

1

Design	Miniature format	Compact format, CENELEC EN50047	
	Metal, pre-cabled	Plastic, 1 cable entry	Plastic, 2 cable entries



Enclosure	Metal		Plastic, double insulated	
Modularity	Head, body and connection modularity		Head, body and cable entry modularity	Head and body modularity
Conformity/Certifications	UL, CSA, CCC, GOST		CENELEC EN 50047 UL, CSA, CCC, GOST	
Body dimensions (w x h x d) in mm	30 x 50 x 16		31 x 65 x 30	58 x 51 x 30
Head	Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional Same heads for ranges XCMD, XCKD, XCKP and XCKT			
Contact blocks	2 electrically separate contacts	snap action with positive opening operation	p	p
		slow break with positive opening operation	p	p
2 same polarity contacts	snap action	–	–	–
		slow break	–	–
3 electrically separate contacts	snap action with positive opening operation	p	p	p
		slow break with positive opening operation	p	p
4 electrically separate contacts	snap action with positive opening operation	p	–	–
		slow break with positive opening operation	–	–
4 contacts (2 x 2 same polarity contacts)	snap action	–	–	–
		–	–	–
Degree of protection IP/IK	IP 66, IP 67, IP 68, IK 06		IP 66, IP 67, IK 04	
Operating temperature	- 25°C... + 70°C			
Connection	Screw terminals	–	1 entry for ISO M16 or M20, Pg 11, Pg 13.5 cable gland or 1/2" NPT, PF 1/2	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)
	Pre-cabled	Ø 7.5 PvR, CEI, halogen free, depending on model	–	
	Connector	Integral or remote M12 or remote 7/8"-16UN	M12	–
Type reference	XCMD	XCKP	XCKT	
Pages	1/10	1/30 and 1/34	1/44	

Limit switches

OsiSense XC

Variable composition: simplicity through innovation

1

Principle

Variable composition principle

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

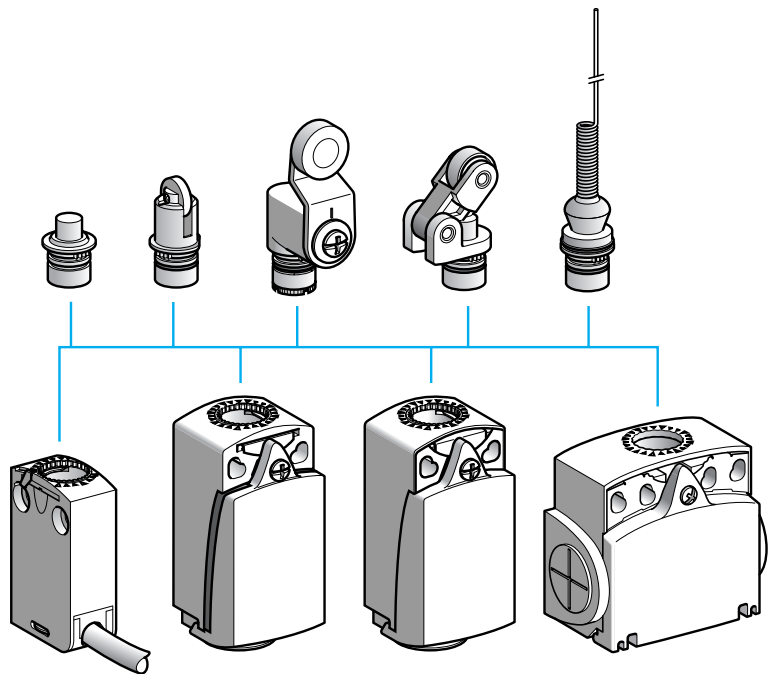
■ A worldwide detection first for improving productivity.

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

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

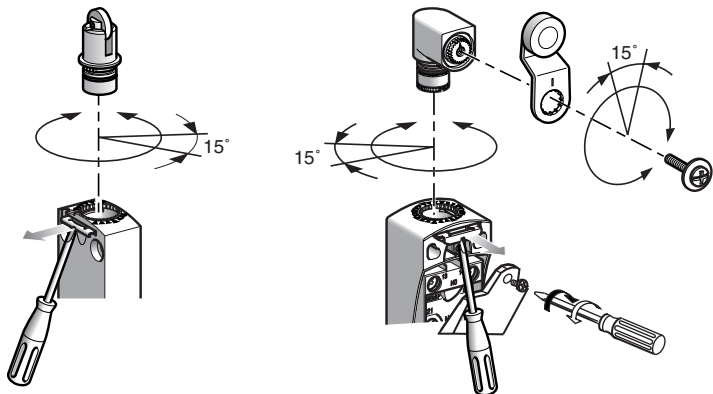
Heads

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



■ Interchanging of heads achieved by simple operation of forked metal latch.

