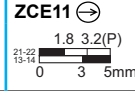
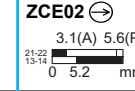
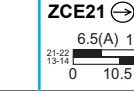
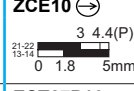
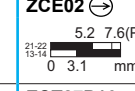
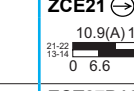
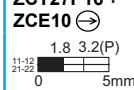
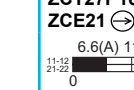
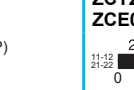
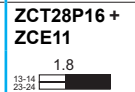
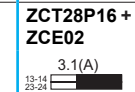
XC Standard range

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

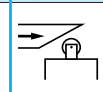
References of complete switches with 2 ISO M16 x 1.5 cable entries (4)

	2-pole NC + NO snap action (XE2SP3151)	XCKT2110P16 	XCKT2111P16 	XCKT2102P16 	XCKT2121P16 	XCKT2106P16
						
	2-pole NC + NO break before make, slow break (XE2NP3151)	ZCT25P16 + ZCE10 	ZCT25P16 + ZCE11 	ZCT25P16 + ZCE02 	ZCT25P16 + ZCE21 	ZCT25P16 + ZCE06
						
	2-pole NC + NO make before break, slow break (XE2NP3161)	ZCT26P16 + ZCE10 	ZCT26P16 + ZCE11 	ZCT26P16 + ZCE02 	ZCT26P16 + ZCE21 	ZCT26P16 + ZCE06
						
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCT27P16 + ZCE10 	ZCT27P16 + ZCE11 	ZCT27P16 + ZCE02 	ZCT27P16 + ZCE21 	ZCT27P16 + ZCE06
						
	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.

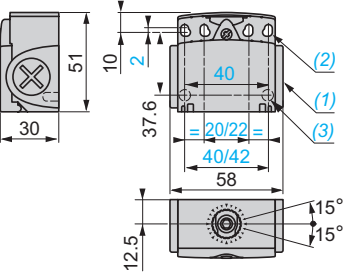
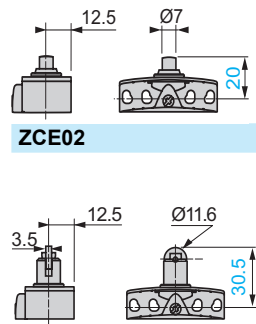
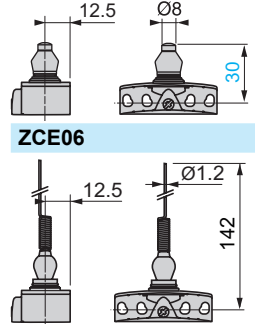
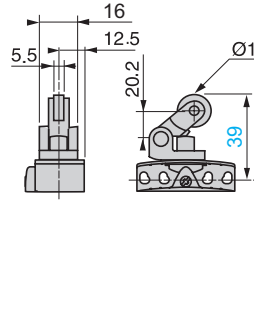
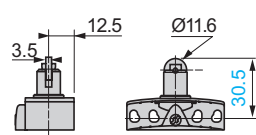
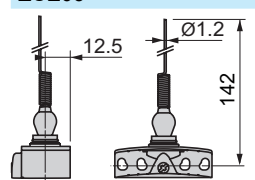
Contact operation	 closed	(A) = cam displacement	 NC contact with positive opening operation
	 open	(P) = positive opening point	

Characteristics	On end	By 30° cam	By any moving part
Switch actuation	On end	By 30° cam	By any moving part
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 For positive opening: 45 N	12 N	6 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	ZCE10	ZCE11	ZCE21
			
	ZCE02	ZCE06	
			

(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.

(2) 4 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22/42 mm ctrs, 4 holes $\varnothing 4.3$ on 20/40 mm ctrs.

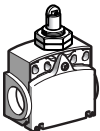
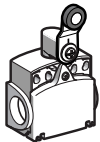
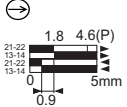
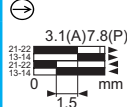
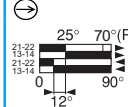
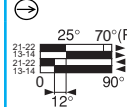
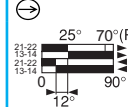
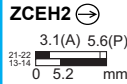
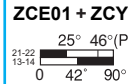
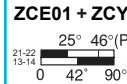
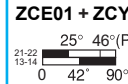
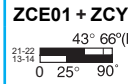
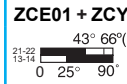
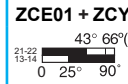
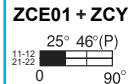
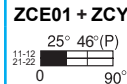
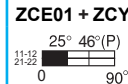
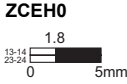
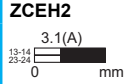
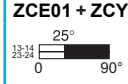
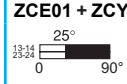
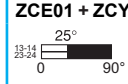
(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

Limit switches

XC Standard range

Compact design, plastic, XCKT

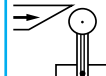
Complete switches with 2 cable entries

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

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

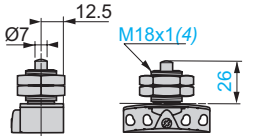
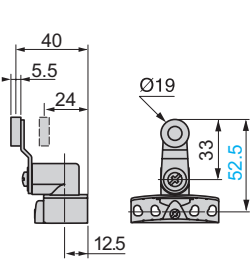
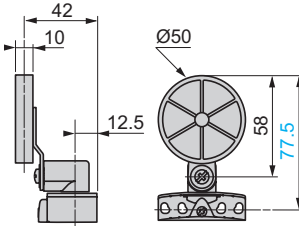
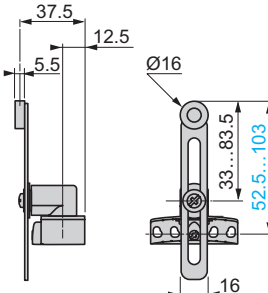
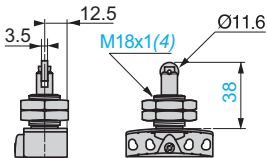
For entries tapped for n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKT21H0P16 becomes **XCKT21H0G11**.

Contact operation  closed (A) = cam displacement  NC contact with positive opening operation
 open (P) = positive opening point

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.

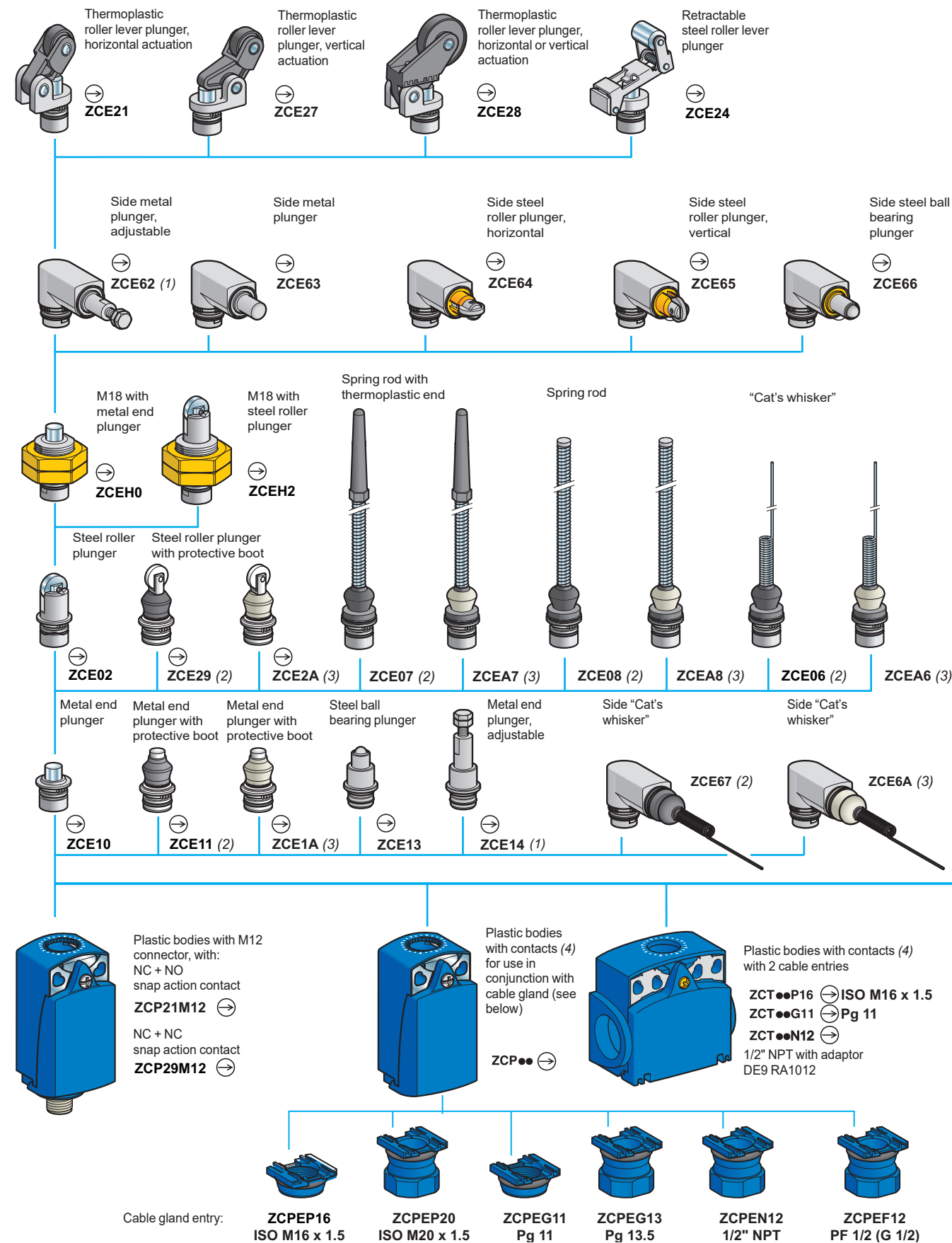
Dimensions			
ZCEH0	ZCE01 + ZCY18	ZCE01 + ZCY39	ZCE01 + ZCY45
			
ZCEH2 			

(4) Fixing nut thickness 3.5 mm.

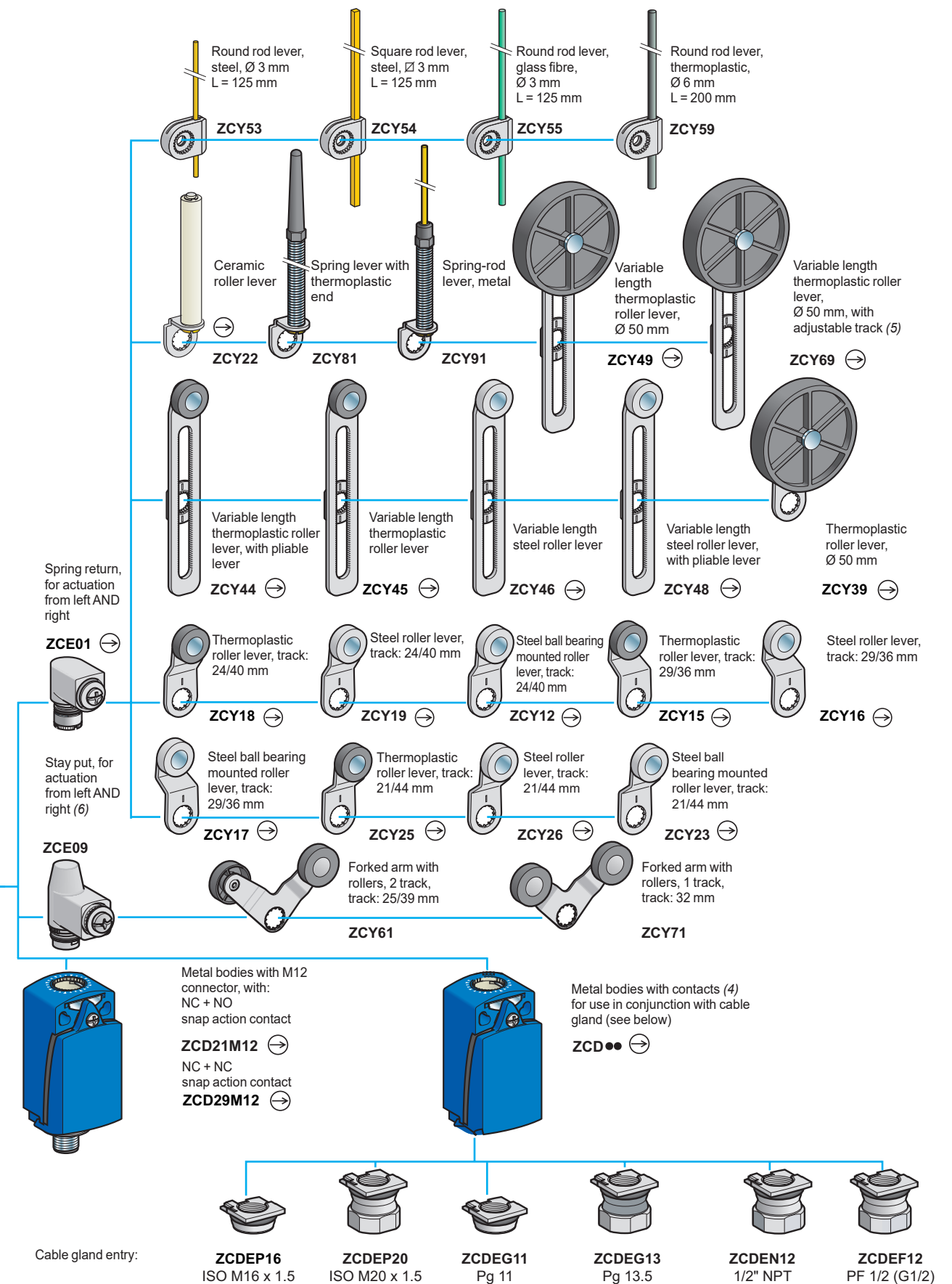
Limit switches

XC Standard range

Compact design, XCKD, XCKP and XCKT
Variable composition



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



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

Limit switches

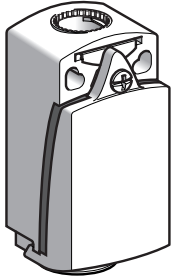
XC Standard range

Compact design, metal, XCKD

or plastic, XCKP

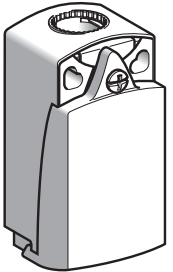
Adaptable sub-assemblies: bodies with contacts

520710



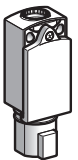
ZCD●●

520711



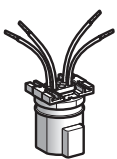
ZCP●●

DF504042



ZCP21D44

DF504043



ZCPED44

Bodies with contacts, XCKD and XCKP⁽¹⁾

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

Components for connection using DEUTSCH connector

Bodies with contacts for DEUTSCH connector

Type of contact	Positive operation (2)	Scheme	Cable entry	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP2151)	⊖		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.

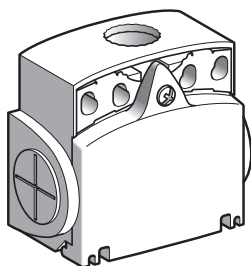
Limit switches

XC Standard range

Compact design, plastic, XCKT

Adaptable sub-assemblies: bodies with contacts

561390



ZCT...●●

Bodies with contacts, XCKT plastic, 2 cable entries

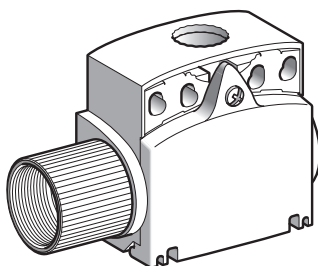
Type of contact	Positive operation (1)	Scheme	Cable entries	Reference	Weight kg
2-pole					
NC + NO snap action (XE2SP3151)	⊕		ISO M16 x 1.5	ZCT21P16	0.085
			Pg 11	ZCT21G11	0.085
NC + NO break before make, slow break (XE2NP3151)	⊕		ISO M16 x 1.5	ZCT25P16	0.085
			Pg 11	ZCT25G11	0.085
NC + NC simultaneous, slow break (XE2NP3141)	⊕		ISO M16 x 1.5	ZCT27P16	0.085
			Pg 11	ZCT27G11	0.085
NO + NO simultaneous, slow break (XE2NP3131)	—		ISO M16 x 1.5	ZCT28P16	0.085
			Pg 11	ZCT28G11	0.085
NO + NC make before break, slow break (XE2NP3161)	⊕		ISO M16 x 1.5	ZCT26P16	0.085
			Pg 11	ZCT26G11	0.085

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)	⊕		ZCT21N12	0.130
NC + NO break before make, slow break (XE2NP3151)	⊕		ZCT25N12	0.130
NC + NC simultaneous, slow break (XE2NP3141)	⊕		ZCT27N12	0.130
NO + NO simultaneous, slow break (XE2NP3131)	—		ZCT28N12	0.130
NO + NC make before break, slow break (XE2NP3161)	⊕		ZCT26N12	0.130

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

561387



ZCT...●●N12

Limit switches

XC Standard range

Compact design, metal, XCKD or plastic, XCKP and XCKT

Adaptable sub-assemblies: bodies with contacts

56127



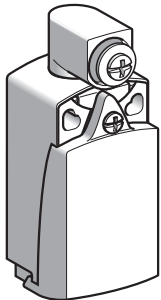
ZCE05

561392



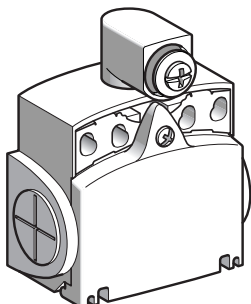
DE9RA1012

561386



XCK●2●01●●

561389



XCKT2●01●●

Accessories

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

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

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

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

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

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

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

(1) For programming see page 18.

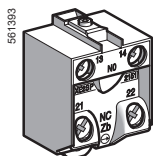
(2) : bodies with contact assuring positive opening operation.

Limit switches

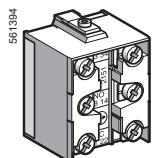
XC Standard range

Compact design, metal, XCKD or plastic, XCKP and XCKT

Adaptable sub-assemblies: contact blocks



XE2●●21●●



XE3●●21●●

Contact blocks with screw clamp terminals for XCKD and XCKP

Type of contact	Positive operation (1)	Scheme	Reference for standard contacts	Weight kg
2-pole				
NC + NO snap action	⊙		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

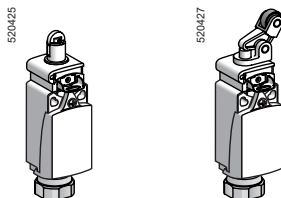
Compact design, plastic, with reset, XCPR and XCTR

■ XCPR

with 1 cable entry

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

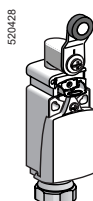
XCPR



Page 104

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

XCPR



Page 104

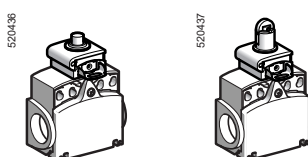
■ XCTR

with 2 cable entries

Tripping/resetting points and fixing centres conform to CENELEC 50047

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

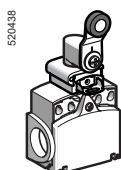
XCTR



Page 106

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

XCTR



Page 106

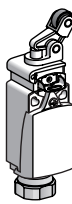
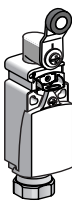
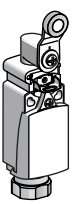
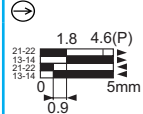
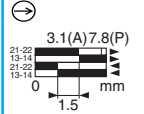
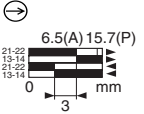
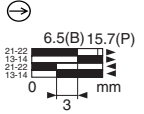
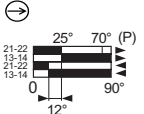
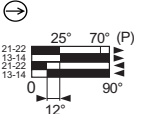
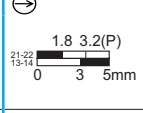
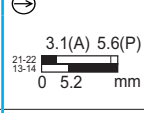
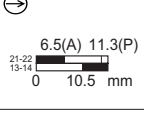
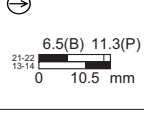
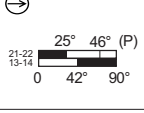
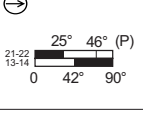
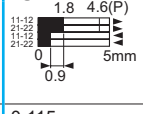
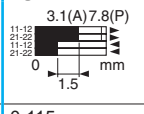
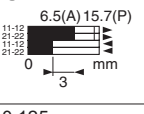
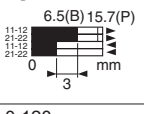
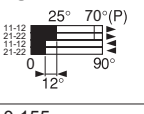
Environment characteristics		
Conformity to standards	Products	CE, EN/IEC 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	EN/IEC 60204-1
Product certifications		UL, CSA
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25...+ 70 °C (- 40...+ 70 °C with ZCE106, 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 (gl)
Connection (screw clamp terminals)	XE2SP2151	Clamping capacity, min: 1 x 0.34 mm², max: 2 x 1.5 mm²
	XE2NP2151	Clamping capacity, min: 1 x 0.5 mm², max: 2 x 2.5 mm²
Minimum actuation speed (for head with end plunger)		XE2SP2151 : 0.01 m/minute
		XE2NP2151 : 6 m/minute

Limit switches

XC Standard range

Compact design, plastic, with reset, XCPR

Complete switches with 1 cable entry

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

References of complete switches with 1 Pg 13.5 cable entry

For complete switches with 1 Pg 13.5 cable entry replace P20 by G13.

Example: XCPR2110P20 becomes **XCPR2110G13**.

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

For complete switches with 1 entry for 1/2" NPT conduit replace P20 by N12.

Example: XCPR2110P20 becomes **XCPR2110N12**.

Contact operation	 closed  open	(A) (B) = cam displacement (P) = positive opening point	 NC contact with positive opening operation
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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	15 N	12 N	6 N	0.1 N.m
	For tripping			
	For positive opening	45 N	36 N	18 N
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit			

Other versions

Complete switches with cable entries other than those listed above. please consult our Customer Care Centre.

Limit switches

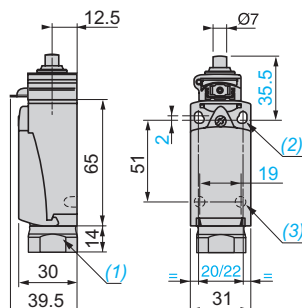
XC Standard range

Compact design, plastic, with reset, XCPR

Complete switches with 1 cable entry

Dimensions

XCPR2●10●●●

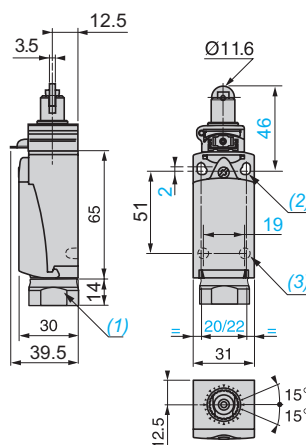


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

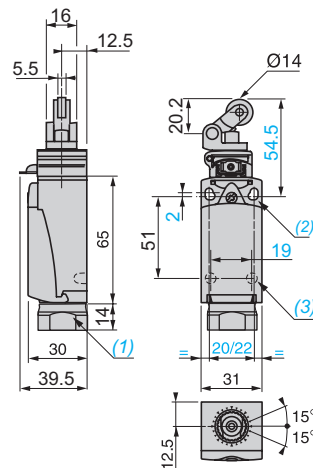
(2) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres.

(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

XCPR2●02●●●

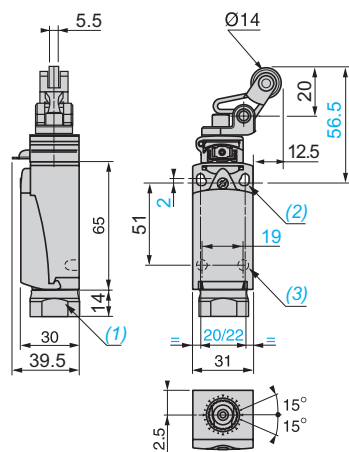


XCPR2●21●●●



Dimensions

XCPR2●27●●●

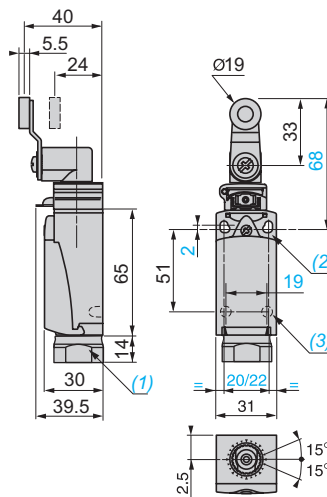


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

(2) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres.

(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

XCPR2●18●●●, XCPR2●19●●●

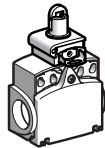
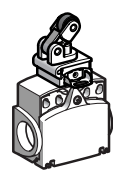
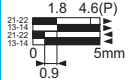
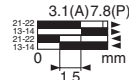
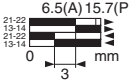
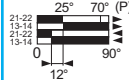
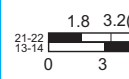
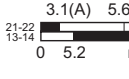
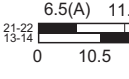
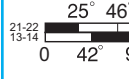


Limit switches

XC Standard range

Compact design, plastic, with reset, XCTR

Complete switches with 2 cable entries

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

References of complete switches with 2 Pg 11 cable entries

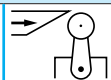
For complete switches with 2 Pg 11 cable entries replace P16 by **G11**.

