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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
		slow break with positive opening operation	p
2 same polarity contacts	snap action	-	-
	slow break	-	-
3 electrically separate contacts	snap action with positive opening operation	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
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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.

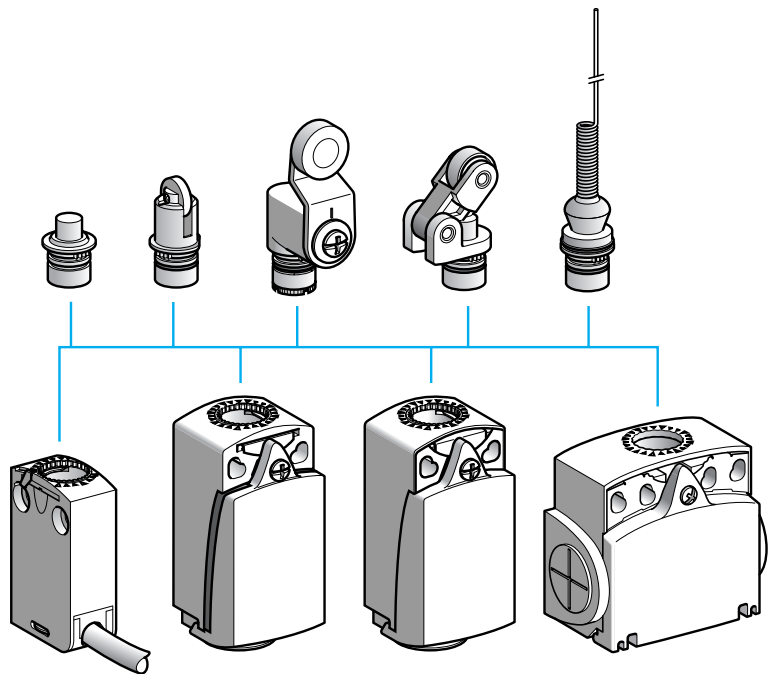
- A worldwide detection first for improving productivity.

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

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

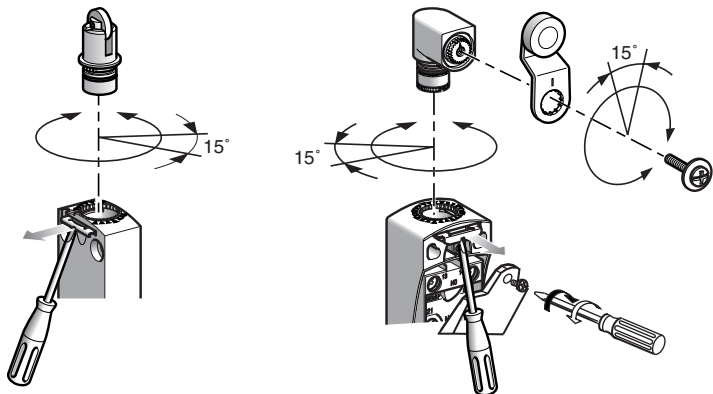
Heads

- 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:



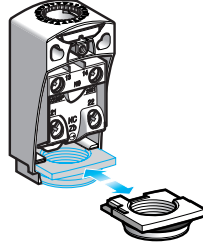
All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

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

Principle (continued)

Cable entries

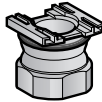
- The cable entries for Compact design XCKD and XCKP switches enable:
 - simple cabling due to unrestricted access to contacts,



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



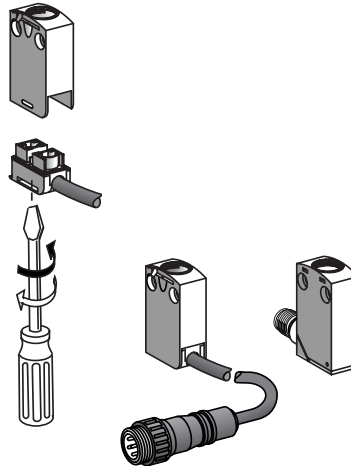
- ISO M16 x 1.5
- Pg 11



- 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.