■ Adjustable in 3 planes:



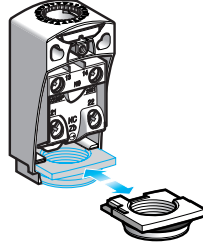
All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

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

Principle (continued)

Cable entries

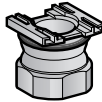
- The cable entries for Compact design XCKD and XCKP switches enable:
 - simple cabling due to unrestricted access to contacts,



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



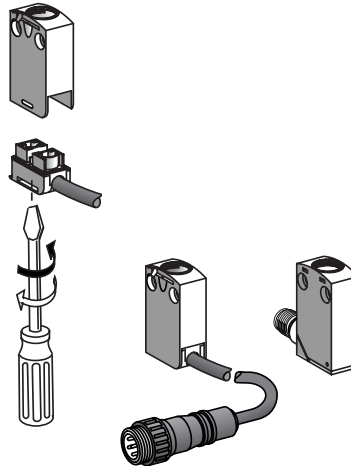
- ISO M16 x 1.5
- Pg 11



- 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.

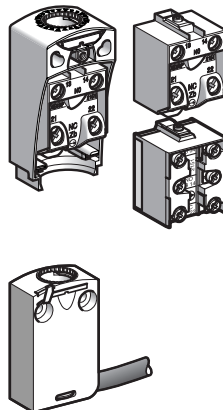
Connection components



- 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.

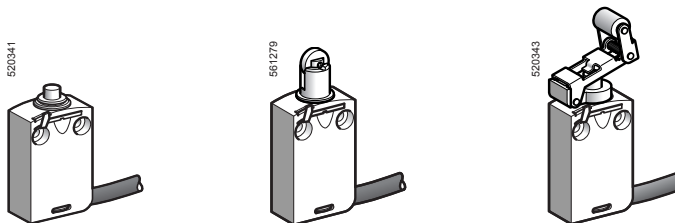
Limit switches

OsiSense XC Standard
Miniature design, metal, type XCMD

1

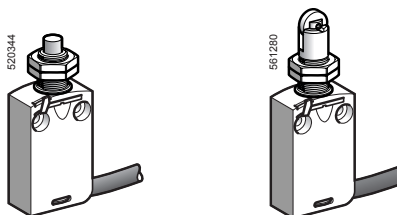
■ XCMD
pre-cabled

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



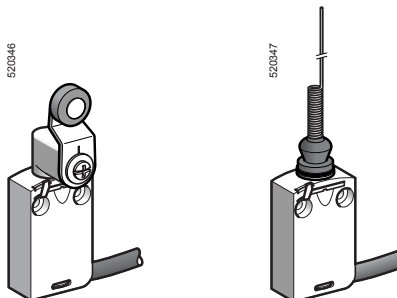
Page 1/12

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



Page 1/12

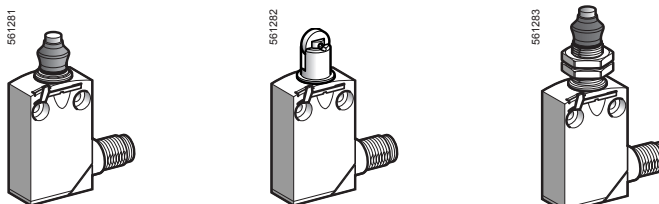
□ With head for rotary movement (lever) or multi-directional. Fixing by the body



Page 1/13

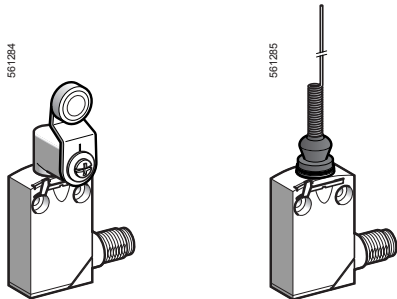
■ XCMD
with connector

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



Page 1/16

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



Page 1/17

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 (except products with special cables), CCC
Protective treatment		Standard version: "TC"
Ambient air temperature		For operation: - 25... + 70°C. 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 EN 50102
Materials		Bodies: Zamak, heads: Zamak
Repeat accuracy		0.05 mm on the tripping points, with 1 million operations for head with end plunger

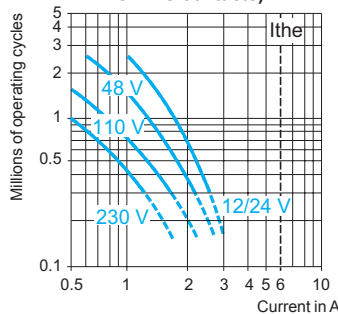
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Contact block characteristics

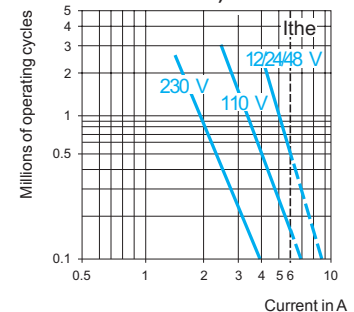
Rated operational characteristics	Switches with 2 contacts	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A) ☰ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	Switches with 3 and 4 contacts	~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A) ☰ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), 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		<ul style="list-style-type: none"> ■ 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 ~
mm 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