Example: XCTR2110P16 becomes **XCTR2110G11**.

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

For complete switches with 2 entries for 1/2" NPT conduit replace P16 by **N12**.

Example: XCTR2110P16 becomes **XCTR2110N12**.

Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point ⤵ NC contact with positive opening operation	
Characteristics				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s		1 m/s	1.5 m/s
Minimum force or torque	For tripping	15 N	12 N	6 N
	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

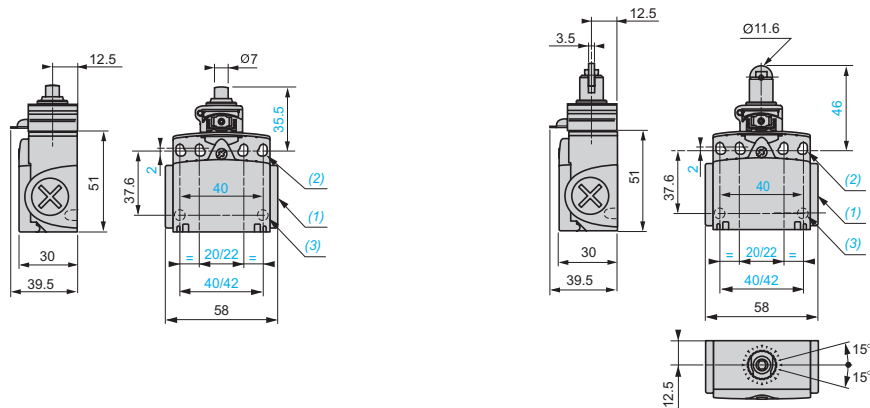
Compact design, plastic, with reset, XCTR

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.

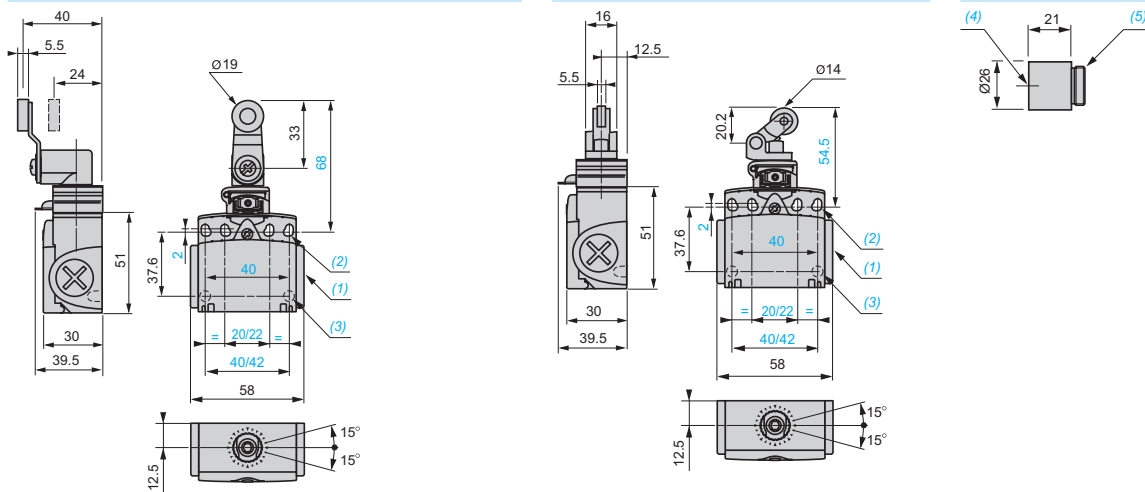
(5) Pg 11 threaded sleeve.

Dimensions

XCTR2●18●●●

XCTR2●21●●●

DE9RA1012



(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or 1/2" NPT conduit.

(2) 4 elongated holes Ø 4.3 x 6.3 mm on 22/42 mm centres, 4 holes Ø 4.3 on 20/40 mm centres.

(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Limit switches

XC Basic range

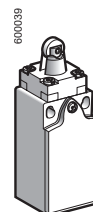
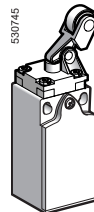
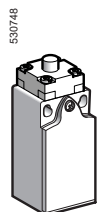
Compact design, plastic, XCKN and XCNT

■ XCKN

with 1 cable entry

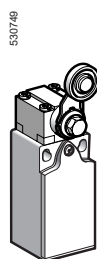
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 110

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



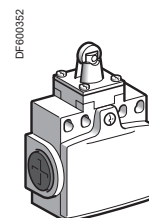
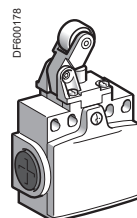
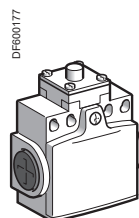
Page 111

■ XCNT

with 2 cable entries

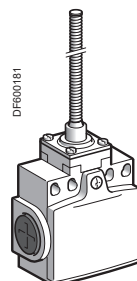
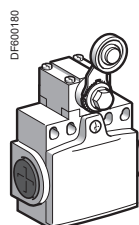
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 112

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



Page 113

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		$\sim$ AC-15; A300 (U _e = 240 V, I _e = 3 A); I _{the} = 10 A $\equiv$ DC-13; R300 (U _e = 250 V, I _e = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	U _i = 500 V degree of pollution 3 conforming to IEC 60947-1 U _i = 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 (gl)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

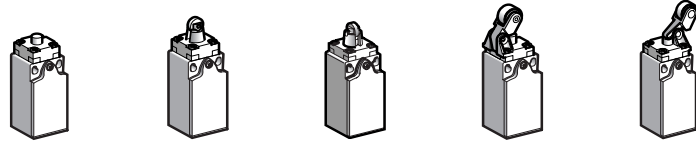
Limit switches

XC Basic range

Compact design, plastic, XCKN

Complete switches with 1 cable entry

Type of head	Plunger (fixing by the body)				
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Type of operator	Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever plunger, vertical actuation in 1 direction
Sold and packed in lots of	20	20	20	20	20

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

	2-pole NC + NO snap action	XCKN2110P20 	XCKN2102P20 	XCKN2103P20 	XCKN2121P20 	XCKN2127P20
	2-pole NC + NO break before make, slow break	XCKN2510P20 	XCKN2502P20 	XCKN2503P20 	XCKN2521P20 	XCKN2527P20
	2-pole NC + NC simultaneous, slow break	XCKN2710P20 	XCKN2702P20 	XCKN2703P20 	XCKN2721P20 	XCKN2727P20
	2-pole NC + NC snap action	XCKN2910P20 	XCKN2902P20 	XCKN2903P20 	XCKN2921P20 	XCKN2927P20
Weight (kg)		0.065	0.065	0.065	0.070	0.070
Contact operation		closed open	(A) (B) = cam displacement (P) = positive opening point		NC contact with positive opening operation	

Characteristics

Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s
Mechanical durability (in millions of operating cycles)	10		
Minimum force or torque	For tripping	15 N	12 N
	For positive opening	30 N	20 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.

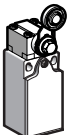
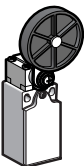
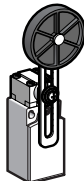
For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

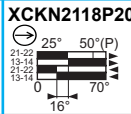
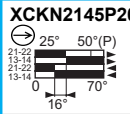
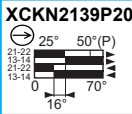
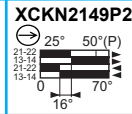
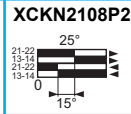
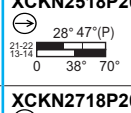
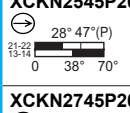
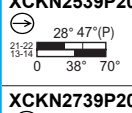
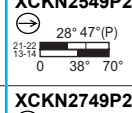
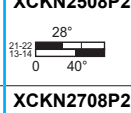
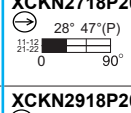
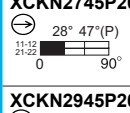
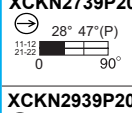
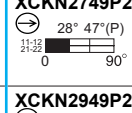
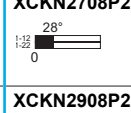
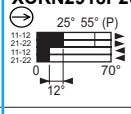
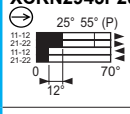
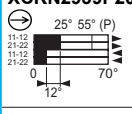
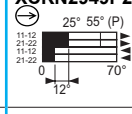
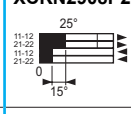
Limit switches

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					
	2-pole NC + NO break before make, slow break					
	2-pole NC + NC simultaneous, slow break					
	2-pole NC + NC snap action					
Weight (kg)		0.085	0.090	0.110	0.115	0.085
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 For positive opening 0.15 N.m	0.13 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm	

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

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

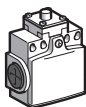
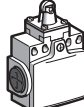
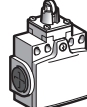
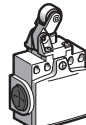
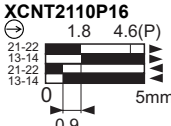
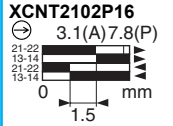
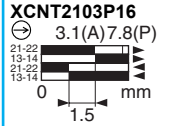
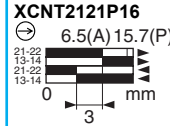
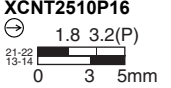
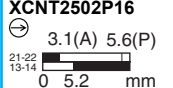
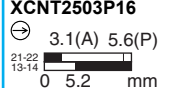
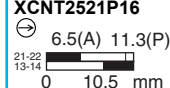
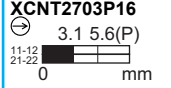
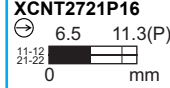
Other contacts
For complete switches with 2-pole contacts: NO + NC make before break, slow break, NO + NO simultaneous, slow break, please consult our Customer Care Centre.
For complete switches with 3-pole contacts: NC + NO + NO snap action, NC + NC + NO snap action, NC + NC + NO break before make, slow break, NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches

XC Basic range

Compact design, plastic, XCNT

Complete switches with 2 cable entries

Type of head		Plunger (fixing by the body)			
					
Type of operator		Metal end plunger	Plastic roller plunger for lateral cam approach	Plastic roller plunger for traverse cam approach	Thermoplastic roller lever plunger, horizontal actuation in 1 direction
Sold and packed in lots of		10	10	10	10
References of complete switches with 2 ISO M16 x 1.5 cable entries					
 2-pole NC + NO snap action	 XCNT2110P16 1.8 4.6(P) 0.9 5mm	 XCNT2102P16 3.1(A) 7.8(P) 1.5 mm	 XCNT2103P16 3.1(A) 7.8(P) 1.5 mm	 XCNT2121P16 6.5(A) 15.7(P) 3 mm	
 2-pole NC + NO break before make, slow break	 XCNT2510P16 1.8 3.2(P) 0 3 5mm	 XCNT2502P16 3.1(A) 5.6(P) 0 5.2 mm	 XCNT2503P16 3.1(A) 5.6(P) 0 5.2 mm	 XCNT2521P16 6.5(A) 11.3(P) 0 10.5 mm	
 2-pole NC + NC simultaneous, slow break	 XCNT2710P16 1.8 3.2(P) 0 5mm	 XCNT2702P16 3.1 5.6(P) 0 mm	 XCNT2703P16 3.1 5.6(P) 0 mm	 XCNT2721P16 6.5 11.3(P) 0 mm	
Weight (kg)	0.085	0.085	0.085	0.090	
Contact operation	 closed  open	(A) (B) = cam displacement (P) = positive opening point		 NC contact with positive opening operation	
Characteristics					
Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s		
Mechanical durability (in millions of operating cycles)	10				
Minimum force or torque	For tripping	15 N	12 N	6 N	
	For positive opening	30 N	20 N	10 N	
Cable entry	2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

References of complete switches with 2 Pg 11 cable entries

For complete switches with 2 Pg 11 cable entries replace P16 by G11.

Example: XCNT2110P16 becomes XCNT2110G11.

Complete switches with 1/2" NPT cable entry

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



DE9RA1012

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

Other contacts

For complete switches with 2-pole contacts:

NO + NC make before break, slow break,

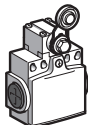
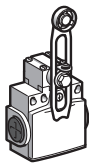
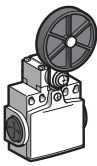
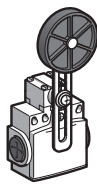
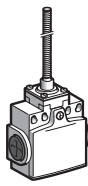
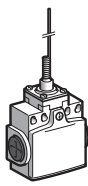
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

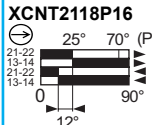
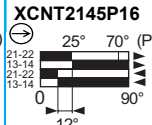
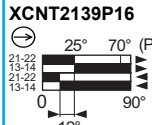
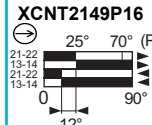
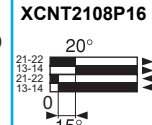
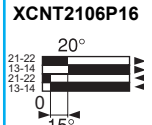
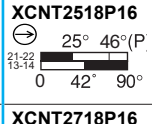
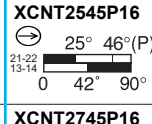
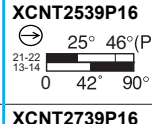
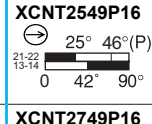
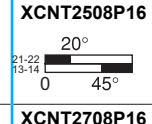
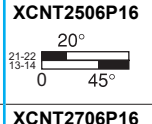
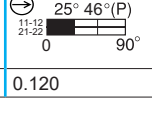
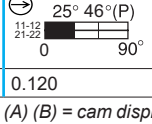
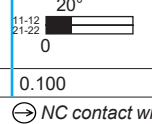
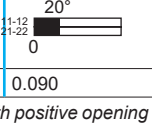
Limit switches

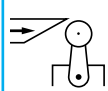
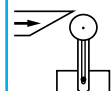
XC Basic range

Compact design, plastic, XCNT

Complete switches with 2 cable entries

Type of head	Rotary (fixing by the body)				Multi-directional	
						
Type of operator	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	Spring rod	"Cat's whisker"
Sold and packed in lots of	10	10	10	10	8	8

References of complete switches with 2 ISO M16 x 1.5 cable entries						
 2-pole NC + NO snap action	XCNT2118P16 	XCNT2145P16 	XCNT2139P16 	XCNT2149P16 	XCNT2108P16 	XCNT2106P16 
	XCNT2518P16 	XCNT2545P16 	XCNT2539P16 	XCNT2549P16 	XCNT2508P16 	XCNT2506P16 
	XCNT2718P16 	XCNT2745P16 	XCNT2739P16 	XCNT2749P16 	XCNT2708P16 	XCNT2706P16 
Weight (kg)	0.105	0.120	0.120	0.120	0.100	0.090
Contact operation	 closed  open			(A) (B) = cam displacement (P) = positive opening point  NC contact with positive opening operation		

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

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

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



DE9RA1012

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

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

Limit switches

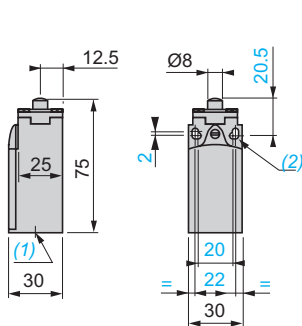
XC Basic range

Compact design, plastic, XCKN

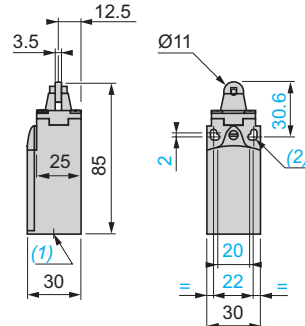
Complete switches with 1 cable entry

Dimensions

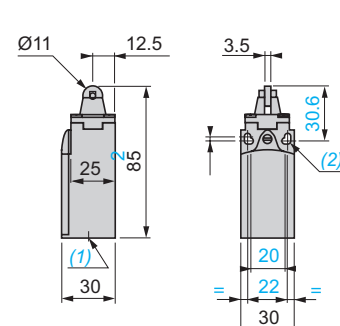
XCKN2•10P20



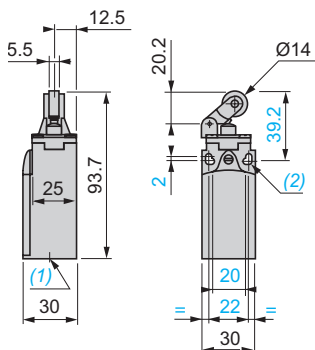
XCKN2•02P20



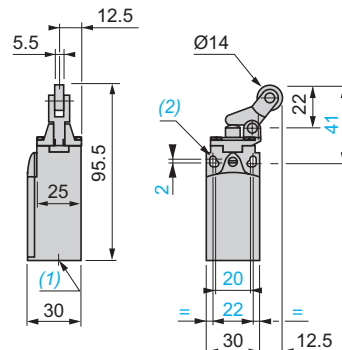
XCKN2•03P20



XCKN2•21P20

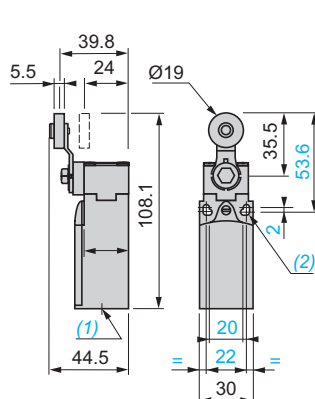


XCKN2•27P20

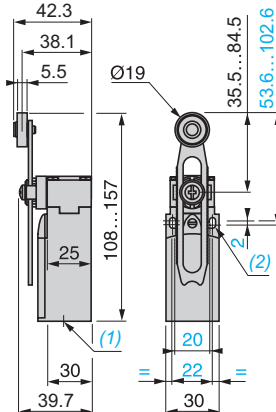


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

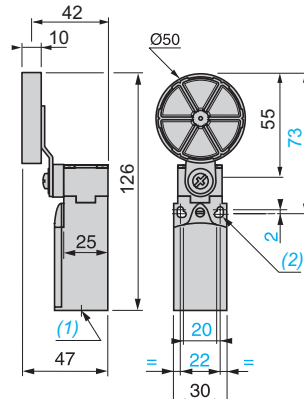
XCKN2•18P20



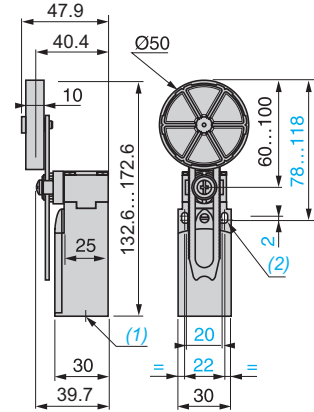
XCKN2•45P20



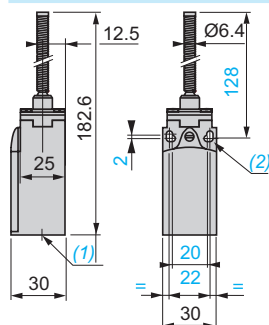
XCKN2•39P20



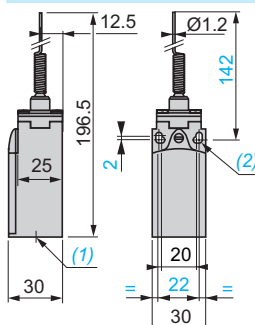
XCKN2•49P20



XCKN2•08P20



XCKN2•06P20



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

Limit switches

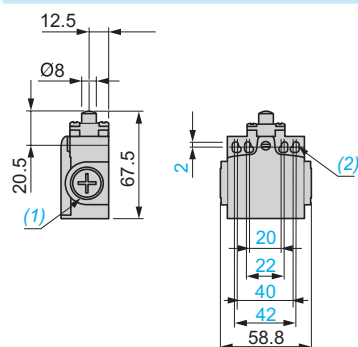
XC Basic range

Compact design, plastic, XCNT

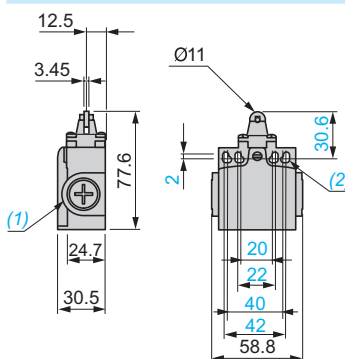
Complete switches with 2 cable entries

Dimensions

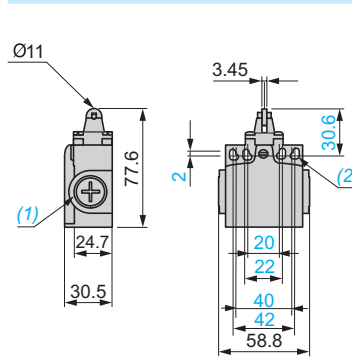
XCNT2●10P20



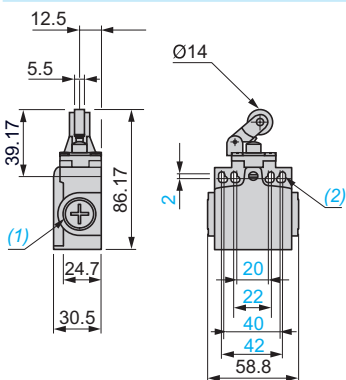
XCNT2●02P20



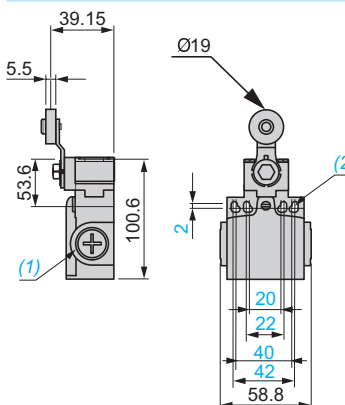
XCNT2●03P20



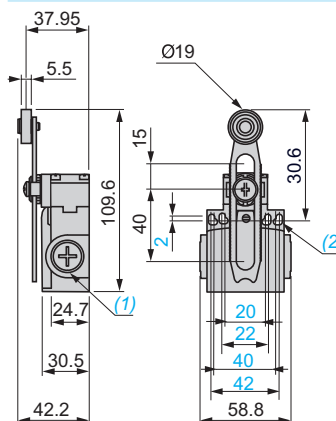
XCNT2●21P20



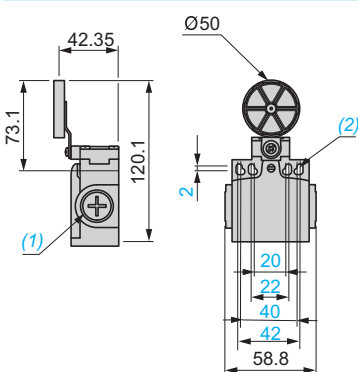
XCNT2●18P16



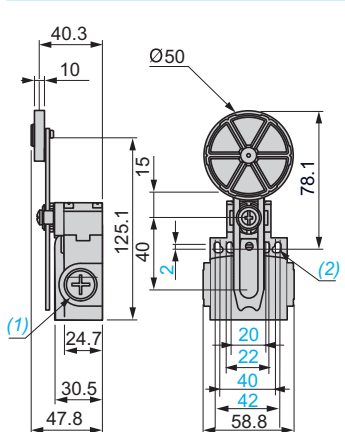
XCNT2●45P16



XCNT2●39P16

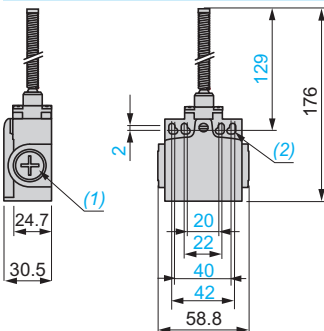


XCNT2●49P16

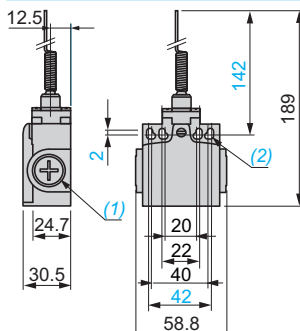


(1) 2 tapped entries for ISOM16 x 1.5 or Pg 11 cable gland.
(2) Ø: 4 elongated holes Ø 4.3 x 6.3

XCNT2●08P16



XCNT2●06P16



Limit switches

XC Basic range

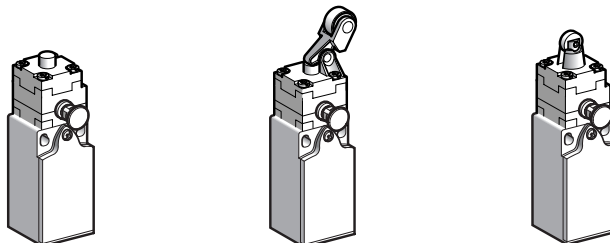
Compact design, plastic, with reset knob, XCNR

Complete switches with 1 cable entry

■ XCNR

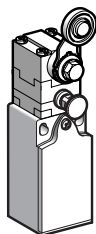
with 1 cable entry

□ With head for linear movement (plunger)



Page 118

□ With head for rotary movement (lever)



Page 118

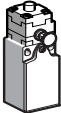
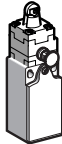
Environment characteristics		
Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Version	Standard: "TC"
Ambient air temperature	For operation	- 25...+ 70°C
	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 (gl)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

Limit switches

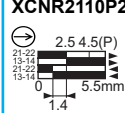
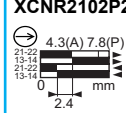
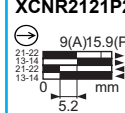
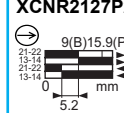
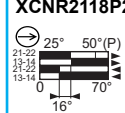
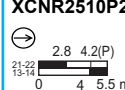
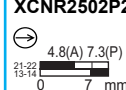
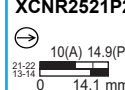
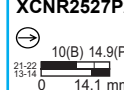
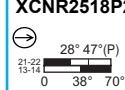
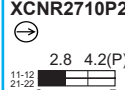
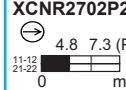
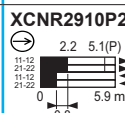
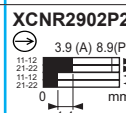
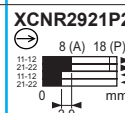
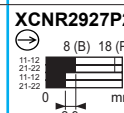
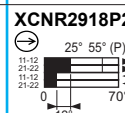
XC Basic range

Compact design, plastic, with reset knob, XCNR

Complete switches with 1 cable entry

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

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

 2-pole NC + NO snap action	XCNR2110P20 	XCNR2102P20 	XCNR2121P20 	XCNR2127P20 	XCNR2118P20 
 2-pole NC + NO break before make, slow break	XCNR2510P20 	XCNR2502P20 	XCNR2521P20 	XCNR2527P20 	XCNR2518P20 
 2-pole NC + NC simultaneous, slow break	XCNR2710P20 	XCNR2702P20 	XCNR2721P20 	XCNR2727P20 	XCNR2718P20 
 2-pole NC + NC snap action	XCNR2910P20 	XCNR2902P20 	XCNR2921P20 	XCNR2927P20 	XCNR2918P20 
Weight (kg)	0.080	0.080	0.085	0.090	0.100
Contact operation	 closed  open (A) (B) = cam displacement (P) = positive opening point  NC contact with positive opening operation				

Characteristics

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

References of complete switches with 1 Pg 11 cable entry

For complete switches with 1 Pg 11 cable entry replace P20 by G11.

Example: XCNR2110P20 becomes **XCNR2110G11**.

Other cable entries

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

Other contacts

For complete switches with 2-pole contacts:

NC + NO make before break, slow break,

NO + NO simultaneous, slow break, please consult our Customer Care Centre.

For complete switches with 3-pole contacts:

NC + NO + NO snap action,

NC + NC + NO snap action,

NC + NC + NO break before make, slow break,

NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches

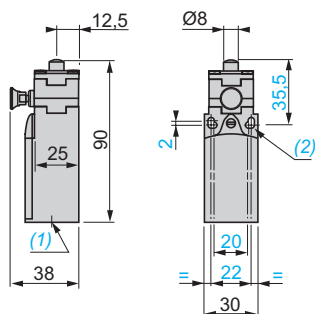
XC Basic range

Compact design, plastic, with reset knob, XCNR

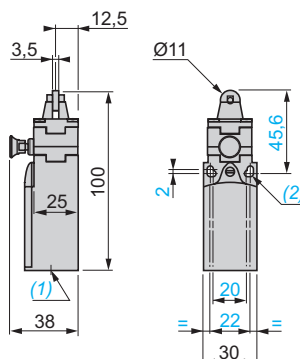
Complete switches with 1 cable entry

Dimensions

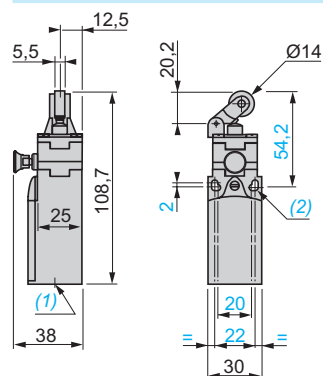
XCNR2●10P20



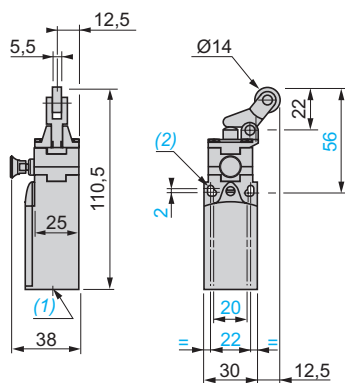
XCNR2●02P20



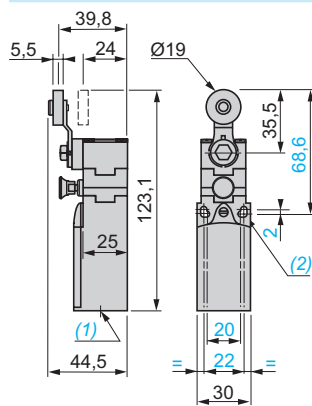
XCNR2●21P20



XCNR2●27P20



XCNR2●18P20



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 11 cable gland.

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

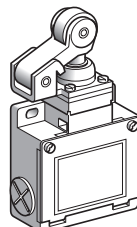
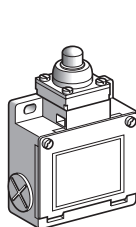
Limit switches

XC Standard range, Classic format

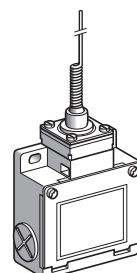
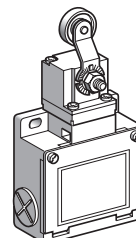
Metal, XCKM, XCKL and XCKML

■ XCKM, with 3 cable entries

□ With head for linear movement (plunger)



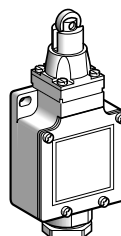
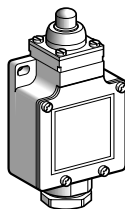
□ With head for rotary movement (lever) or multi-directional



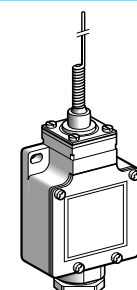
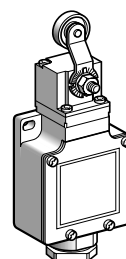
Page 122

■ XCKL, with 1 cable entry

□ With head for linear movement (plunger)



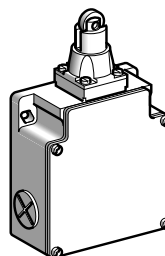
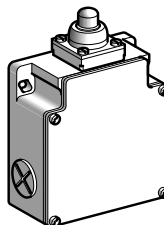
□ With head for rotary movement (lever) or multi-directional



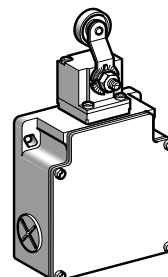
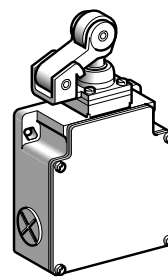
Page 124

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

□ With head for linear movement (plunger)



□ With head for rotary movement (lever)



Page 126

Environment characteristics

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

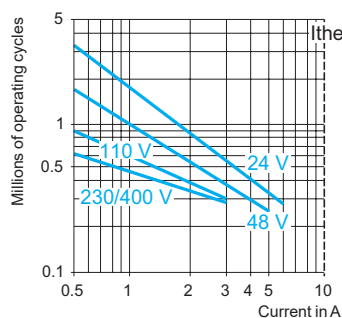
Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation withstand 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 mm ² , max: 2 x 1.5 mm ²
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XESP2151L and XENP2151L	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ² or 1 x 2.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed		XE2SP21●1, XESP2151L and XE3SP: 0.01 m/minute XE2NP21●1, XENP2151L and XE3NP: 6 m/minute

Electrical durability

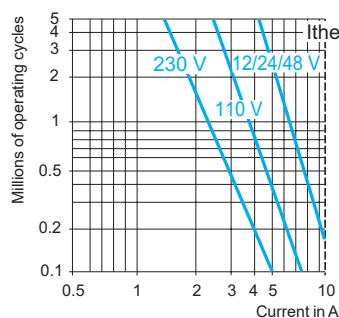
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
50/60 Hz ~
~ inductive circuit

XE2SP21●1, XE2SP2141, XESP2151L



XE2NP21●1, XENP2151L



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
W	W	10	7	4

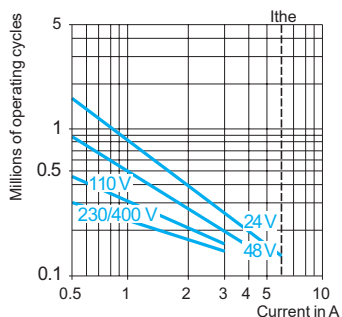
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
W	W	13	9	7

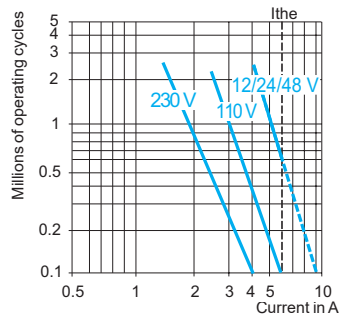
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

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	W	3	2	1

Power broken in W for 5 million operating cycles.

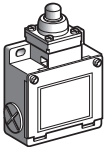
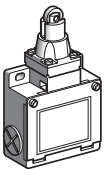
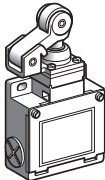
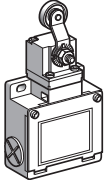
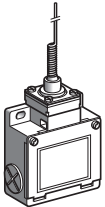
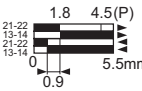
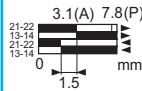
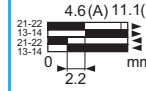
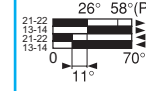
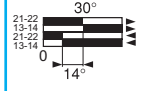
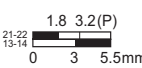
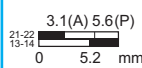
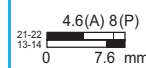
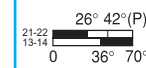
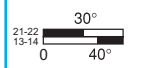
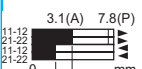
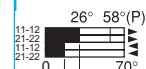
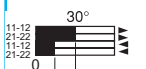
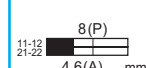
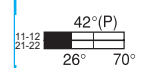
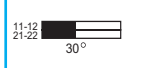
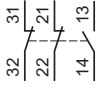
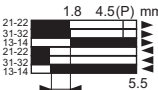
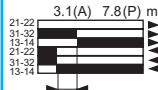
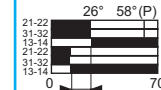
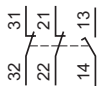
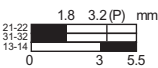
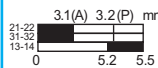
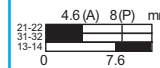
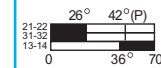
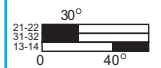
Voltage	V	24	48	120
W	W	4	3	2

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 For positive opening	15 N 45 N	12 N 36 N	8 N 24 N	0.1 N.m 0.25 N.m
Cable entry	3 entries tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm				

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

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

(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

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

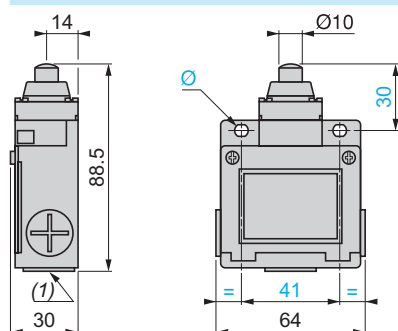
Limit switches

XC Standard range, Classic format

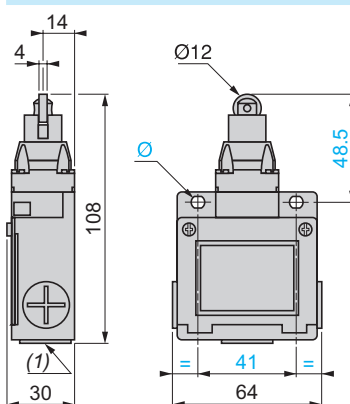
Metal, XCKM

Complete units with 3 cable entries

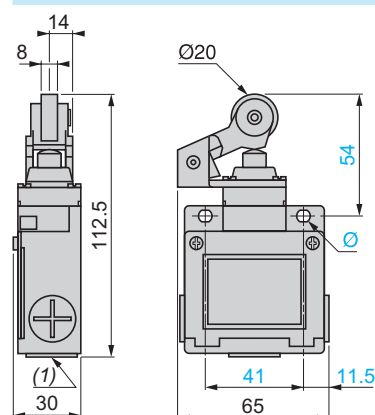
XCKM●10
ZCKMD3● + ZCKD10



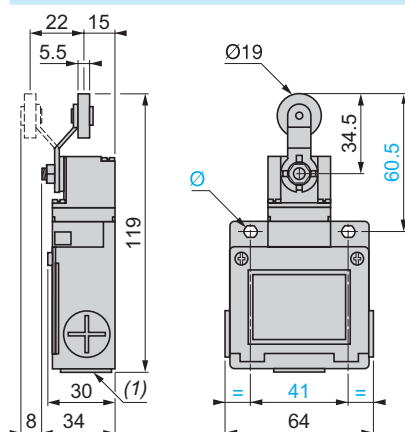
XCKM●02
ZCKMD3● + ZCKD02



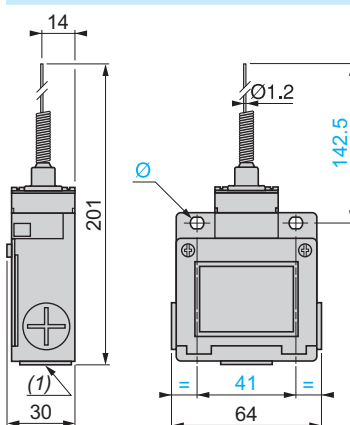
XCKM●21
ZCKMD3● + ZCKD21



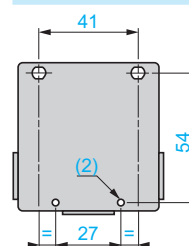
XCKM●15
ZCKMD3● + ZCKD15



XCKM●06
ZCKMD3● + ZCKD06



Rear view XCKM●●●, ZCKM●, ZCKMD3●

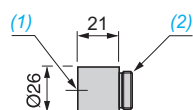


(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.

(2) 2 x Ø 4 H 11, depth 10.

Ø: 2 elongated holes Ø 5.2 x 6.2

Adaptor for 1/2" NPT conduit
DE9RA1012



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

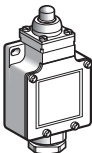
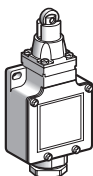
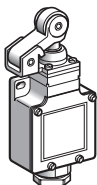
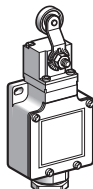
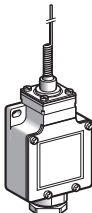
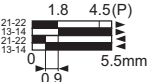
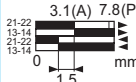
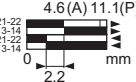
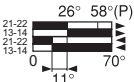
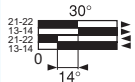
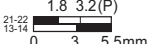
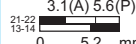
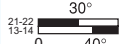
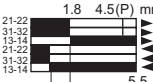
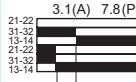
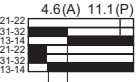
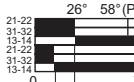
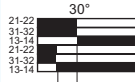
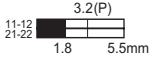
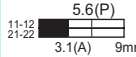
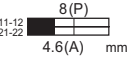
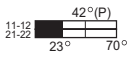
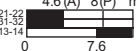
(2) Pg 11 threaded sleeve.

Limit switches

XC Standard range, Classic format

Metal, XCKL

Complete units incorporating Pg 13.5 cable gland

Type of head	Plunger (fixing by the body)			Rotary (fixing by the body)	Multi-directional, (fixing by the body)
					
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever (1)	"Cat's whisker" (2)
References (3)					
2-pole NC + NO snap action (XE2SP2151)	 XCKL110  	 XCKL102  	 XCKL121  	 XCKL115  	 XCKL106 
2-pole NC + NO break before make, slow break (XE2NP2151)	 XCKL510  	 XCKL502  	 XCKL521  	 XCKL515  	 XCKL506 
3-pole NC + NC + NO snap action (XE3SP2141)	 ZCKLD39 + ZCKD10  	 ZCKLD39 + ZCKD02  	 ZCKLD39 + ZCKD21  	 ZCKLD39 + ZCKD15  	 ZCKLD39 + ZCKD06 
2-pole NC + NC simultaneous, slow break (XE2NP2141)	 ZCKL7 + ZCKD10  	 ZCKL7 + ZCKD02  	 ZCKL7 + ZCKD21  	 ZCKL7+ ZCKD15  	 ZCKL7 + ZCKD06 
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	 ZCKLD37 + ZCKD10  	 ZCKLD37 + ZCKD02  	 ZCKLD37 + ZCKD21  	 ZCKLD37 + ZCKD15  	 ZCKLD37 + ZCKD06 
Weight (kg)	0.255	0.260	0.305	0.285	0.255
Contact operation	 closed  open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation				
Characteristics					
Switch actuation	On end	By 30° cam			By any moving part
Type of actuation					
Maximum actuation speed	0.5 m/s		1.5 m/s		1 m/s (any direction)
Mechanical durability (4) (in millions of operating cycles)	20			15	10
Minimum force or torque	For tripping For positive opening	15 N 45 N	12 N 36 N	8 N 24 N	0.1 N.m 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.

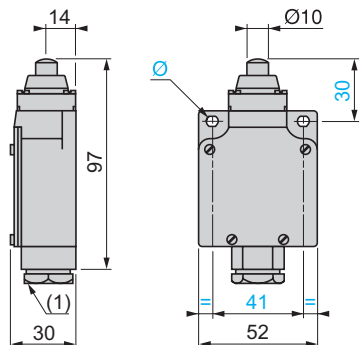
Limit switches

XC Standard range, Classic format

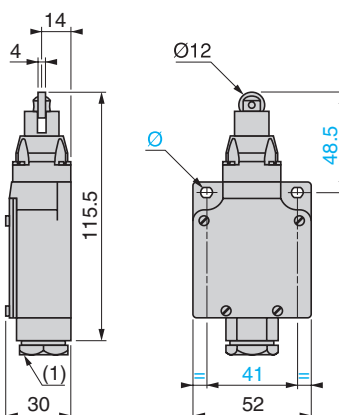
Metal, XCKL

Complete units incorporating Pg 13.5 cable gland

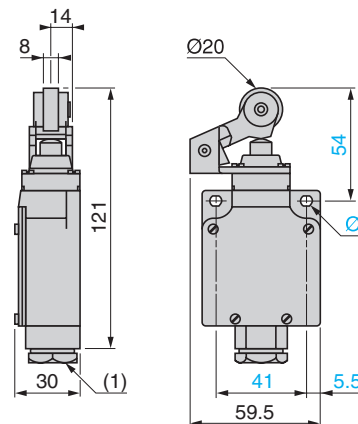
XCKL●10
ZCKL● + ZCKD10
ZCKLD3● + ZCKD10



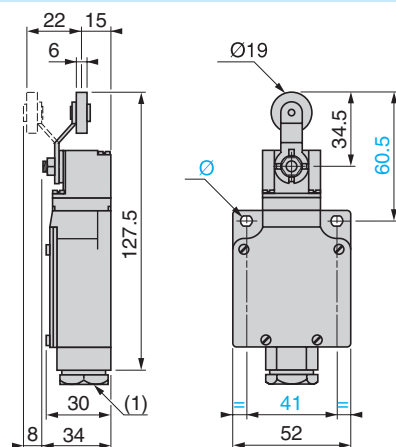
XCKL●02
ZCKL3● + ZCKD02
ZCKLD3● + ZCKD02



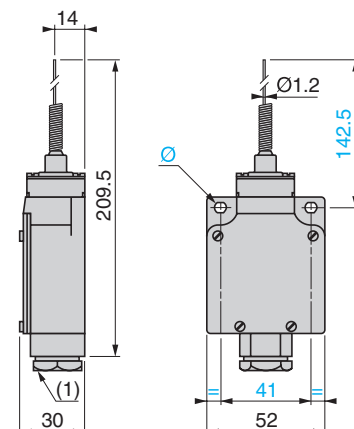
XCKL●21
ZCKL● + ZCKD21
ZCKLD3● + ZCKD21



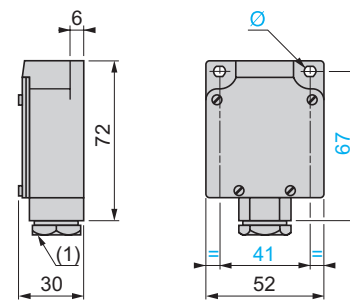
XCKL●15
ZCKL● + ZCKD15
ZCKLD3● + ZCKD15



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

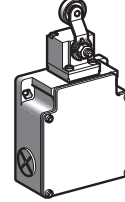
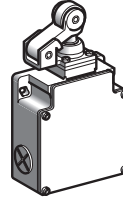
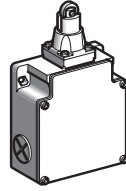
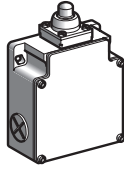
Limit switches

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)
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Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever (1)
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References of complete switches with 3 ISO M20 x 1.5 cable entries (2)

2 x 2-pole NC + NO snap action (XESP2151L)	XCKML110H29	XCKML102H29	XCKML121H29	XCKML115H29
2 x 2-pole NC + NO break before make, slow break (XENP2151L)	XCKML510H29	XCKML502H29	XCKML521H29	XCKML515H29

References of complete switches with 3 entries tapped for n° 13 cable gland (2)

2 x 2-pole NC + NO snap action (XESP2151L)	XCKML110	XCKML102	XCKML121	XCKML115
2 x 2-pole NC + NO break before make, slow break (XENP2151L)	XCKML510	XCKML502	XCKML521	XCKML515
Weight (kg)	0.400	0.405	0.450	0.430
Contact operation	closed open	(A) = cam displacement (P) = positive opening point		

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 For positive opening	15 N 60 N	12 N 50 N	8 N 50 N
Cable entry	3 entries tapped ISO M20 x 1.5, clamping capacity 7 to 13 mm, or 3 entries tapped for n° 13 cable gland conforming to NF C 68-300 (DIN Pg 13.5), clamping capacity 9 to 12 mm.			