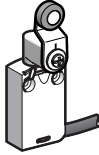
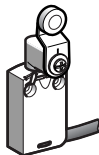
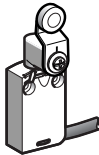
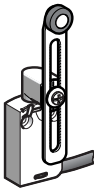
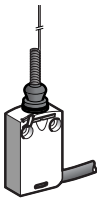
Voltage	V	24	48	120
mm	W	3	2	1

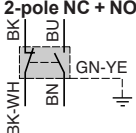
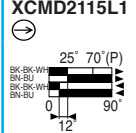
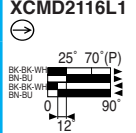
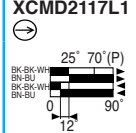
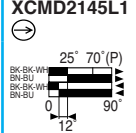
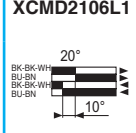
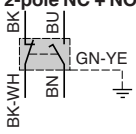
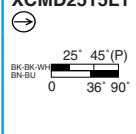
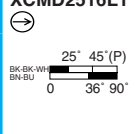
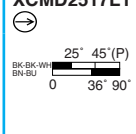
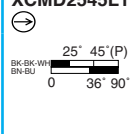
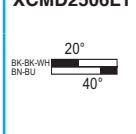
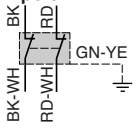
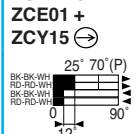
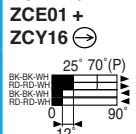
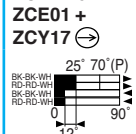
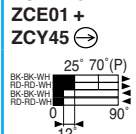
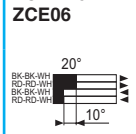
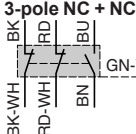
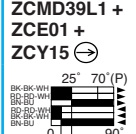
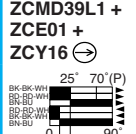
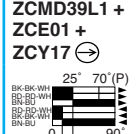
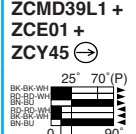

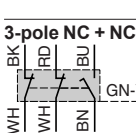
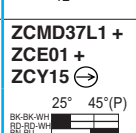
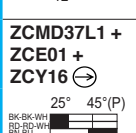
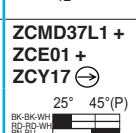
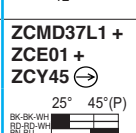

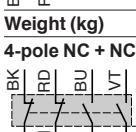
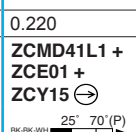
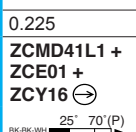
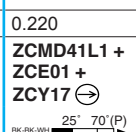
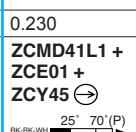
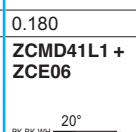

Power broken in W for 5 million operating cycles

Voltage	V	24	48	120
mm	W	4	3	3

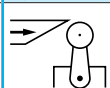

Limit switches

OsiSense XC Standard
Miniature design, metal, type XCMD
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 
2-pole NC + NC snap action 	ZCMD29L1 + ZCE01 + ZCY15 	ZCMD29L1 + ZCE01 + ZCY16 	ZCMD29L1 + ZCE01 + ZCY17 	ZCMD29L1 + ZCE01 + ZCY45 	ZCMD29L1 + ZCE06 
3-pole NC + NC + NO snap action 	ZCMD39L1 + ZCE01 + ZCY15 	ZCMD39L1 + ZCE01 + ZCY16 	ZCMD39L1 + ZCE01 + ZCY17 	ZCMD39L1 + ZCE01 + ZCY45 	ZCMD39L1 + ZCE06 
3-pole NC + NC + N/O break before make, slow break 	ZCMD37L1 + ZCE01 + ZCY15 	ZCMD37L1 + ZCE01 + ZCY16 	ZCMD37L1 + ZCE01 + ZCY17 	ZCMD37L1 + ZCE01 + ZCY45 	ZCMD37L1 + ZCE06 
Weight (kg) 4-pole NC + NC + NO + NO snap action 	ZCMD41L1 + ZCE01 + ZCY15 	ZCMD41L1 + ZCE01 + ZCY16 	ZCMD41L1 + ZCE01 + ZCY17 	ZCMD41L1 + ZCE01 + ZCY45 	ZCMD41L1 + ZCE06 
Weight (kg)	0.220	0.225	0.220	0.230	0.180
Contact operation					

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

Characteristics		By 30° cam	By any moving part
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 metre for 2-pole contact versions, 7 x 0.5 mm ² , length 1 metre for 3-pole contact versions, 9 x 0.34 mm ² , length 1 metre for 4-pole contact versions. For other lengths see page 1/22.	