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

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

Note: replacement parts

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

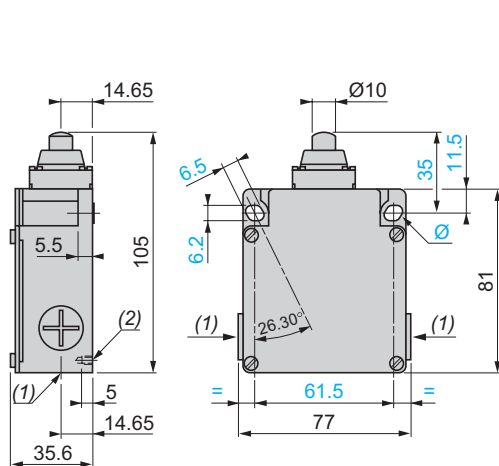
Limit switches

XC Standard range, Classic format

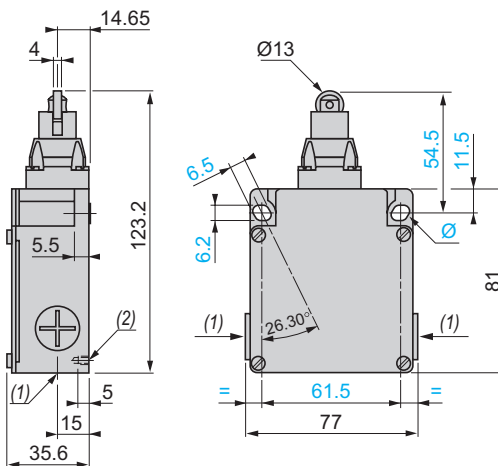
Metal, 2 x 2-pole contacts, XCKML

Complete switches with 3 cable entries

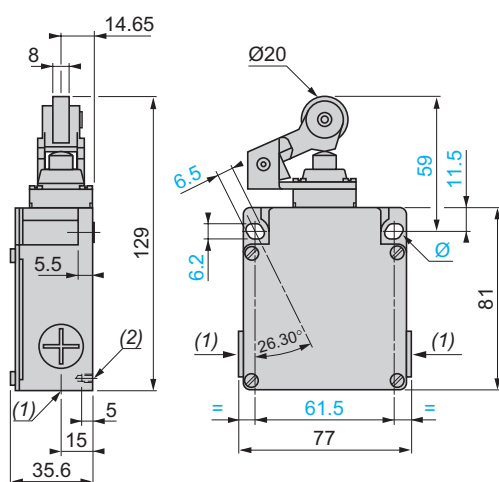
XCKML110H29, XCKML510H29, XCKML110, XCKML510



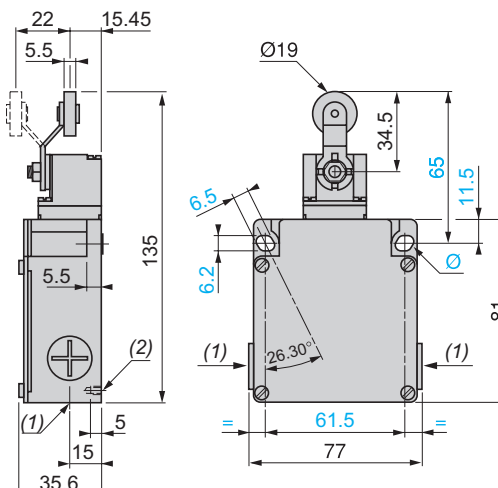
XCKML102H29, XCKML502H29, XCKML102, XCKML502



XCKML121H29, XCKML521H29, XCKML121, XCKML521



XCKML115H29, XCKML515H29, XCKML115, XCKML515

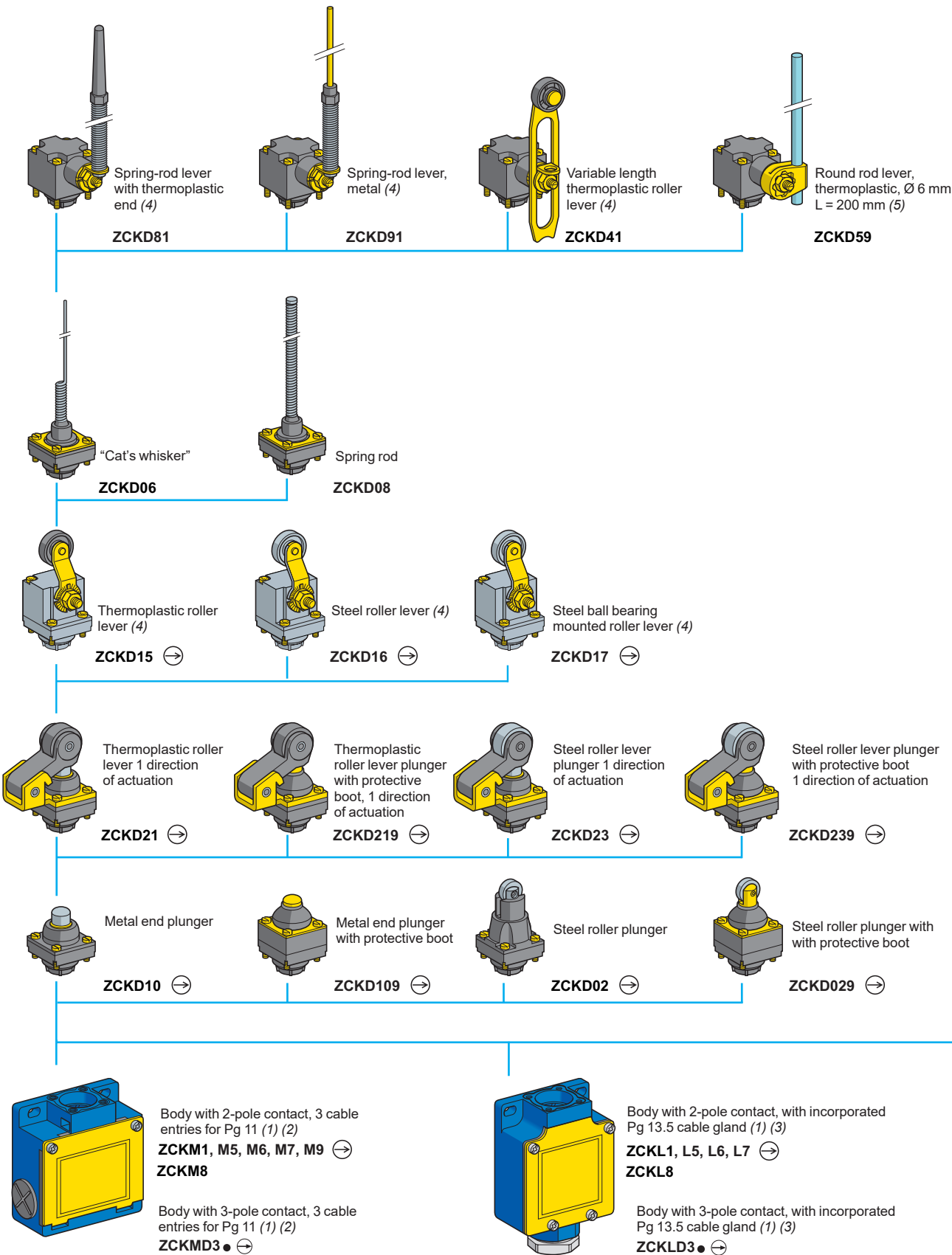


(1) XCKML●●●H29: 3 entries tapped M20 x 1.5. XCKML●●●: 3 tapped entries for n° 13 cable gland.

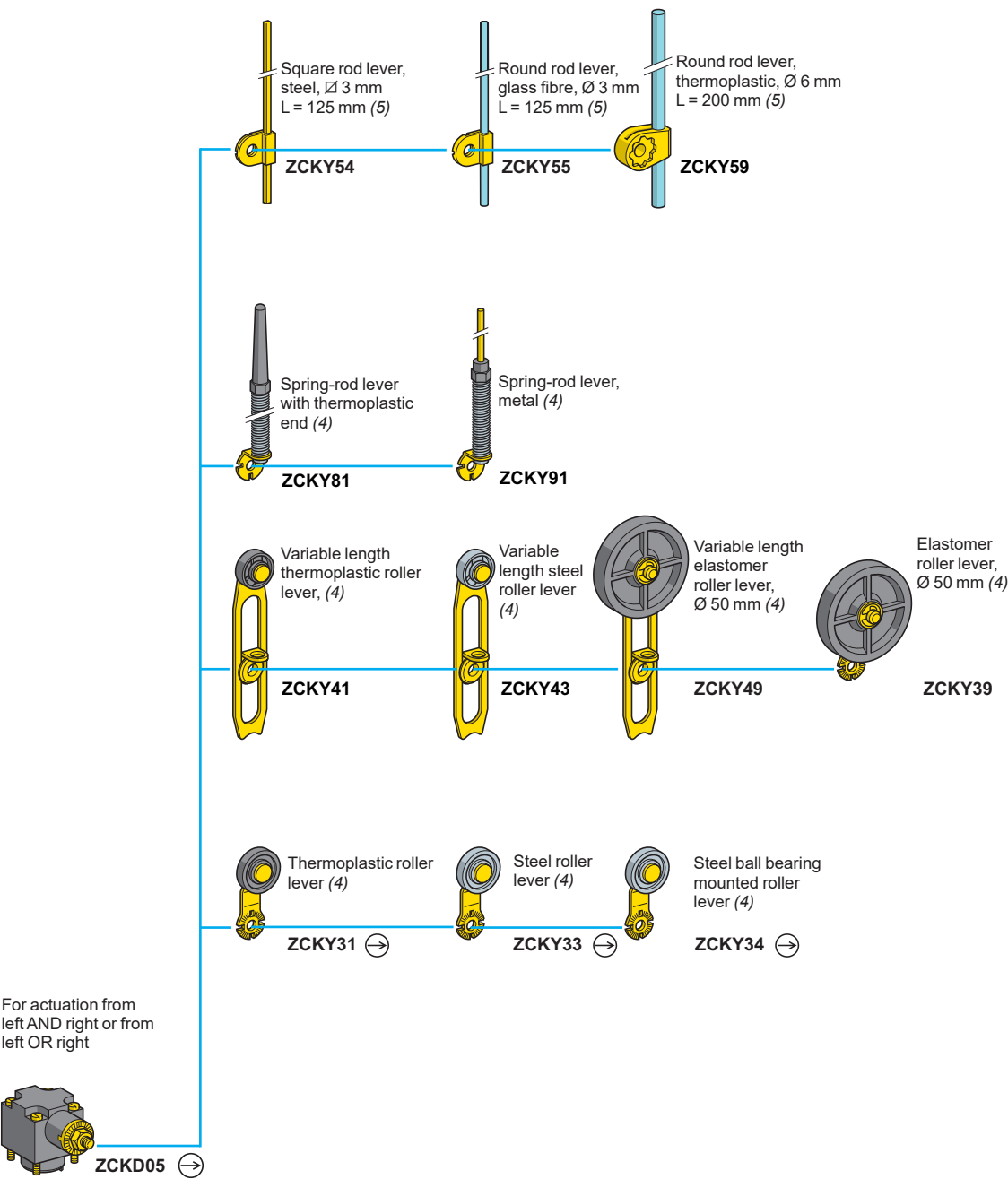
(2) 2 centring holes $\varnothing 3.9 \pm 0.2$, for cover fixing holes alignment.

$\varnothing 2$ elongated holes 6.2 x 6.5, inclined at 26° 30' to the vertical axis, for M5 screws.

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



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



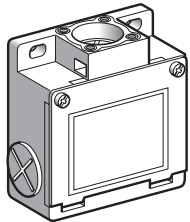
⊕: head assuring positive opening operation.
(4) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Limit switches

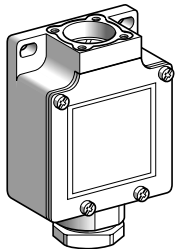
XC Standard range, Classic format

Metal, XCKM and XCKL

Adaptable sub-assemblies



ZCKM●



ZCKL●

Bodies with 2-pole contact

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

(1) : NC contact with positive opening operation.

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

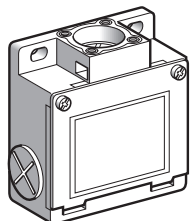
(3) Pg 13.5 cable gland included with switch.

Limit switches

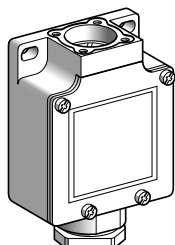
XC Standard range, Classic format

Metal, XCKM and XCKL

Adaptable sub-assemblies



ZCKMD3●



ZCKLD3●

Bodies with 3-pole contact

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

(1) : NC contact with positive opening operation.

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

(3) Pg 13.5 cable gland included with switch.

Limit switches

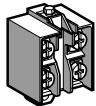
XC Standard range, Classic format

Metal, XCKM and XCKL

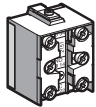
Adaptable sub-assemblies



XE2SP21●1



XE2NP21●1



XE3●P21●●



XCKZ09

Contact blocks

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

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

Accessory for limit switches XCKM

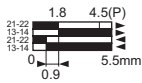
Description	Sold in lots of	Unit reference	Weight kg
Tap-off terminal for cabling continuity	1	XCKZ09	0.010

Other versions

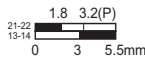
Gold flashed contacts.
Please consult our Customer Care Centre.

Heads ZCKD10, D109 with body

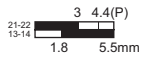
ZCKM1, L1



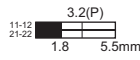
ZCKM5, L5



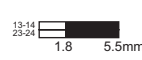
ZCKM6, L6



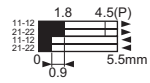
ZCKM7, L7



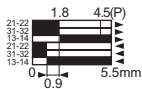
ZCKM8, L8



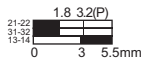
ZCKM9



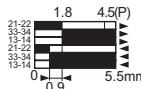
ZCKMD39, LD39



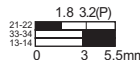
ZCKMD37, LD37



ZCKMD31, LD31

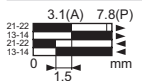


ZCKMD35, LD35

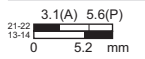


Heads ZCKD02, D029 with body

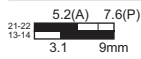
ZCKM1, L1



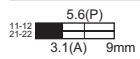
ZCKM5, L5



ZCKM6, L6



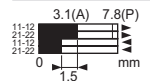
ZCKM7, L7



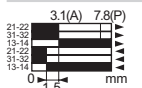
ZCKM8, L8



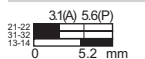
ZCKM9



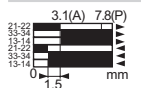
ZCKMD39, LD39



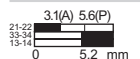
ZCKMD37, LD37



ZCKMD31, LD31

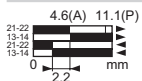


ZCKMD35, LD35

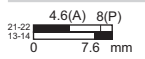


Heads ZCKD21, D23, D219, D239 with body

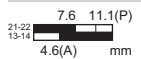
ZCKM1, L1



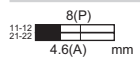
ZCKM5, L5



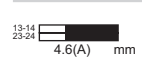
ZCKM6, L6



ZCKM7, L7



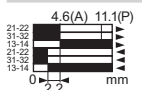
ZCKM8, L8



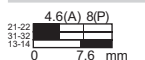
ZCKM9



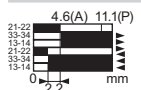
ZCKMD39, LD39



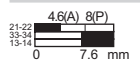
ZCKMD37, LD37



ZCKMD31, LD31

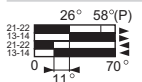


ZCKMD35, LD35

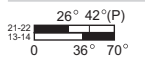


Heads ZCKD15, D16, D17 with body

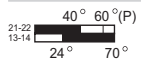
ZCKM1, L1



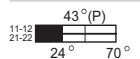
ZCKM5, L5



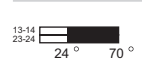
ZCKM6, L6



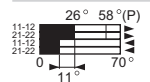
ZCKM7, L7



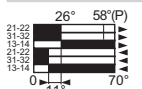
ZCKM8, L8



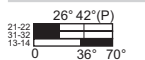
ZCKM9



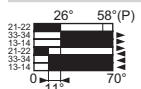
ZCKMD39, LD39



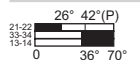
ZCKMD37, LD37



ZCKMD31, LD31

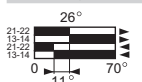


ZCKMD35, LD35

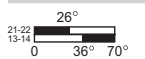


Heads ZCKD41, D59, D81, D91 with body

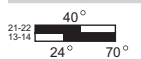
ZCKM1, L1



ZCKM5, L5



ZCKM6, L6



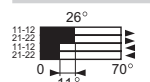
ZCKM7, L7



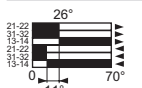
ZCKM8, L8



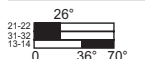
ZCKM9



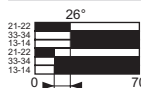
ZCKMD39, LD39



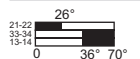
ZCKMD37, LD37



ZCKMD31, LD31

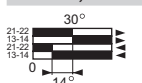


ZCKMD35, LD35

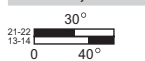


Heads ZCKD06, D08 with body

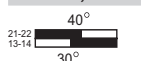
ZCKM1, L1



ZCKM5, L5



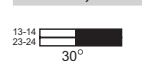
ZCKM6, L6



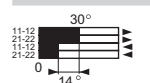
ZCKM7, L7



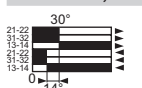
ZCKM8, L8



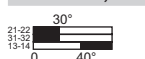
ZCKM9



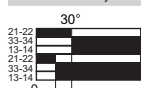
ZCKMD39, LD39



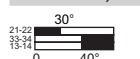
ZCKMD37, LD37



ZCKMD31, LD31



ZCKMD35, LD35



Contact operation

■ closed
□ open

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

Limit switches

XC Standard range, Classic format

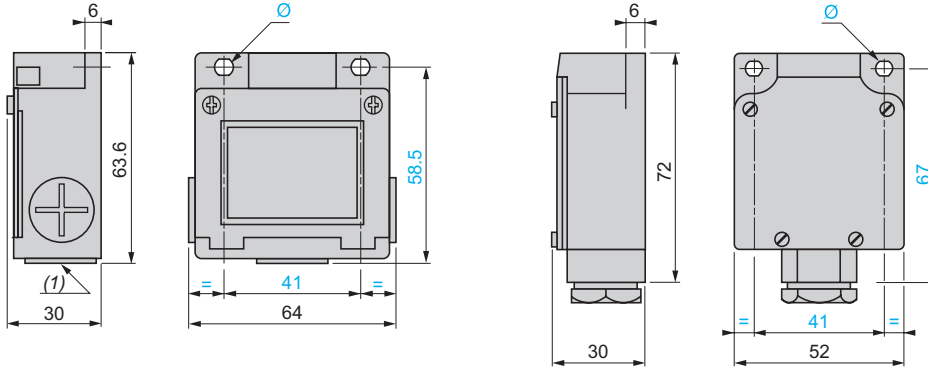
Metal, XCKM and XCKL

Adaptable sub-assemblies

Bodies with contacts

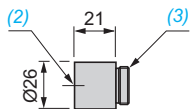
ZCKM1, M5, M6, M7, M8, M9, MD3●, MD3H●29, MD3●H7
ZCKM1H29, M5H29, M6H29, M7H29, M8H29, M9H29
ZCKM1H7, M5H7, M6H7, M7H7, M8H7

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



Adaptor for 1/2" NPT conduit

DE9RA1012



(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland.

Ø: 2 elongated holes Ø 5.2 x 6.2

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

(3) Pg 11 threaded sleeve.

Limit switches

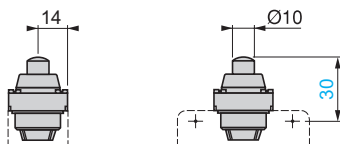
XC Standard range, Classic format

Metal, XCKM and XCKL

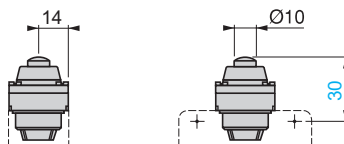
Adaptable sub-assemblies

Plunger heads

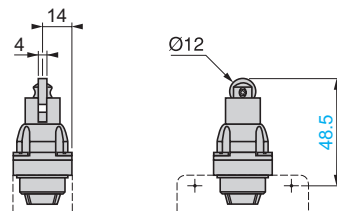
ZCKD10



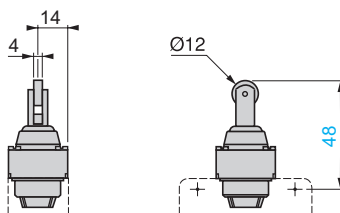
ZCKD109



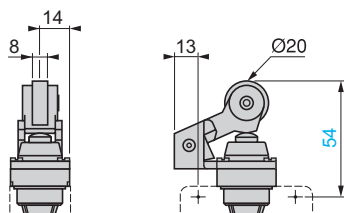
ZCKD02



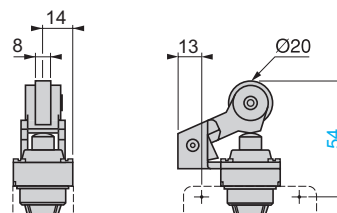
ZCKD029



ZCKD21, ZCKD23

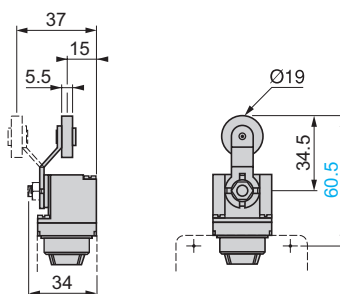


ZCKD219, ZCKD239

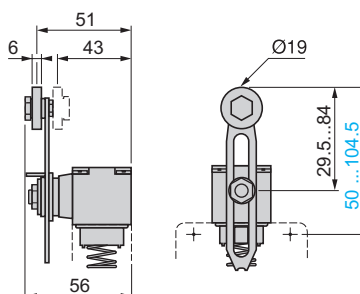


Rotary heads

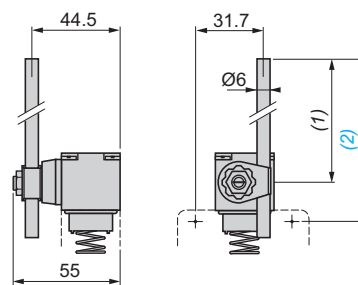
ZCKD15, ZCKD16, ZCKD17



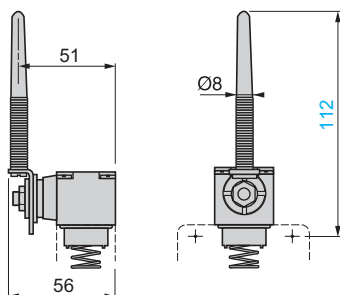
ZCKD41



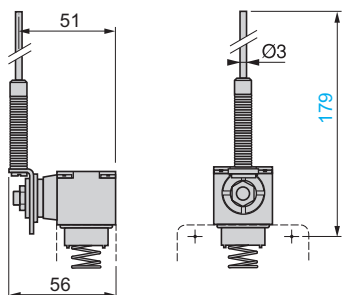
ZCKD59



ZCKD81

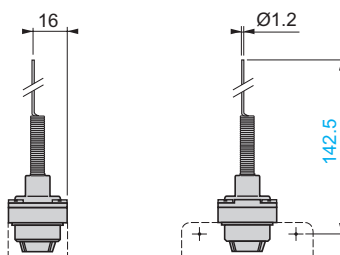


ZCKD91

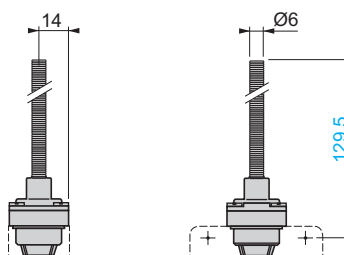


Multi-directional heads

ZCKD06



ZCKD08



(1) 190 max.

(2) 215.5 max.

Note: operating lever spindle threaded M6.

Limit switches

XC Standard range, format EN 50041

Plastic, double insulated, XCKS

Complete switch

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

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

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



Variable composition switch

with 2, 3 or 4 contacts and 1 cable entry

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

□ ZCKD: complete head with linear or rotary actuator

□ ZCKS: bodies with 2, 3 or 4 contacts



Environment characteristics

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

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●●	~ AC-15 ; A300 (Ue = 240 V, Ie = 3 A) ; Ithe = 10 A
	XE2●P●, XESP●	--- 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●●	Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-5-1
	XE2●P●, XESP●	
	XE3●P●	Ui = 300 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	XCKS1●●, XCKS5●●	U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664
	XE2●P●, XESP●	
	XE3●P●	U imp = 4 kV conforming to EN/IEC 60947-1, IEC 60664
Short-circuit protection	XCKS1●●, XCKS5●●	10 A cartridge fuse type gG (gl)
	XE2●P●, XESP●	
	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●●	Clamping capacity, min: 1 x 0.34 mm ² / AWG 22, max: 2 x 1.5 mm ² / AWG 16
	XE2SP21●1	Clamping capacity, min: 1 x 0.5 mm ² / AWG 20, max: 2 x 2.5 mm ² / AWG 14
	XE2NP21●1	Clamping capacity, min: 1 x 0.75 mm ² / AWG 20, max: 2 x 1.5 mm ² / AWG 16
	XESP●	Clamping capacity, min: 1 x 0.34 mm ² / AWG 22, max: 1 x 1 mm ² / AWG 18 or 2 x 0.75 mm ² / 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	XE2NP21●1	XESP3021																								
AC supply 50/60 Hz ~ mm inductive circuit																											
DC supply ---	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>10</td><td>7</td><td>4</td></tr> </table>	Voltage V	24	48	120	mm W	10	7	4	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>13</td><td>9</td><td>7</td></tr> </table>	Voltage V	24	48	120	mm W	13	9	7	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>10</td><td>7</td><td>4</td></tr> </table>	Voltage V	24	48	120	mm W	10	7	4
Voltage V	24	48	120																								
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mm W	10	7	4																								
	For XE2S P●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.																										
	XE3SP●●●	XE3NP●●●																									
AC supply 50/60 Hz ~ mm inductive circuit																											
DC supply ---	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>3</td><td>2</td><td>1</td></tr> </table>	Voltage V	24	48	120	mm W	3	2	1	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>4</td><td>3</td><td>2</td></tr> </table>	Voltage V	24	48	120	mm W	4	3	2									
Voltage V	24	48	120																								
mm W	3	2	1																								
Voltage V	24	48	120																								
mm 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)
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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
	XCKS501H29	XCKS502H29	XCKS531H29 (thermoplastic) XCKS533H29 (steel)	XCKS539H29	XCKS541H29 (thermoplastic) XCKS543H29 (steel)	XCKS549H29	XCKS559H29
Weight (kg)	0.125	0.135	0.160	0.175	0.165	0.180	0.170
Contact operation			(A) = cam displacement (P) = positive opening point		⊕ NC contact with positive opening operation		

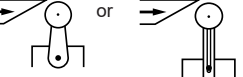
References of complete switches with 1 Pg 13.5 cable entry

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

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

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

Characteristics

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

(1) Form conforming to EN 50041, see page 25.

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

(3) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

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

Limit switches

XC Standard range, format EN 50041

Plastic, double insulated, XCKS

Variable composition switches with 1 cable entry

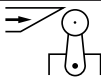
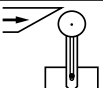


Note: ZCKD heads can only be used with ZCKS bodies.

References of variable composition switches (ZCKS bodies and ZCKD heads) with 1 ISO M20 x 1.5 cable entry (3)							
Form conforming to EN 50041 (1)	B	C	A	A	A	A	D
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Elastomer roller lever, Ø 50 mm (2)	Variable length thermoplastic roller lever (2)	Variable length elastomer roller lever, Ø 50 mm (2)	Round thermoplastic rod lever, Ø 6 mm (4) (5)
Positive operation				—		—	—
2-pole NC + NC snap action (XE2SP2141)	ZCKS9H29 + ZCKD01 	ZCKS9H29 + ZCKD02 	ZCKS9H29 + ZCKD31 	ZCKS9H29 + ZCKD39 	ZCKS9H29 + ZCKD41 	ZCKS9H29 + ZCKD49 	ZCKS9H29 + ZCKD59
2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCKS7H29 + ZCKD01 	ZCKS7H29 + ZCKD02 	ZCKS7H29 + ZCKD31 	ZCKS7H29 + ZCKD39 	ZCKS7H29 + ZCKD41 	ZCKS7H29 + ZCKD49 	ZCKS7H29 + ZCKD59
3-pole NC + NC + NO snap action (XE3SP2141)	ZCKSD39H29 + ZCKD01 	ZCKSD39H29 + ZCKD02 	ZCKSD39H29 + ZCKD31 	ZCKSD39H29 + ZCKD39 	ZCKSD39H29 + ZCKD41 	ZCKSD39H29 + ZCKD49 	ZCKSD39H29 + ZCKD59
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	ZCKSD37H29 + ZCKD01 	ZCKSD37H29 + ZCKD02 	ZCKSD37H29 + ZCKD31 	ZCKSD37H29 + ZCKD39 	ZCKSD37H29 + ZCKD41 	ZCKSD37H29 + ZCKD49 	ZCKSD37H29 + ZCKD59
Weight (kg)	0.095	0.105	0.145	0.150	0.155	0.155	0.150
Contact operation	closed open		(A) = cam displacement (P) = positive opening point		NC contact with positive opening operation		

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

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

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

(1) Form conforming to EN 50041, see page 25.

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

(3) Switches with gold contacts or eyelet type connections: please consult our Customer Care Centre.

(4) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

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

(6) Limited to 15 million operating cycles for switches with contacts XE3•P.

Limit switches

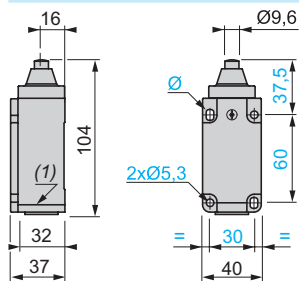
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

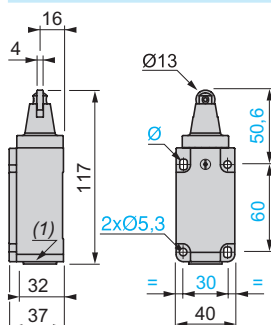
Complete switches with 1 cable entry

Dimensions

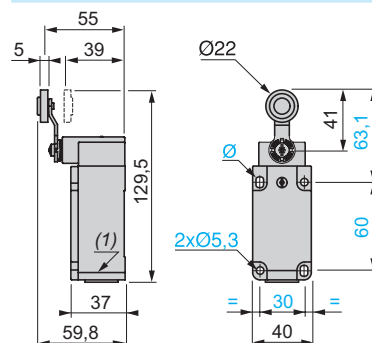
XCKS●01●●



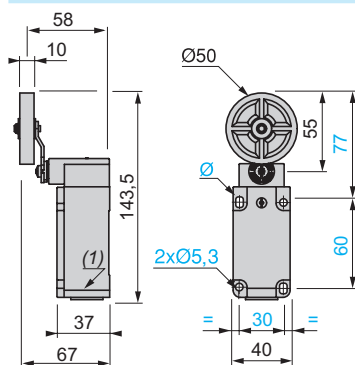
XCKS●02●●



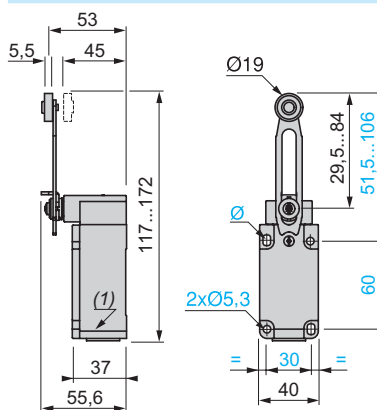
XCKS●31●● / XCKS●33●●



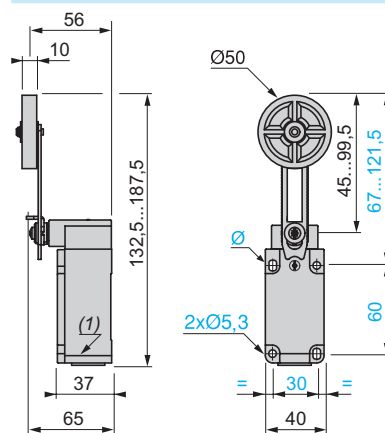
XCKS●39●●



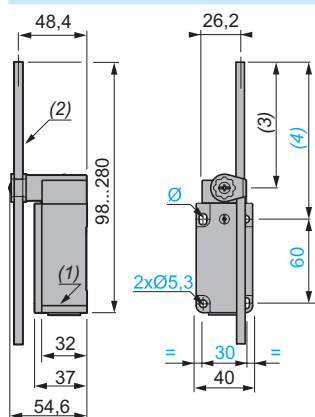
XCKS●41●● / XCKS●43●●



XCKS●49●●



XCKS●59●●



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.

(2) Ø 6 rode, lenght 200 mm.

(3) 190 max.

(4) 212 max.

Ø : 2 elongated holes 5.3 x 7.3 mm.

Limit switches

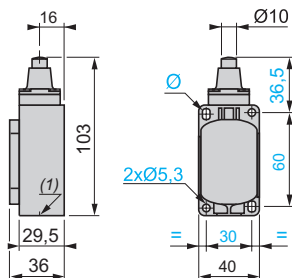
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

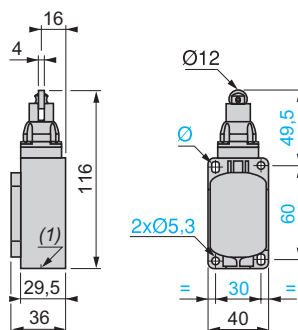
Variable composition switches with 1 cable entry

Dimensions

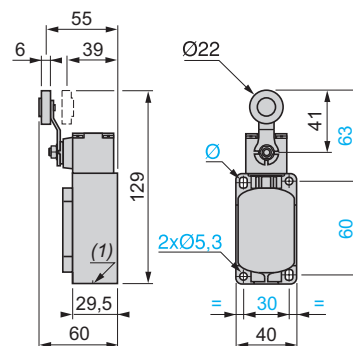
ZCKS● + ZCKD01



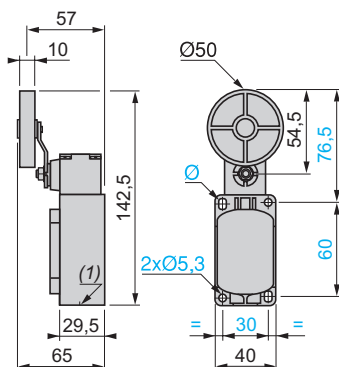
ZCKS● + ZCKD02



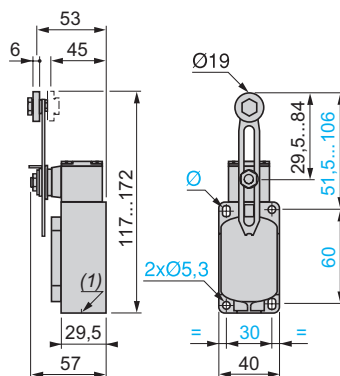
ZCKS● + ZCKD31



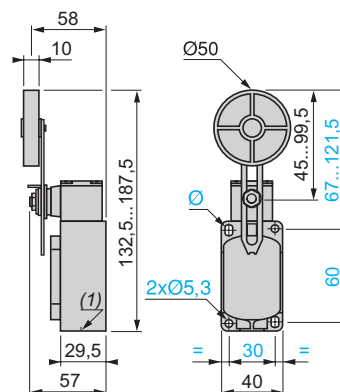
ZCKS● + ZCKD39



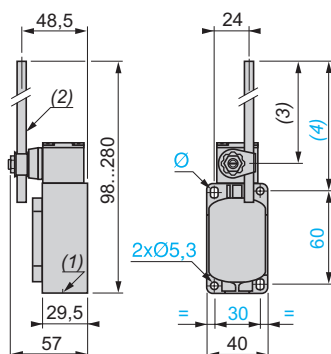
ZCKS● + ZCKD41



ZCKS● + ZCKD49



ZCKS● + ZCKD59



(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 or 1/2" NPT cable gland.

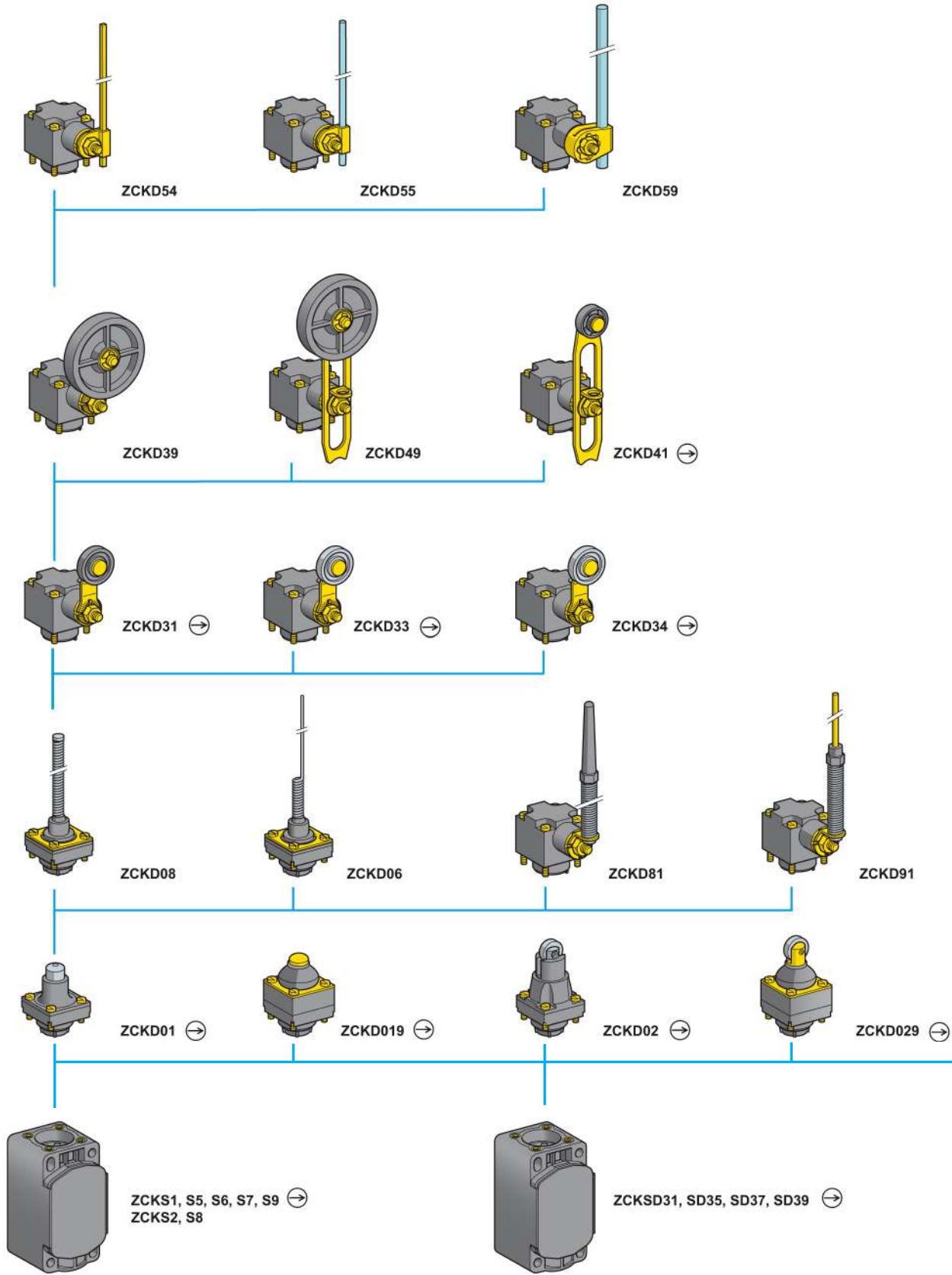
(2) Ø 6 rode, lenght 200 mm.

(3) 190 max.

(4) 212 max.

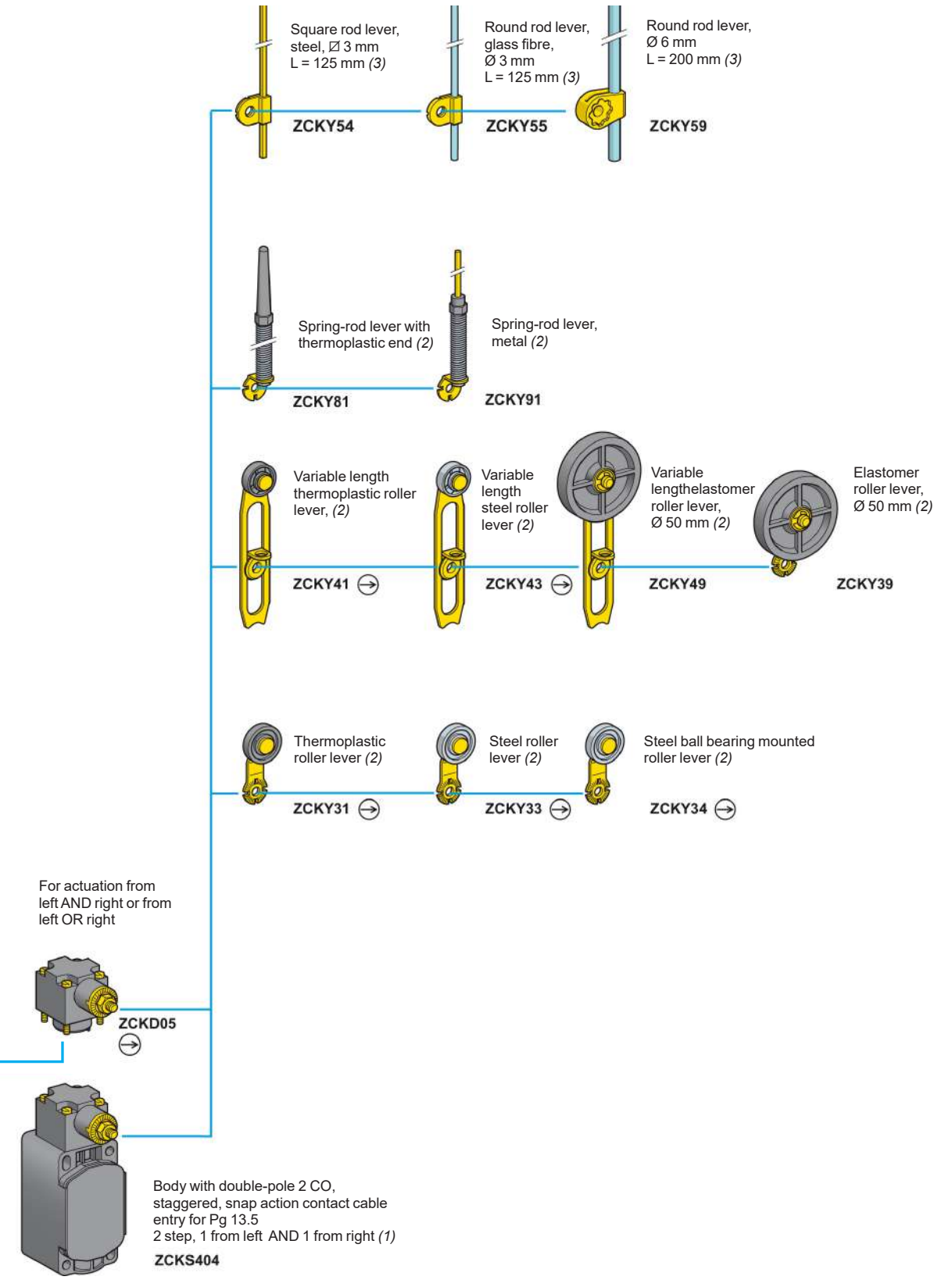
Ø : 2 elongated holes 5.3 x 7.3 mm.

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



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

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



For actuation from
left AND right or from
left OR right

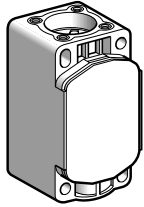
Body with double-pole 2 CO,
staggered, snap action contact cable
entry for Pg 13.5
2 step, 1 from left AND 1 from right (1)
ZCKS404

Limit switches

XC Standard range, format EN 50041

Plastic, double insulated, XCKS

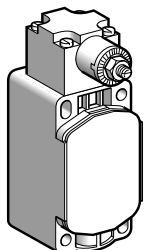
Variable composition switches



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
	NC + NC + NO break before make, slow break (XE3NP2141)			Pg 13.5	ZCKSD37	0.080
				ISO M20 x 1.5	ZCKSD37H29	0.080
	NC + NO + NO break before make, slow break (XE3NP2151)			Pg 13.5	ZCKSD35	0.080
				ISO M20 x 1.5	ZCKSD35H29	0.080

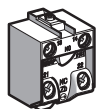
(1) : NC contact with positive opening operation or head assuring positive opening operation.

Limit switches

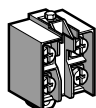
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

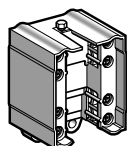
Variable composition switches



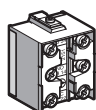
XE2SP21●1



XE2NP21●1



XESP3021



XE3●P21●●



DE9RA●●12

Contact blocks for ZCKS●● bodies

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

Accessories for ZCKS●● and XCKS●●

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

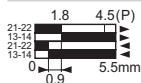
(1) ⊖ : NC contact with positive opening operation or sub-assembly assuring positive opening operation.

Other versions

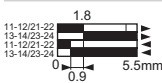
Gold flashed contacts.
Please consult our Customer Care Centre.

Heads ZCKD01, D109 with body

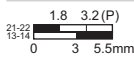
ZCKS1



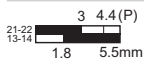
ZCKS2



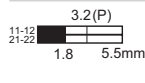
ZCKS5



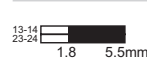
ZCKS6



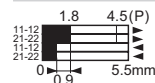
ZCKS7



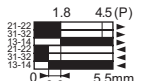
ZCKS8



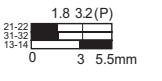
ZCKS9



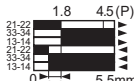
ZCKSD39



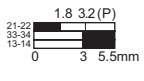
ZCKSD37



ZCKSD31

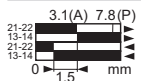


ZCKSD35

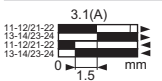


Heads ZCKD02, D029 with body

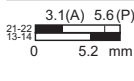
ZCKS1



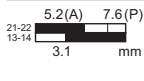
ZCKS2



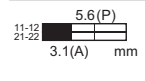
ZCKS5



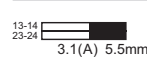
ZCKS6



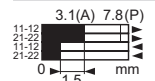
ZCKS7



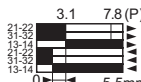
ZCKS8



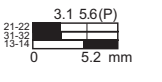
ZCKS9



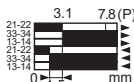
ZCKSD39



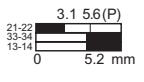
ZCKSD37



ZCKSD31

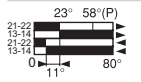


ZCKSD35

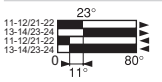


Heads ZCKD31, D33, D34 with body

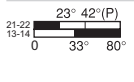
ZCKS1



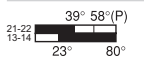
ZCKS2



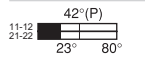
ZCKS5



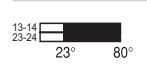
ZCKS6



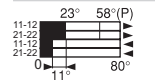
ZCKS7



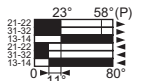
ZCKS8



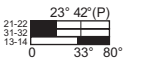
ZCKS9



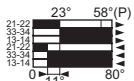
ZCKSD39



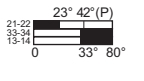
ZCKSD37



ZCKSD31

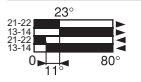


ZCKSD35

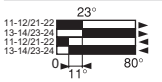


Heads ZCKD39, D41, D49, D54, D55, D59, D81, D91 with body

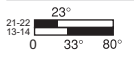
ZCKS1



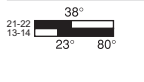
ZCKS2



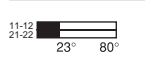
ZCKS5



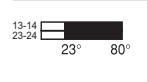
ZCKS6



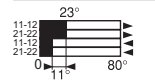
ZCKS7



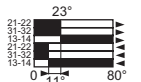
ZCKS8



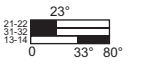
ZCKS9



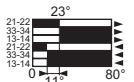
ZCKSD39



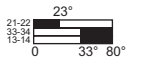
ZCKSD37



ZCKSD31

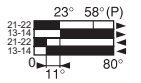


ZCKSD35

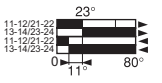


Heads ZCKD05 (positive operation only assured with a ⊖ operating lever) with body

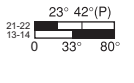
ZCKS1



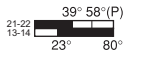
ZCKS2



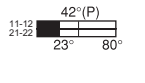
ZCKS5



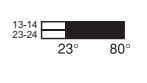
ZCKS6



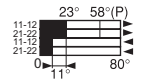
ZCKS7



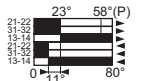
ZCKS8



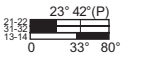
ZCKS9



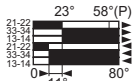
ZCKSD39



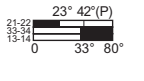
ZCKSD37



ZCKSD31

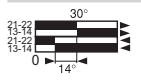


ZCKSD35

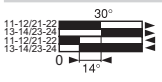


Heads ZCKD06, D08 with body

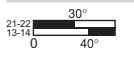
ZCKS1



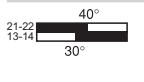
ZCKS2



ZCKS5



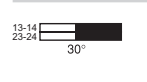
ZCKS6



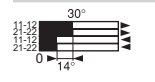
ZCKS7



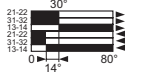
ZCKS8



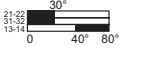
ZCKS9



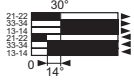
ZCKSD39



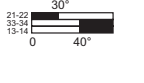
ZCKSD37



ZCKSD31

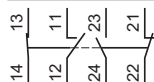


ZCKSD35

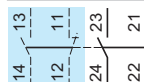


ZCKS404 (body with head)

Unactuated



Actuated from left



Actuated from right



Contact operation

■ closed

□ open

(A) = cam displacement

(P) = positive opening point

Limit switches

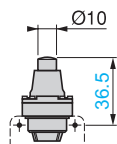
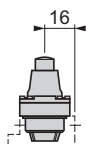
XC Standard range, format EN 50041

Plastic, double insulated, XCKS

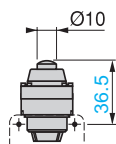
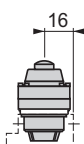
Variable composition switches

Plunger heads

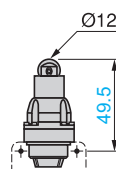
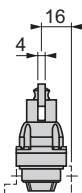
ZCKD01



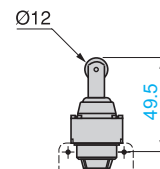
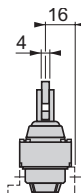
ZCKD019



ZCKD02

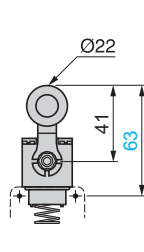
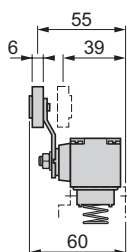


ZCKD029

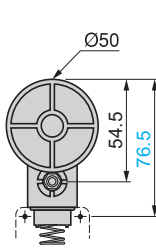
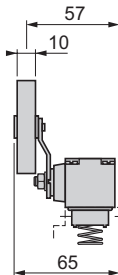


Rotary heads

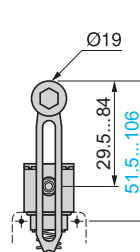
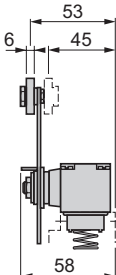
ZCKD31, ZCKD33, ZCKD34



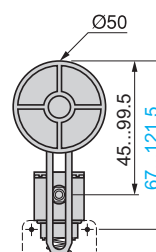
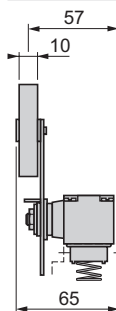
ZCKD39



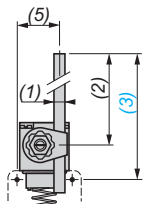
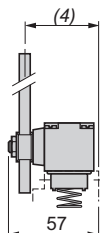
ZCKD41



ZCKD49

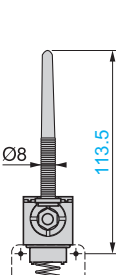
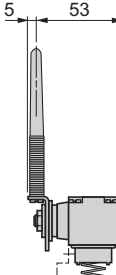


ZCKD54, ZCKD55, ZCKD59

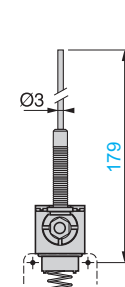
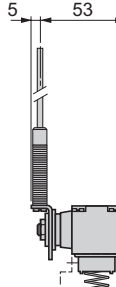


ZCK	(1) rod	(2)	(3)	(4)	(5)
D54	Ø 3, L = 125	115 max.	137 max.	49	24
D55	Ø 3, L = 125	115 max.	137 max.	49	24
D59	Ø 6, L = 200	190 max.	212 max.	46.5	26.2

ZCKD81



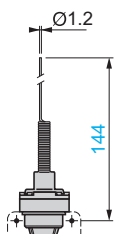
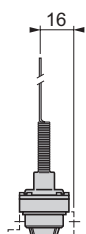
ZCKD91



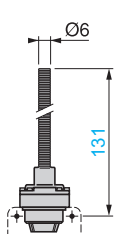
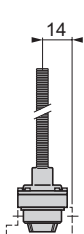
Note: operating lever spindle threaded M6.

Multi-directional heads

ZCKD06



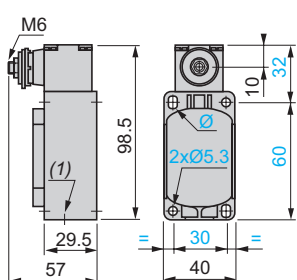
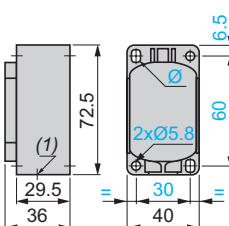
ZCKD08



Bodies with contacts

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

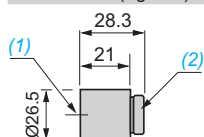
ZCKS404, S404H29



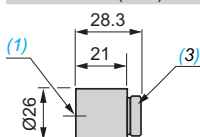
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland.
Ø: 2 elongated holes 5.3 x 7.3.

Adaptators for 1/2" NPT conduit

DE9RA1212 (Pg 13.5)



DE9RA2012 (M20)



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

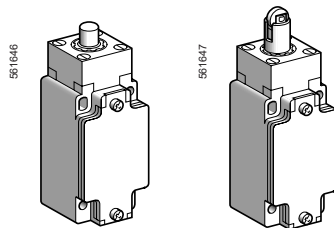
Limit switches

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

■ XCKJ

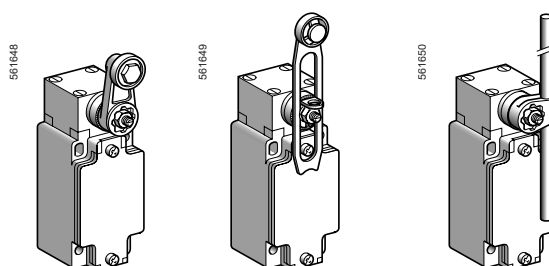
fixed body with 1 cable entry

□ With head for linear movement (plunger)



Page 150

□ With head for rotary movement (lever)

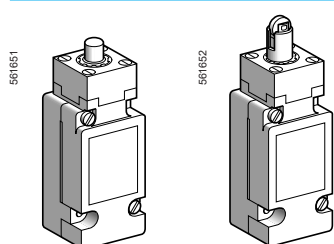


Page 150

■ XCKJ

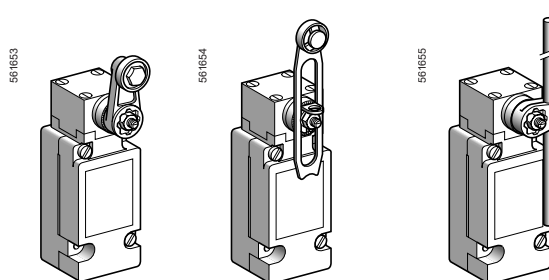
plug-in body with 1 cable entry

□ With head for linear movement (plunger)



Page 152

□ With head for rotary movement (lever)



Page 152

Environment characteristics

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

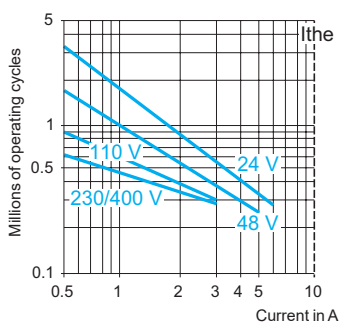
Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 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 mm ² , max: 2 x 1.5 mm ²
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XCKJ plug-in and XESP20●1	Clamping capacity, min: 1 x 0.75 mm ² , max: 2 x 1.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed		XE2NP21●1 and XE3SP: 0.01 m/minute XE2NP21●1 and XE3NP: 6 m/minute

Electrical durability

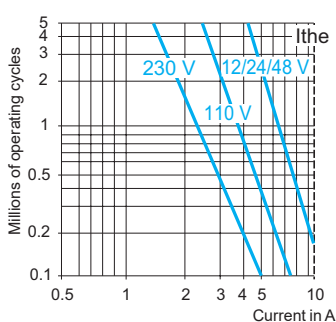
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
50/60 Hz ~
~ inductive circuit

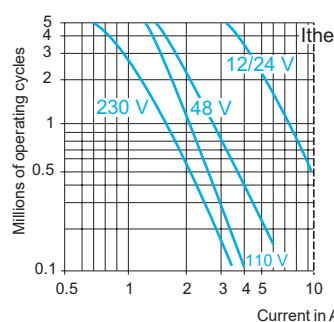
XE2SP21●1, XE2SP2141



XE2NP21●1



XCKJ plug-in, XESP20●1



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	10	7	4

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	13	9	7

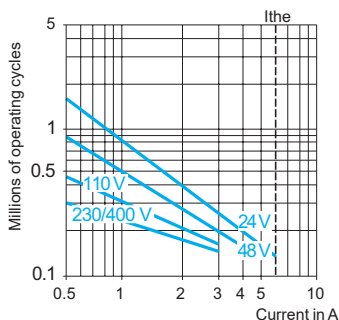
Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	10	7	4

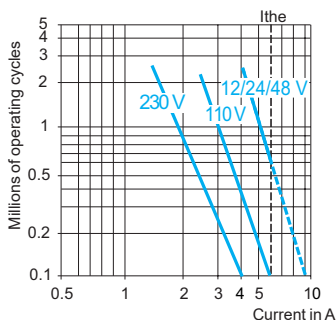
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

XE3SP●●●●

AC supply
50/60 Hz ~
~ inductive circuit



XE3NP●●●●



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	3	2	1

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	4	3	2

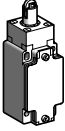
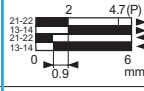
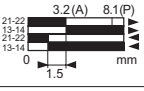
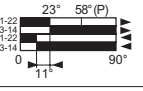
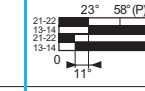
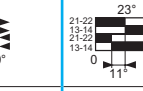
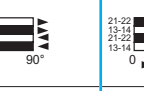
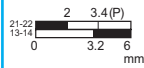
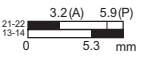
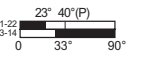
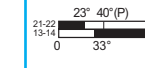
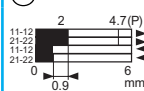
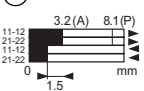
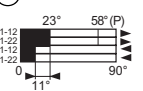
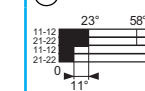
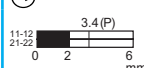
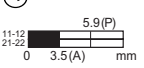
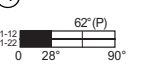
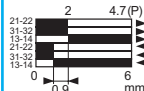
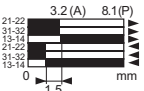
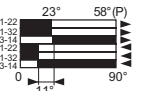
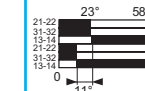
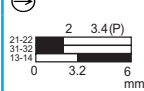
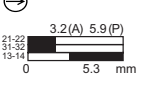
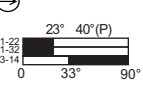
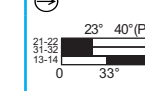
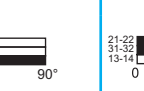
Limit switches

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
						
	2-pole NC + NO break before make, slow break (XE2NP2151)	XCKJ561H29	XCKJ567H29	XCKJ50511H29	XCKJ50513H29	XCKJ50541H29
						
	2-pole NC + NC snap action (XE2SP2141)	ZCKJ9H29 + ZCKE61	ZCKJ9H29 + ZCKE67	ZCKJ9H29 + ZCKE05 + ZCKY11	ZCKJ9H29 + ZCKE05 + ZCKY13	ZCKJ9H29 + ZCKE05 + ZCKY41
						
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCKJ7H29 + ZCKE61	ZCKJ7H29 + ZCKE67	ZCKJ7H29 + ZCKE05 + ZCKY11	ZCKJ7H29 + ZCKE05 + ZCKY13	ZCKJ7H29 + ZCKE05 + ZCKY59
						
	3-pole NC + NC + NO snap action (XE3SP2141)	ZCKJD39H29 + ZCKE61	ZCKJD39H29 + ZCKE67	ZCKJD39H29 + ZCKE05 + ZCKY11	ZCKJD39H29 + ZCKE05 + ZCKY13	ZCKJD39H29 + ZCKE05 + ZCKY41
						
	3-pole NC + NC + NO break before make, slow break (XE3NP2141)	ZCKJD37H29 + ZCKE61	ZCKJD37H29 + ZCKE67	ZCKJD37H29 + ZCKE05 + ZCKY11	ZCKJD37H29 + ZCKE05 + ZCKY13	ZCKJD37H29 + ZCKE05 + ZCKY41
						
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

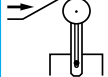
XC Standard range

Industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Complete fixed body switches with 1 cable entry

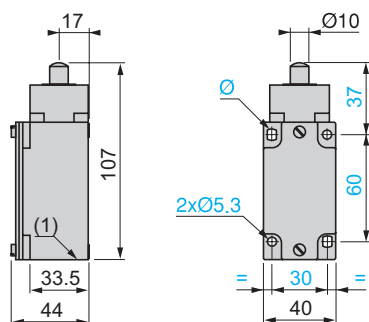
Characteristics

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 For positive opening	20 N 50 N	16 N 40 N	0.25 N.m 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			

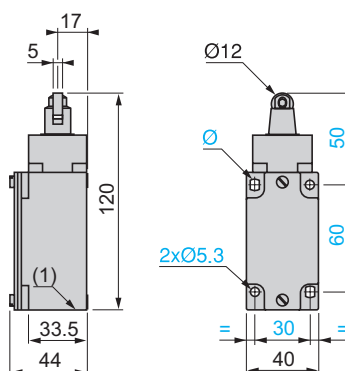
(1) Limited to 15 million operating cycles for switches with contacts XE3●P.

Dimensions

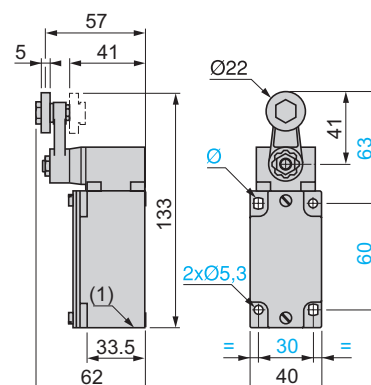
XCKJ●61H29
ZCKJ● + ZCKE61



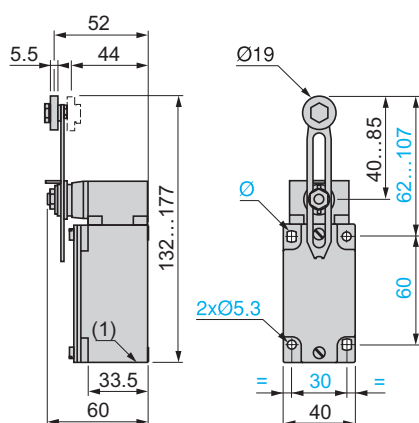
XCKJ●67H29
ZCKJ● + ZCKE67



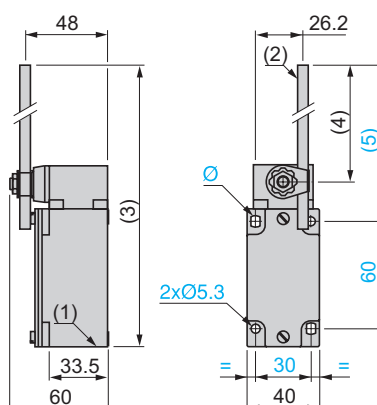
XCKJ●051●H29
ZCKJ● + ZCKE05 + ZCKY11 or Y13



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.

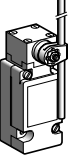
Limit switches

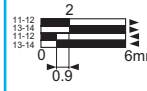
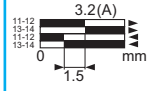
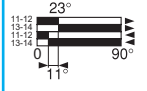
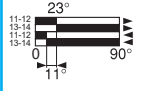
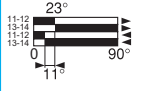
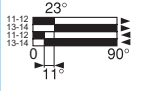
XC Standard range, industrial format EN 50041

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

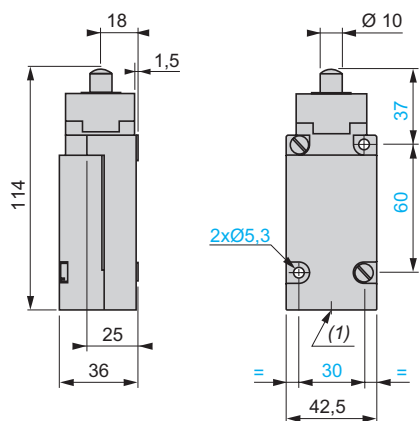
Metal, conforming to CENELEC EN 50041, XCKJ

Complete switches, plug-in body

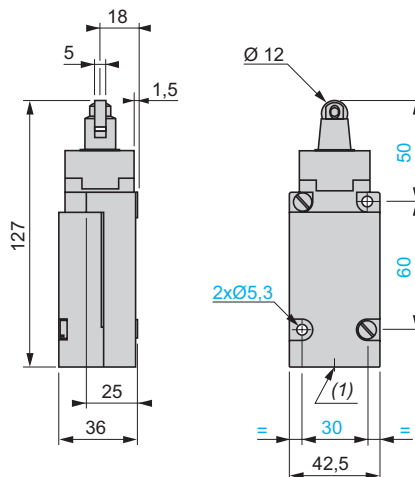
With 1 cable entry

Dimensions

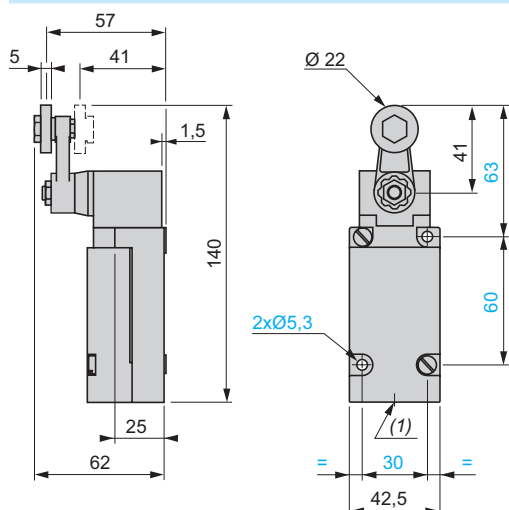
XCKJ1161H29



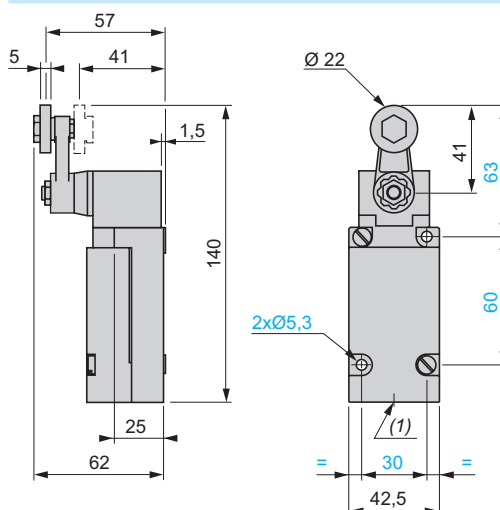
XCKJ1167H29



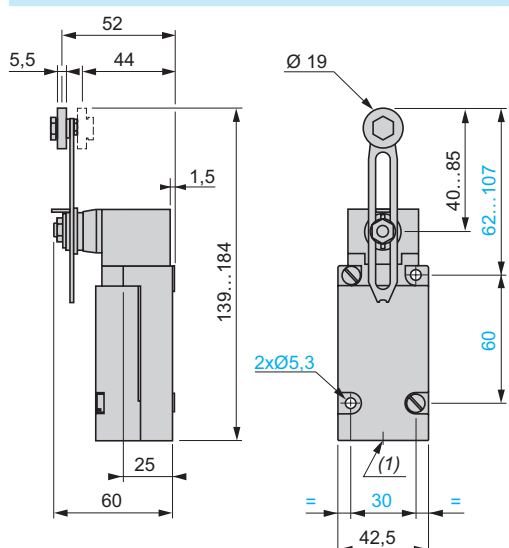
XCKJ110511H29



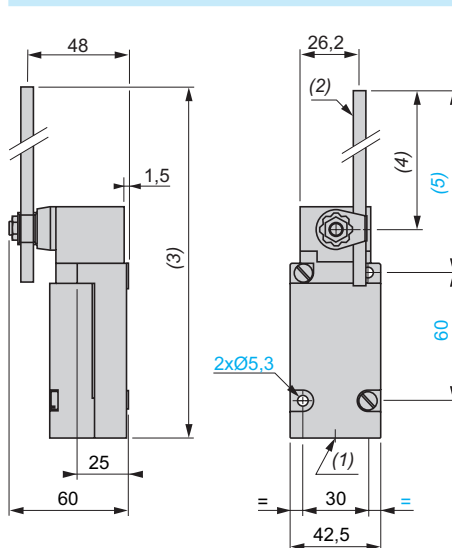
XCKJ110513H29



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.

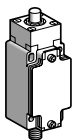
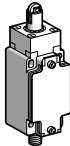
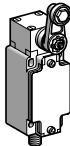
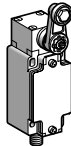
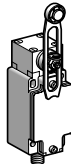
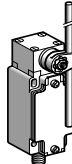
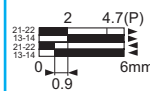
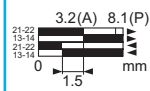
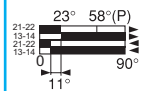
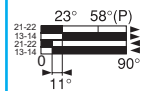
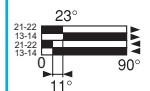
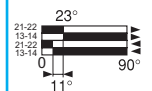
Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Complete switches, fixed body

M12 connector

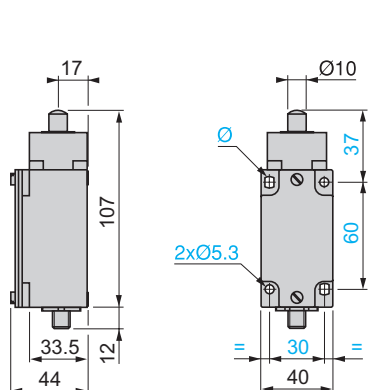
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
	Form B (1)	Form C (1)	Form A (1)		Form D (1)	
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable length thermoplastic roller lever (2)	Round thermoplastic rod lever, Ø 6 mm (2) (3)
References (4)						
 2-pole NC + NO snap action (XE2SP2151)						
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, U _i = 60 V, I _e = 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 mm ² + 1 x 0.5 mm ²)	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

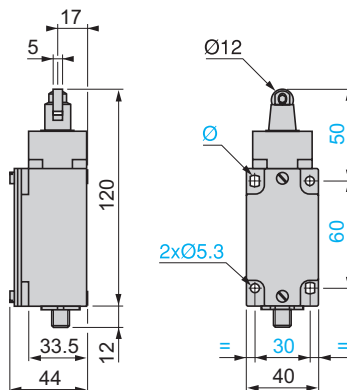
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Dimensions

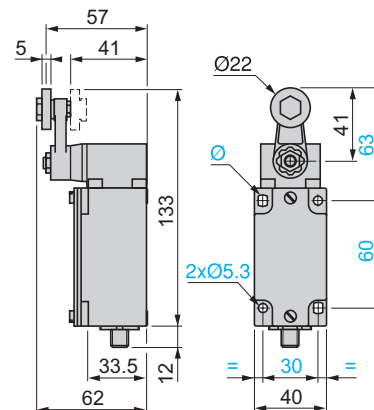
XCKJ161D



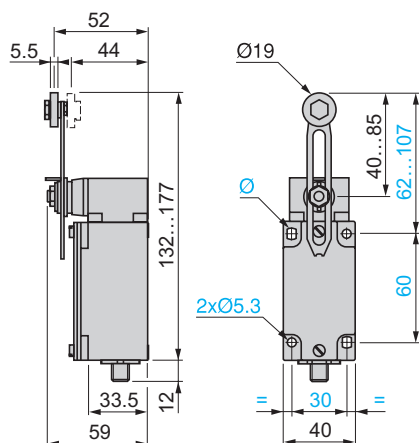
XCKJ167D



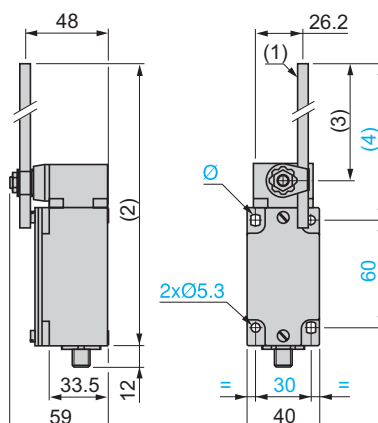
XCKJ1051D



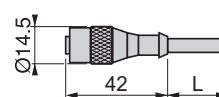
XCKJ10541D



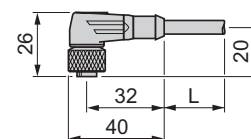
XCKJ10559D



XZCP1164L



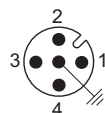
XZCP1264L



(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.

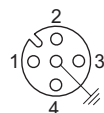
Connections

Limit switch XCKJ●●●●D



1-2 = NC
3-4 = NO
5 = $\perp$
4 A / 24 V max.

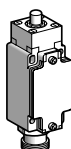
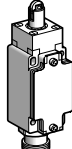
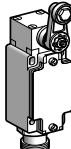
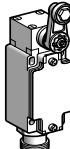
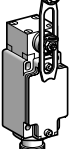
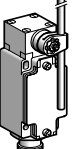
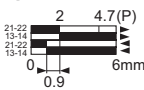
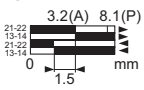
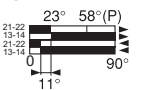
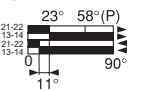
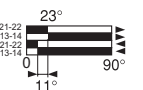
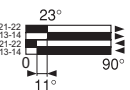
Pre-wired female connector XZCP1●64L



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

Limit switches

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

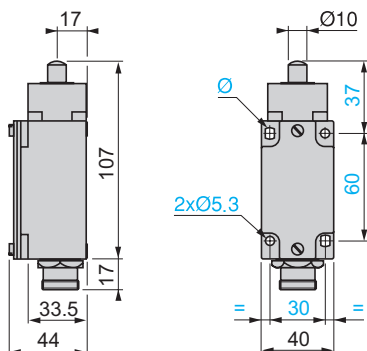
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
	Form B (1)	Form C (1)	Form A (1)		Form D (1)	
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable length thermoplastic roller lever (2)	Round thermoplastic rod lever, Ø 6 mm (2) (3)
References (4)						
 2-pole NC + NO snap action (XE2SP2151)	XCKJ161A 	XCKJ167A 	XCKJ10511A 	XCKJ10513A 	XCKJ10541A 	XCKJ10559A 
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485
Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point		⊖ NC contact with positive opening operation	
Characteristics						
Switch actuation	On end	By 30° cam			By any moving part	
Type of actuation						
Maximum actuation speed	0.5 m/s	1 m/s	1.5 m/s			
Mechanical durability (in millions of operating cycles)	30	25	30			
Minimum force or torque	For tripping	20 N	16 N	0.25 N.m		
	For positive opening	50 N	40 N	0.50 N.m	—	—
Connection	7/8"-16UN connector, Ui = 250 V; Ie = 6 A (see suitable pre-wired female connectors below).					
(1) Form conforming to EN 50041, see page 25. (2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting. (3) Value taken with actuation by moving part at 100 mm from the fixing. (4) Switches with gold contacts: please consult our Customer Care Centre.						
References of suitable pre-wired female connectors						
Type of connector	7/8"-16UN straight, 5-pin, 4 A/250 V max.					
With cable, Ø 5.9 mm (5 x 0.34 mm ²)	L = 2 m	XZCP1764L2				
	L = 5 m	XZCP1764L5				
	L = 10 m	XZCP1764L10				
Weight (kg)	L = 2 m	0.185				
	L = 5 m	0.460				
	L = 10 m	0.900				

Limit switches

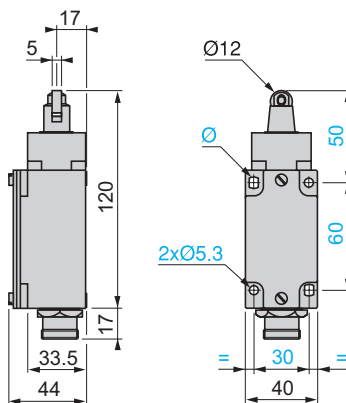
XC Standard range, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Dimensions

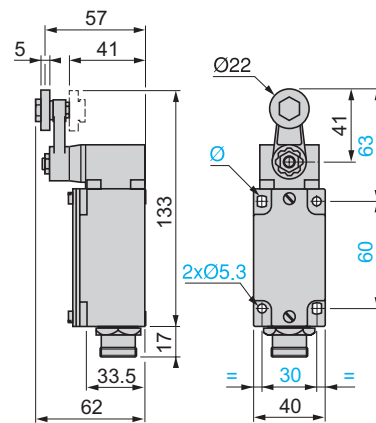
XCKJ161A



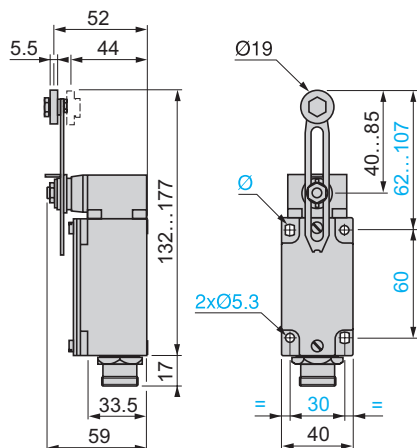
XCKJ167A



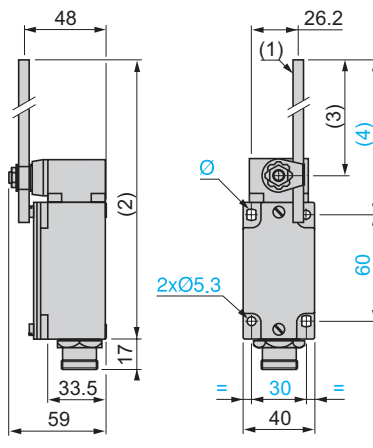
XCKJ1051●A



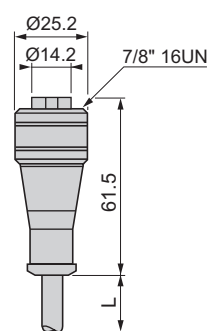
XCKJ10541A



XCKJ10559A



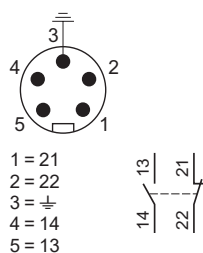
XZCP1764L●



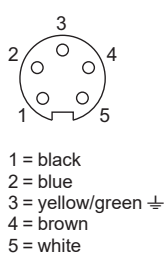
(1) Ø 6 rod, length 200 mm.
(2) 282 max.
(3) 190 max.
(4) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.
L: Cable length 2, 5 or 10 m.

Connections

Limit switch XCKJ●●●●A

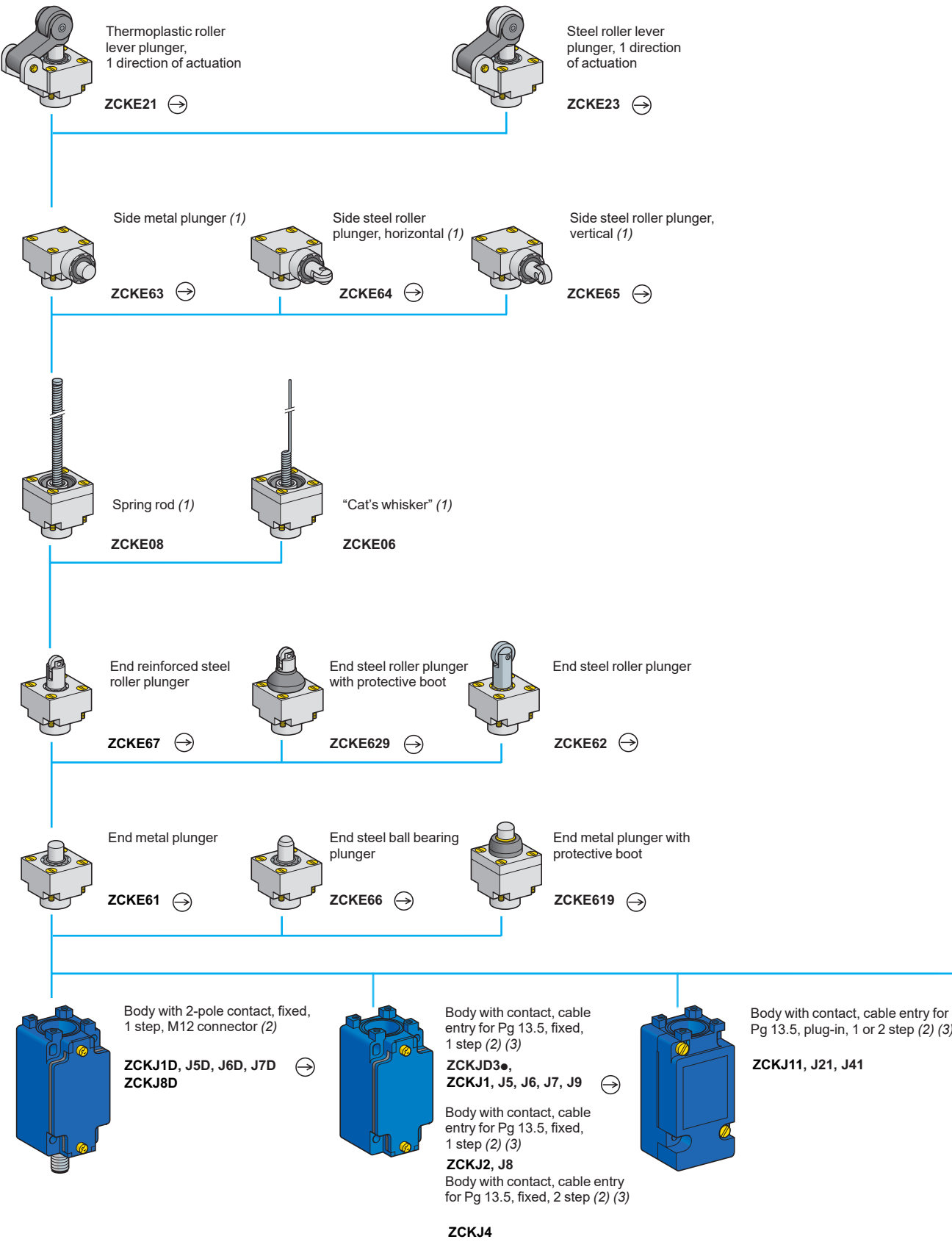


Pre-wired female connector XZCP1764L●

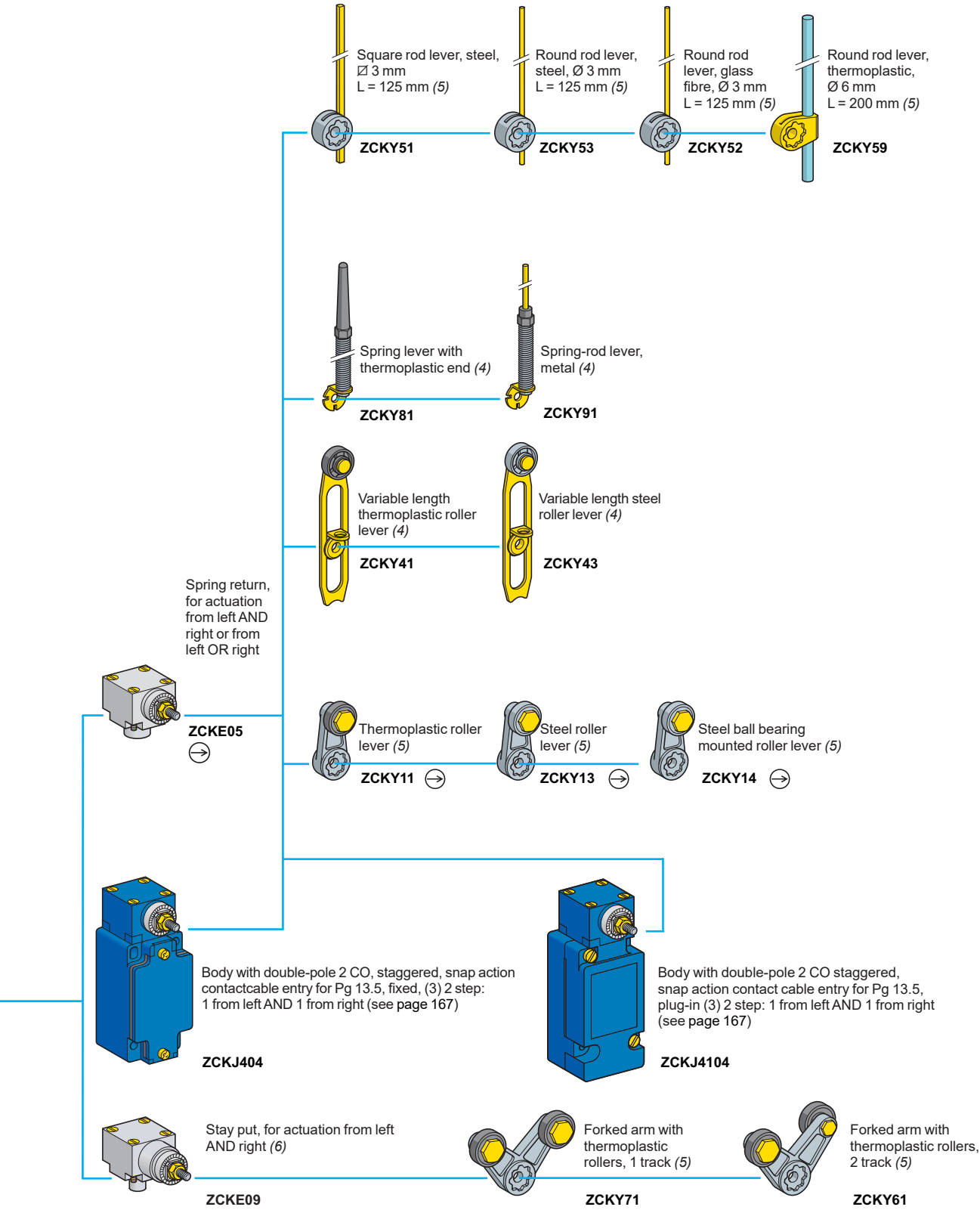


Limit switches

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



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



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

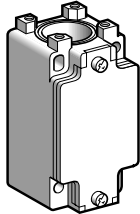
Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

Adaptable sub-assemblies: standard bodies



ZCKJ●

Fixed bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	1 NC + 1 NO snap action (XE2SP2151)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ1 ZCKJ1H29 ZCKJ1H7	0.310 0.310 0.310
	2 CO simultaneous, snap action (XESP2021)		—	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ2 ZCKJ2H29 ZCKJ2H7	0.310 0.310 0.310
	1 NC + 1 NO break before make, slow break (XE2NP2151)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ5 ZCKJ5H29 ZCKJ5H7	0.310 0.310 0.310
	1 NO + 1 NC make before break, slow break (XE2NP2161)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ6 ZCKJ6H29 ZCKJ6H7	0.310 0.310 0.310
	2 NC simultaneous, slow break (XE2NP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ7 ZCKJ7H29 ZCKJ7H7	0.310 0.310 0.310
	2 NO simultaneous, slow break (XE2NP2131)		—	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ8 ZCKJ8H29 ZCKJ8H7	0.310 0.310 0.310
	2 NC snap action (XE2SP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ9 ZCKJ9H29 ZCKJ9H7	0.310 0.310 0.310
2 step	2 CO staggered snap action (XESP2031)		—	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ4 ZCKJ4H29 ZCKJ4H7	0.310 0.310 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 ISO M20 x 1.5 1/2" NPT	ZCKJD31 ZCKJD31H29 ZCKJD31H7	0.310 0.310 0.310
	2 NC + 1 NO snap action (XE3SP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJD39 ZCKJD39H29 ZCKJD39H7	0.310 0.310 0.310
	2 NC + 1 NO break before make, slow break (XE3NP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJD37 ZCKJD37H29 ZCKJD37H7	0.310 0.310 0.310
	1 NC + 2 NO break before make, slow break (XE3NP2151)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJD35 ZCKJD35H29 ZCKJD35H7	0.310 0.310 0.310

(1) : NC contact with positive opening operation.

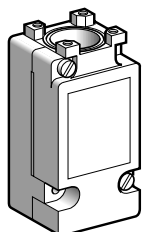
Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

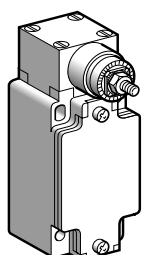
Adaptable sub-assemblies: standard bodies



ZCKJ1

Plug-in bodies with contact

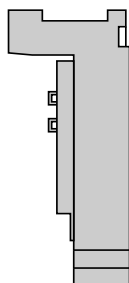
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO snap action		—	Pg 13.5	ZCKJ11	0.300
				ISO M20 x 1.5	ZCKJ11H29	0.300
				1/2" NPT	ZCKJ11H7	0.300
	Double-pole 2 CO simultaneous, snap action		—	Pg 13.5	ZCKJ21	0.300
				ISO M20 x 1.5	ZCKJ21H29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



ZCKJ404

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

Double with contact, with rotary head (without operating lever)						
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from left AND 1 from right (see page 167)	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ404	0.455
				ISO M20 x 1.5	ZCKJ404H29	0.455
				1/2" NPT	ZCKJ404H7	0.455
Plug-in body						
2 step 1 from left AND 1 from right (see page 167)	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ4104	0.465
				ISO M20 x 1.5	ZCKJ4104H29	0.465
				1/2" NPT	ZCKJ4104H7	0.465



ZCKJ0

Plug-in housing only

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

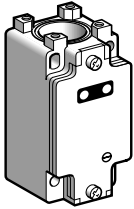
(1) : NC contact with positive opening operation.

Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body. Adaptable sub-assemblies:
bodies with indicator light module



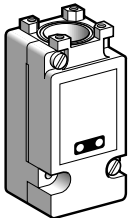
ZCKJ...

Fixed bodies with 2-pole contact

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

Plug-in bodies with single-pole contact

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



ZCKJ1...

(1) : NC contact with positive opening operation.

Indicator light module characteristics

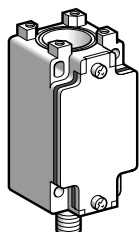
Type of indicator	1 LED or 2 LEDs	2 LEDs
Rated insulation voltage	50 V --- , conforming to IEC 60947-1	250 V $\sim$, conforming to IEC 60947-1
Current consumption	7 mA per LED	9 mA per LED
Rated operational voltage	24 V ---	110/240 V $\sim$
Voltage limits	20...30 V --- (including ripple)	95...264 V $\sim$
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



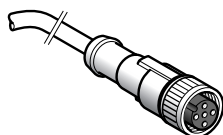
ZCKJ-D

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

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 mm ² 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



XZCP1164L

(1) NC contact with positive opening operation.

Limit switches

XC Standard range, industrial format EN 50041

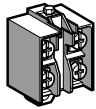
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

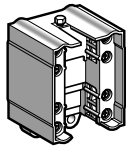
Adaptable sub-assemblies: contact blocks



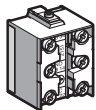
XE2SP21●1



XE2NP21●1



XE2SP21●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.

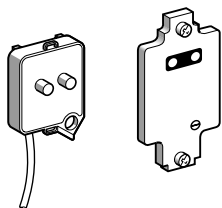
Limit switches

XC Standard range, industrial format EN 50041

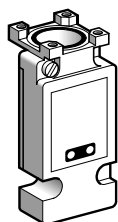
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

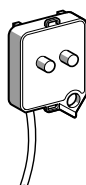
Adaptable sub-assemblies: add-ons



ZCKZ000



ZCKJ0100



ZCKJ9000



ZCKJ82A

Covers + indicator light module

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

Indicator light modules

For use with	Number and type of indicators	Voltage	Reference	Weight kg
Fixed body	1 LED	24 V ---	ZCKJ902	0.030
	2 LEDs	24 V ---	ZCKJ906	0.030
	2 LEDs	110/240 V $\sim$	ZCKJ904	0.030

Module with resistor for machine diagnostics

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

Other versions

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

Limit switches

XC Standard range, industrial format EN 50041

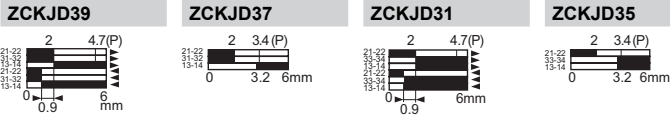
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

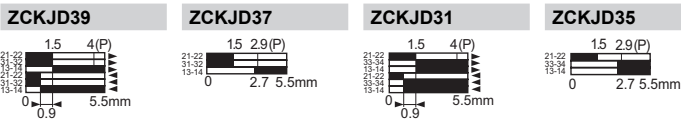
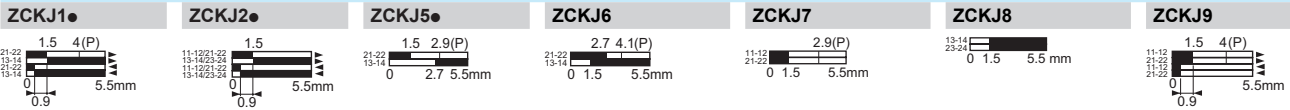
Adaptable sub-assemblies

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

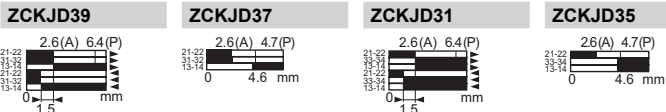
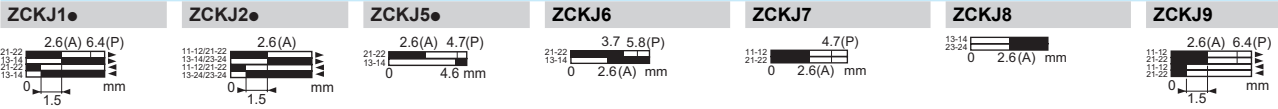
Heads ZCKE61, ZCKE619, ZCKE66 with body



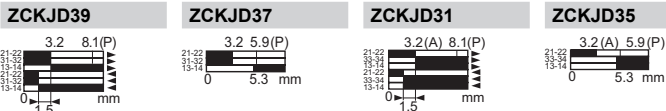
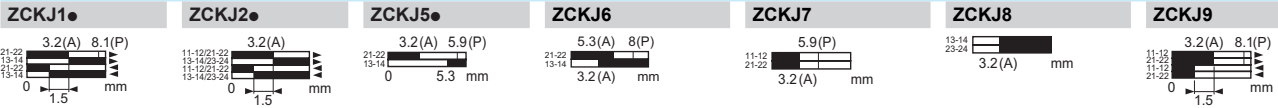
Head ZCKE63 with body



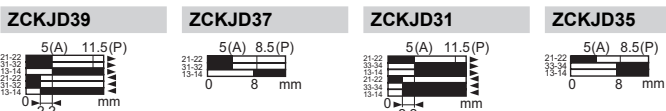
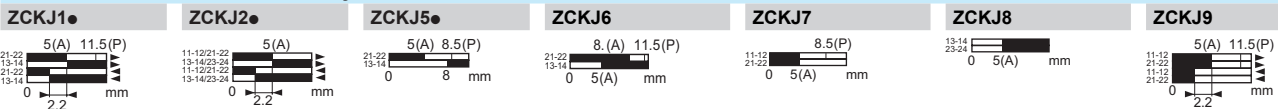
Heads ZCKE64, ZCKE65 with body



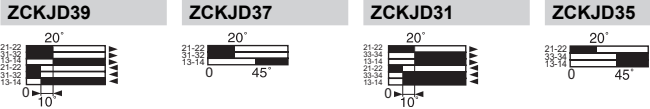
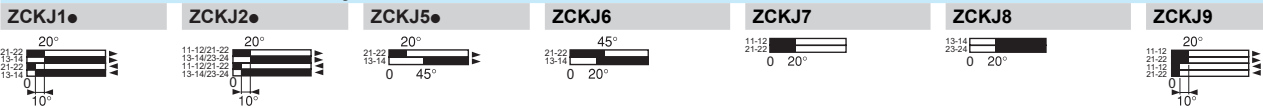
Heads ZCKE67, ZCKE629 with body



Heads ZCKE21, ZCKE23 with body



Heads ZCKE06, ZCKE08 with body



ZCKJ4●

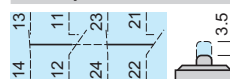
Unactuated



1st step



2nd step



Contact operation

■ closed
□ open

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

Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

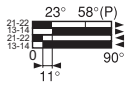
Fixed or plug-in body

Adaptable sub-assemblies

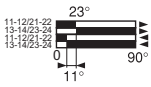
Function diagrams (positive operation assured only if the associated sub-assemblies are)

Head ZCKE05 with body

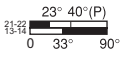
ZCKJ1●



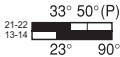
ZCKJ2●



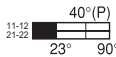
ZCKJ5●



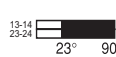
ZCKJ6



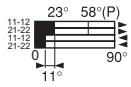
ZCKJ7



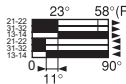
ZCKJ8



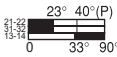
ZCKJ9



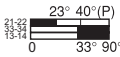
ZCKJD39



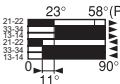
ZCKJD37



ZCKJD39

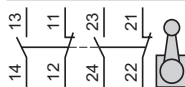


ZCKJD31

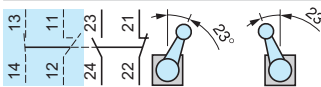


ZCKJ4●

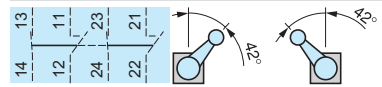
Unactuated



1st step, actuated from left or right

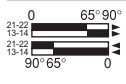


2nd step, actuated from left or right

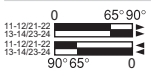


Head ZCKE09 with body

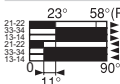
ZCKJ1●



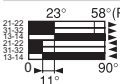
ZCKJ2●



ZCKJD31

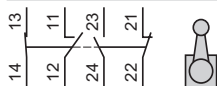


ZCKJD39

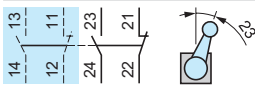


ZCKJ404, J4104 (body with head)

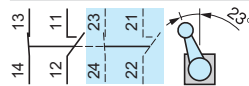
Unactuated



Actuated from left



Actuated from right



Contact operation

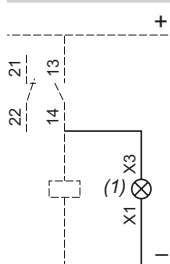
 closed
 open

(P) = positive opening point

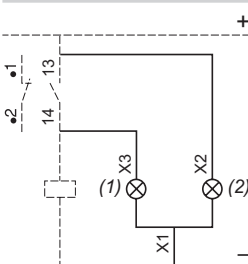
Wiring schemes

Indicator light modules

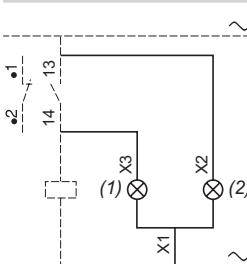
1 LED, 24 V ~



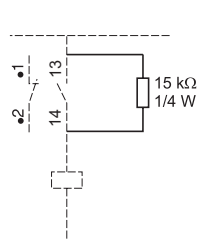
2 LEDs, 24 V ~



2 LEDs, 110/240 V ~

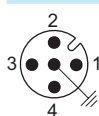


Module with resistor



(1) Orange indicator
(2) Green indicator

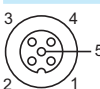
ZCKJ●D



1 - 2 = NC
3 - 4 = NO
5 = $\perp$
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

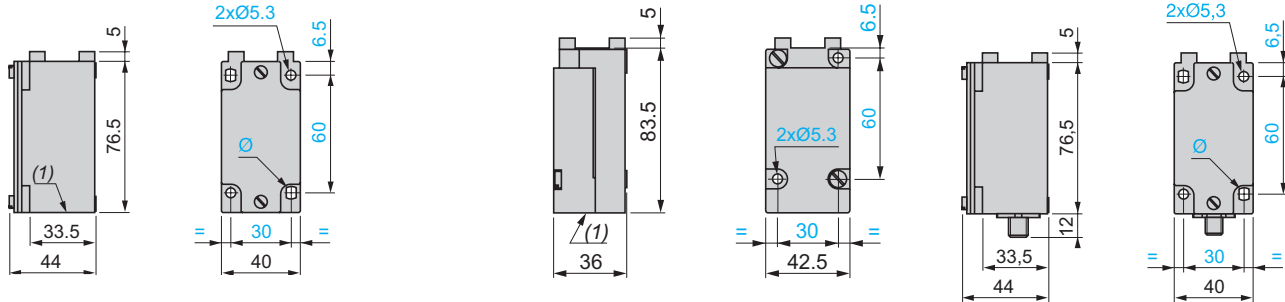
Adaptable sub-assemblies

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

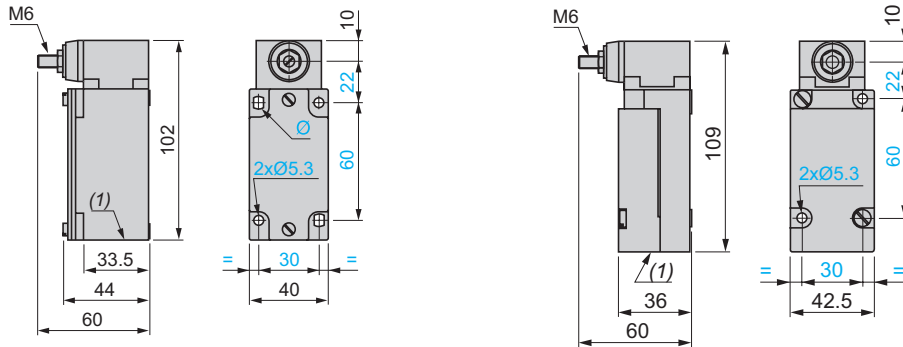
ZCKJ1D, J5D, J6D, J7D, J8D



Bodies with rotary head mounted

ZCKJ404, ZCKJ404H29, ZCKJ404H7

ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

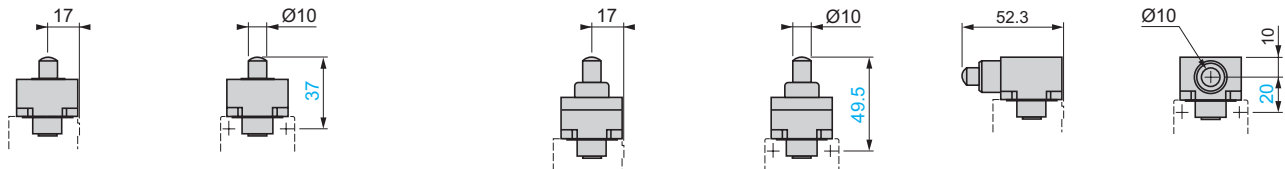


Plunger heads

ZCKE61

ZCKE619

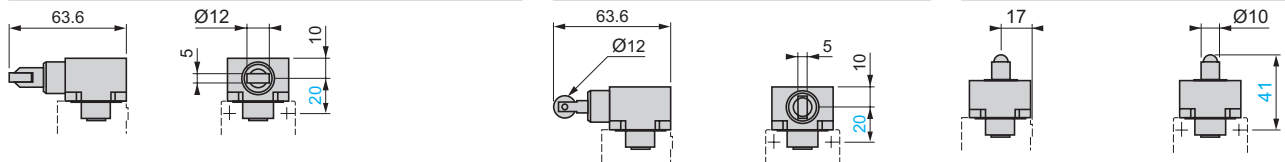
ZCKE63



ZCKE64

ZCKE65

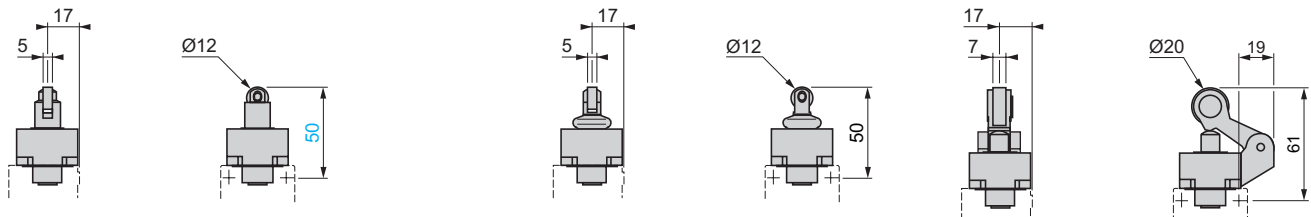
ZCKE66



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

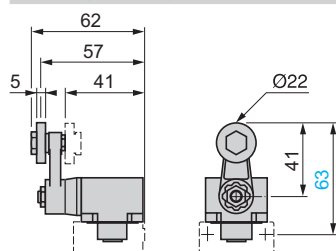
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

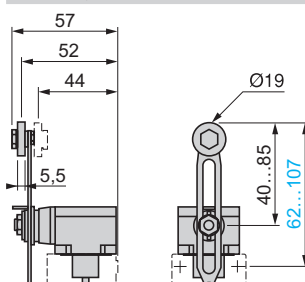
Adaptable sub-assemblies

Rotary head ZCKE05 with operating lever

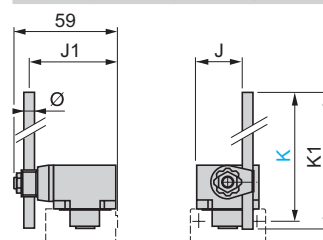
ZCKY11, ZCKY13, ZCKY14



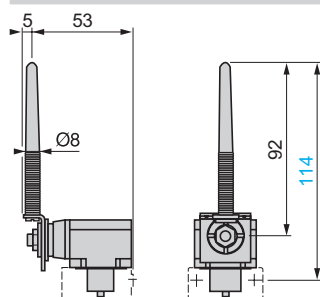
ZCKY41, ZCKY43



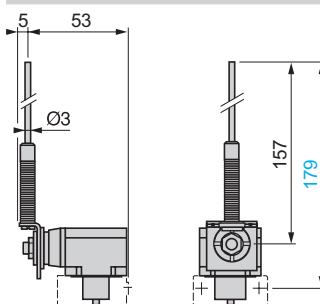
ZCKY51, ZCKY52, ZCKY53, ZCKY59



ZCKY81



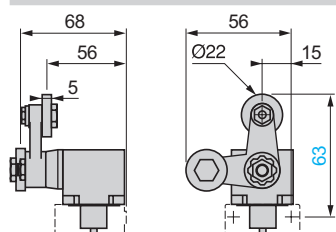
ZCKY91



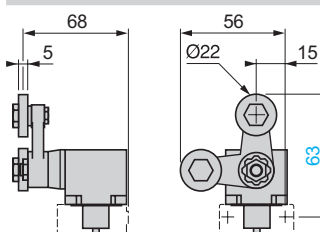
	J	J1	K max.	K1	Ø
ZCKY51	20	49	137	123	Ø 3
ZCKY52	20	49	137	125	Ø 3
ZCKY53	20	49	137	125	Ø 3
ZCKY59	26.2	48	212	200	Ø 6

Rotary head ZCKE09 with operating lever

ZCKY61

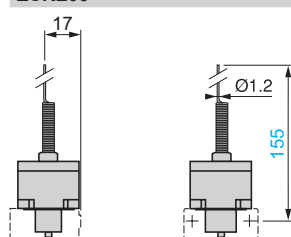


ZCKY71

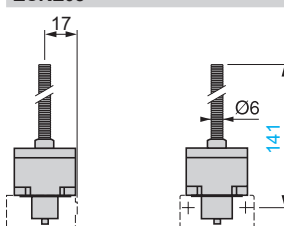


Multi-directional heads

ZCKE06

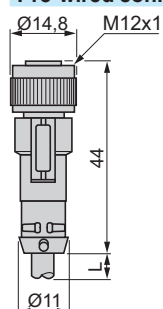


ZCKE08



Note: operating lever spindle threaded M6.

Pre-wired connectors XZCP1164L



L = 2, 5 or 10 m.

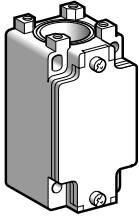
Limit switches

XC Standard range, industrial format EN 50041

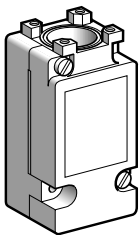
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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



ZCKJ1

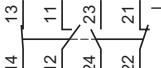
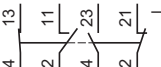


ZCKJ11

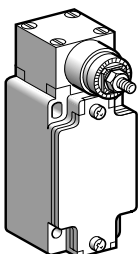
Bodies with contacts for plunger or rotary head

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	
			1/2" NPT	ZCKJ9H7	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
				1/2" NPT	ZCKJ41H7	0.300

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

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

(1) : head assuring positive opening operation.



ZCKJ4046

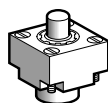
Limit switches

XC Standard range, industrial format EN 50041

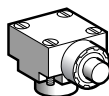
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

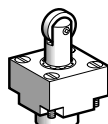
Adaptable sub-assemblies for low temperature applications (- 40°C)



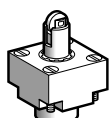
ZCKE616



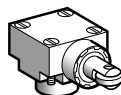
ZCKE636



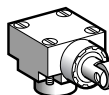
ZCKE626



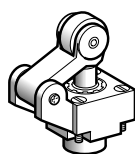
ZCKE676



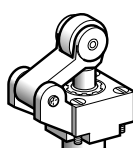
ZCKE646



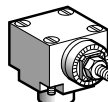
ZCKE656



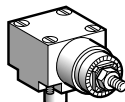
ZCKE216



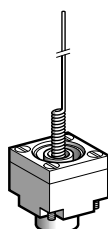
ZCKE236



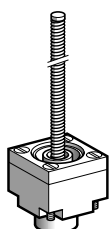
ZCKE056



ZCKE096



ZCKE066



ZCKE086

Plunger heads

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

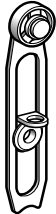
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

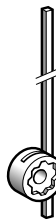
Adaptable sub-assemblies for low temperature applications (- 40°C)



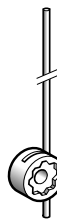
ZCKY1●



ZCKY4●



ZCKY51



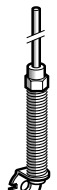
ZCKY5●



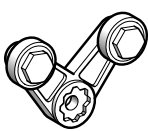
ZCKY59



ZCKY81



ZCKY91



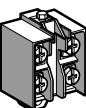
ZCKY71



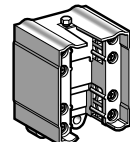
ZCKY61



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)	3 mm steel, L = 125 mm	—	ZCKY53	0.025
	3 mm glass fibre, L = 125 mm	—	ZCKY52	0.020
	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)	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	—	XE2SP2021	0.045
2 CO staggered, snap action		ZCKJ4	—	XE2SP2031	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.

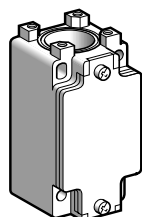
Limit switches

XC Standard range, industrial format EN 50041

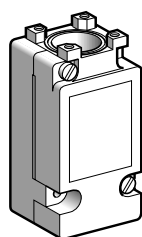
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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

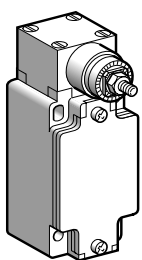


ZCKJ1

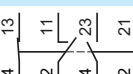


ZCKJ15

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



ZCKJ4045

Bodies with contacts		With spring return rotary head (without operating lever)				
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ4045	0.455
				ISO M20 x 1.5	ZCKJ4045H29	0.455
				1/2" NPT	ZCKJ4045H7	0.455
Plug-in body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ41045	0.465
				ISO M20 x 1.5	ZCKJ41045H29	0.465
				1/2" NPT	ZCKJ41045H7	0.465

(1) : head assuring positive opening operation.

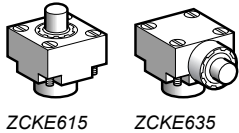
Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

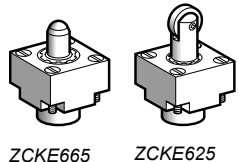
Fixed or plug-in body

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



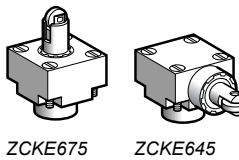
ZCKE615

ZCKE635



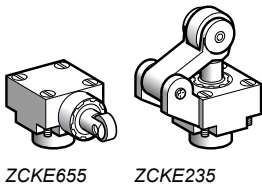
ZCKE665

ZCKE625



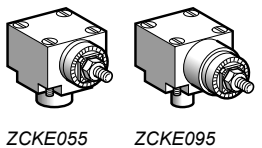
ZCKE675

ZCKE645



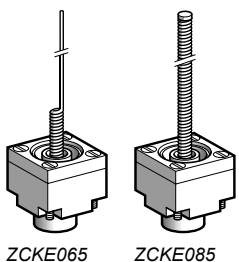
ZCKE655

ZCKE235



ZCKE055

ZCKE095



ZCKE065

ZCKE085

Plunger heads

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

Rotary heads (without operating lever)

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

Multi-directional heads

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

(1) ⊕: head assuring positive opening operation.

Limit switches

XC Standard range, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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



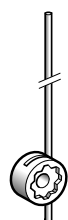
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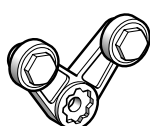
ZCKY43



ZCKY51



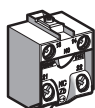
ZCKY5●



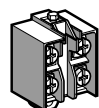
ZCKY715



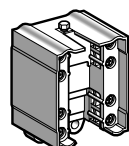
ZCKY615



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)	∅ 3 mm steel, L = 125 mm	—	ZCKY53	0.025
	∅ 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)	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		ZCKJ1	⊙	XE2SP2151	0.020
NC + NO break before make, slow break		ZCKJ5	⊙	XE2NP2151	0.020
2 CO simultaneous, snap action		ZCKJ25	—	XESP20215	0.045
2 CO staggered, snap action		ZCKJ45	—	XESP20315	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

Product reference index

D					
DE9RA1012	100	XCKJ161A	156	XCKN2703P20	110
	112	XCKJ161D	154	XCKN2706P20	111
	113	XCKJ161H29	150	XCKN2708P20	111
DE9RA1212	145	XCKJ167A	156	XCKN2710P20	110
DE9RA2012	145	XCKJ167D	154	XCKN2718P20	111
		XCKJ167H29	150	XCKN2721P20	110
X		XCKJ50511H29	150	XCKN2727P20	110
XALZ09	100	XCKJ50513H29	150	XCKN2739P20	111
XCKD2101G11	100	XCKJ50541H29	150	XCKN2745P20	111
XCKD2101M12	100	XCKJ50559H29	150	XCKN2749P20	111
XCKD2101P16	100	XCKJ561H29	150	XCKN2902P20	110
XCKD2102M12	92	XCKJ567H29	150	XCKN2903P20	110
XCKD2102P16	88	XCKL102	124	XCKN2906P20	111
XCKD2106M12	93	XCKL106	124	XCKN2908P20	111
XCKD2106P16	89	XCKL110	124	XCKN2910P20	110
XCKD2110M12	92	XCKL115	124	XCKN2918P20	111
XCKD2110P16	88	XCKL121	124	XCKN2921P20	110
XCKD2111M12	92	XCKL502	124	XCKN2927P20	110
XCKD2111P16	88	XCKL506	124	XCKN2939P20	111
XCKD2118M12	93	XCKL510	124	XCKN2945P20	111
XCKD2118P16	89	XCKL515	124	XCKN2949P20	111
XCKD2121M12	92	XCKL521	124	XCKP2101G11	100
XCKD2121P16	88	XCKM102H29	122	XCKP2101M12	100
XCKD2127M12	92	XCKM106H29	122	XCKP2101P16	100
XCKD2127P16	88	XCKM110H29	122	XCKP2102M12	86
XCKD2128M12	92	XCKM115H29	122	XCKP2102P16	82
XCKD2128P16	88	XCKM121H29	122	XCKP2106P16	83
XCKD2139M12	93	XCKM502H29	122	XCKP2110M12	86
XCKD2139P16	89	XCKM506H29	122	XCKP2110P16	82
XCKD2145M12	93	XCKM510H29	122	XCKP2111M12	86
XCKD2145P16	89	XCKM515H29	122	XCKP2111P16	82
XCKD2149M12	93	XCKM521H29	122	XCKP2118M12	87
XCKD2149P16	89	XCKML102	126	XCKP2118P16	83
XCKD21H0M12	93	XCKML102H29	126	XCKP2121M12	86
XCKD21H0P16	89	XCKML110	126	XCKP2121P16	82
XCKD21H2M12	93	XCKML110H29	126	XCKP2127M12	86
XCKD21H2P16	89	XCKML115	126	XCKP2127P16	82
XCKD2501G11	100	XCKML115H29	126	XCKP2128M12	86
XCKD2501P16	100	XCKML121	126	XCKP2128P16	82
XCKD2502P16	88	XCKML121H29	126	XCKP2139M12	87
XCKD2506P16	89	XCKML502	126	XCKP2139P16	83
XCKD2510P16	88	XCKML502H29	126	XCKP2145M12	87
XCKD2511P16	88	XCKML510	126	XCKP2145P16	83
XCKD2518P16	89	XCKML510H29	126	XCKP2149M12	87
XCKD2521P16	88	XCKML515	126	XCKP2149P16	83
XCKD2527P16	88	XCKML515H29	126	XCKP21H0M12	87
XCKD2528P16	88	XCKML521	126	XCKP21H0P16	83
XCKD2539P16	89	XCKML521H29	126	XCKP21H2M12	87
XCKD2545P16	89	XCKN2102P20	110	XCKP21H2P16	83
XCKD2549P16	89	XCKN2103P20	110	XCKP2501G11	100
XCKD25H0P16	89	XCKN2106P20	111	XCKP2501P16	100
XCKD25H2P16	89	XCKN2108P20	111	XCKP2502P16	82
XCKJ10511A	156	XCKN2110P20	110	XCKP2506P16	83
XCKJ10511D	154	XCKN2118P20	111	XCKP2510P16	82
XCKJ10511H29	150	XCKN2121P20	110	XCKP2511P16	82
XCKJ10513A	156	XCKN2127P20	110	XCKP2518P16	83
XCKJ10513D	154	XCKN2139P20	111	XCKP2521P16	82
XCKJ10513H29	150	XCKN2145P20	111	XCKP2527P16	82
XCKJ10541A	156	XCKN2149P20	111	XCKP2528P16	82
XCKJ10541D	154	XCKN2502P20	110	XCKP2539P16	83
XCKJ10541H29	150	XCKN2503P20	110	XCKP2545P16	83
XCKJ10559A	156	XCKN2506P20	111	XCKP2549P16	83
XCKJ10559D	154	XCKN2508P20	111	XCKP25H0P16	83
XCKJ10559H29	150	XCKN2510P20	110	XCKP25H2P16	83
XCKJ110511H29	152	XCKN2518P20	111	XCKS101H29	138
XCKJ110513H29	152	XCKN2521P20	110	XCKS102H29	138
XCKJ110541H29	152	XCKN2527P20	110	XCKS131H29	138
XCKJ110559H29	152	XCKN2539P20	111	XCKS133H29	138
XCKJ1161H29	152	XCKN2545P20	111	XCKS139H29	138
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		XCKN2702P20	110	XCKS143H29	138
				XCKS149H29	138
				XCKS159H29	138
				XCKS501H29	138
				XCKS502H29	138
				XCKS531H29	138
				XCKS533H29	138
				XCKS539H29	138
				XCKS541H29	138
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				XCKS549H29	138
				XCKS559H29	138
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				XCKT2106P16	94
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				XCKT21H2P16	95
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				XCKT2501P16	100
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				XCMD2101C12	49
				XCMD2101L1	49
				XCMD2101M12	49
				XCMD2102AM4	54
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				XCMD2102L1	28
				XCMD2102M12	36
				XCMD2106C12	37
				XCMD2106L1	29
				XCMD2106M12	37
				XCMD2110AM4	54
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				XCMD21F2C12	36
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				XCMD21F2M12	36
				XCMD21G1C12	36
				XCMD21G1L1	28
				XCMD21G1M12	36
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				XCMD2502AM4	54
				XCMD2502L1	28
				XCMD2506L1	29
				XCMD2510AM4	54
				XCMD2510L1	28
				XCMD2511L1	28
				XCMD2515AM4	54
				XCMD2515L1	29
				XCMD2516L1	29
				XCMD2517L1	29
				XCMD2524L1	28
				XCMD2545L1	29
				XCMD25F0L1	28
				XCMD25F2L1	28
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				XCMH2115LA1	71
				XCMH211AL05	70
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				XCMH2121L5	70
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				XCMH2145L2	72
				XCMH2159L1	72
				XCMH2159L2	72
				XCMH21F0L1	71
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				XCMH2902L1	70
				XCMH2902L5	70
				XCMH2903L1	70
				XCMH2910L1	70
				XCMH2910L2	70
				XCMH2910L3	70
				XCMN2102L1	78
				XCMN2103L1	78
				XCMN2106L1	79
				XCMN2107L1	79
				XCMN2110L1	78
				XCMN2115L1	79
				XCMN2121L1	78

Limit switches

XC Standard range

Product reference index

XCMN2145L1	79	XCPR2121P20	104	XE3SP2151	101	ZCE016	58	ZCEF2	30
XCMN2159L1	79	XCPR2127P20	104		132	ZCE02	57		38
XCMN21F0L1	78	XCPR2502P20	104		145		60		57
XCMN21F2L1	78	XCPR2510P20	104		164		62		58
XCMN21F3L1	78	XCPR2518P20	104	XESP2021	164		62		60
XCMV2102D44	53	XCPR2519P20	104		172		82		62
XCMV2102M12	55	XCPR2521P20	104	XESP20215	175		86	ZCEG1	30
XCMV2110D44	53	XCPR2527P20	104	XESP2031	164		88		38
XCMV2110M12	55	XCPR2902P20	104		172		92		57
XCMV2115D44	53	XCPR2910P20	104	XESP20315	175	ZCE026	94		58
XCMV2115M12	55	XCPR2918P20	104	XESP3021	145		57		60
XCMV2502D44	53	XCPR2921P20	104	XZCP1164L10	40		58	ZCEH0	83
XCMV2502M12	55	XCPR2927P20	104		154		60		87
XCMV2510D44	53	XCTR2102P16	106		163	ZCE05	62		89
XCMV2510M12	55	XCTR2110P16	106	XZCP1164L2	40		49		93
XCMV2515D44	53	XCTR2118P16	106		154	ZCE06	10		95
XCMV2515M12	55	XCTR2121P16	106		163		30	ZCEH2	83
XCMZ06	49	XCTR2502P16	106	XZCP1164L5	40		39		87
XCMZ07	49	XCTR2510P16	106		154		57		89
	100	XCTR2518P16	106		163		58		93
XCNR2102P20	118	XCTR2521P16	106	XZCP1169L10	40		60		95
XCNR2110P20	118	XE2NP2131	101	XZCP1169L2	40		62	ZCKD01	139
XCNR2118P20	118		132	XZCP1169L5	40		83	ZCKD02	122
XCNR2121P20	118		145	XZCP1264L10	40	ZCE10	87		124
XCNR2127P20	118		164		154		89		139
XCNR2502P20	118		172	XZCP1264L2	40		93	ZCKD06	122
XCNR2510P20	118		175		154		94		124
XCNR2518P20	118	XE2NP2141	101	XZCP1264L5	40		30	ZCKD10	122
XCNR2521P20	118		132		154		38		124
XCNR2527P20	118		145	XZCP1764L10	156		57	ZCKD15	122
XCNR2718P20	118		164	XZCP1764L2	156		58		124
XCNR2727P20	118		172	XZCP1764L5	156		82	ZCKD21	122
XCNR2918P20	118	XE2NP2151	101	XZCP1771L10	40		86		124
XCNR2927P20	118		132	XZCP1771L2	40	ZCE106	88	ZCKD31	139
XCNT2102P16	112		145	XZCP1771L5	40		92	ZCKD39	139
XCNT2103P16	112		164				94	ZCKD41	139
XCNT2106P16	113		172				62	ZCKD49	139
XCNT2108P16	113	XE2NP2161	101	Z		ZCE11	62	ZCKD59	139
XCNT2110P16	112		132	ZCD21	98		30	ZCKE05	150
XCNT2118P16	113		145	ZCD25	98		38	ZCKE055	174
XCNT2121P16	112		164	ZCD26	98		57	ZCKE056	171
XCNT2139P16	113		172	ZCD27	88		58	ZCKE065	174
XCNT2145P16	113	XE2NP3131	101		88		60	ZCKE066	171
XCNT2149P16	113	XE2NP3141	101		89		82	ZCKE085	174
XCNT2502P16	112	XE2NP3151	101		98		86	ZCKE086	171
XCNT2503P16	112	XE2NP3161	101	ZCD28	98	ZCE21	88	ZCKE095	174
XCNT2506P16	113	XE2SP2141	101	ZCD29	88		92	ZCKE096	171
XCNT2508P16	113		132		89		94	ZCKE215	174
XCNT2510P16	112		145	ZCD29M12	92		86	ZCKE216	171
XCNT2518P16	113		164		93		88	ZCKE235	174
XCNT2521P16	112	XE2SP2151	101	ZCD31	98	ZCE24	92	ZCKE236	171
XCNT2539P16	113		172	ZCD35	98		30	ZCKE61	150
XCNT2545P16	113		175	ZCD37	88		38	ZCKE615	174
XCNT2549P16	113				88		57	ZCKE616	171
XCNT2702P16	112	XE2SP3151	101	ZCD39	88		58	ZCKE625	174
XCNT2703P16	112		145		89		60	ZCKE626	171
XCNT2706P16	113	XE2SP3161	101		98		62	ZCKE635	174
XCNT2708P16	113	XE3NP2141	101	ZCDEP16	88		86	ZCKE636	171
XCNT2710P16	112		132		89	ZCE28	88	ZCKE645	174
XCNT2718P16	113		145	ZCDEP16ZCE06	89		94	ZCKE646	171
XCNT2721P16	112		164	ZCE01	31		82	ZCKE655	174
XCNT2739P16	113	XE3NP2151	101		39		88	ZCKE656	171
XCNT2745P16	113		57		58		92	ZCKE665	174
XCNT2749P16	113		60		60	ZCEF0	30	ZCKE67	150
XCPR2102P20	104		62		62		38	ZCKE675	174
XCPR2110P20	104	XE3SP2141	101		83		58	ZCKE676	171
XCPR2118P20	104		132		87		60	ZCKJ01	161
XCPR2119P20	104		145		89		62	ZCKJ0121	165
			164		93			ZCKJ0134	165
					95				

Limit switches

XC Standard range

Product reference index

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

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

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