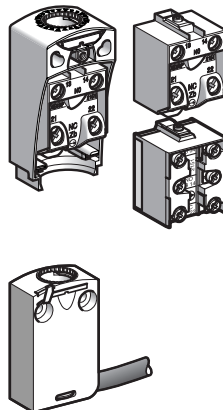
Connection components



- 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

Compact design, plastic, types XCKP and XCKT

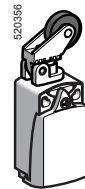
Compact design, metal, type XCKD

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■ XCKP, XCKD

with 1 cable entry
Conforming to CENELEC EN 50047

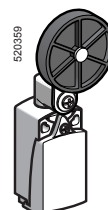
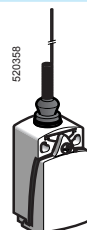
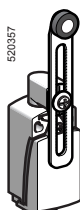
□ With head for linear movement (plunger). Fixing by the head or by the body
XCKD **XCKP**



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Pages 1/32 and 1/34

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



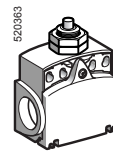
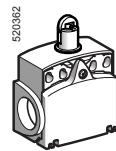
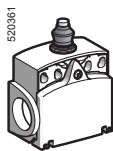
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■ XCKT

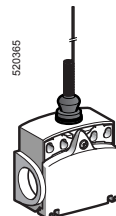
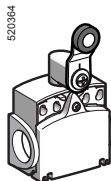
with 2 cable entries
Tripping/resetting points and fixing centres conform to CENELEC EN 50047

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



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



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Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
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	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 EN 50102 for XCKP and XCKT, IK 06 conforming to EN 50102 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

OsiSense XC Standard

Compact design, plastic, types XCKP and XCKT

Compact design, metal, type XCKD

Contact block characteristics

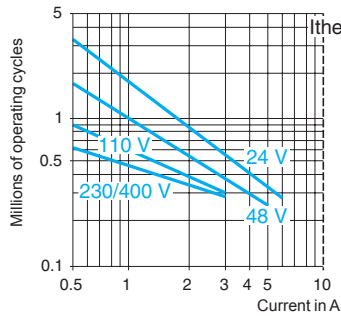
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP●151 and XE2SP2141	Clamping capacity, min: 1 x 0.34 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

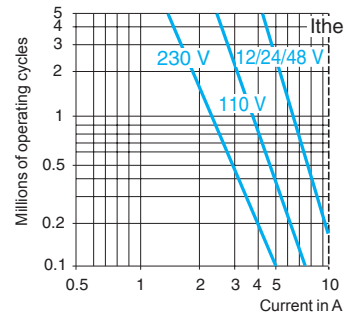
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
50/60 Hz ~
~m 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
~m W	10	7	4

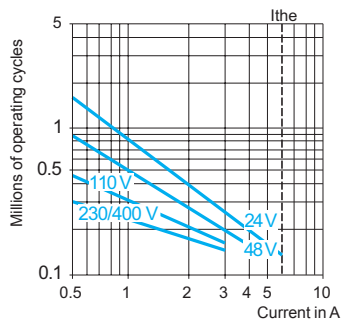
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

Power broken in W for 5 million operating cycles.

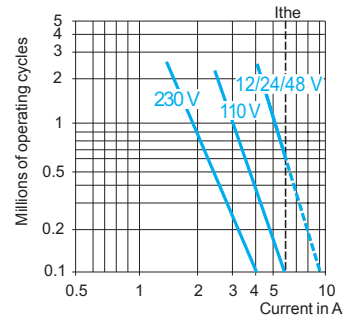
Voltage V	24	48	120
~m W	13	9	7

AC supply
50/60 Hz ~
~m inductive circuit

XE3SP●●●●



XE3NP●●●●



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
~m W	3	2	1







Power broken in W for 5 million operating cycles.


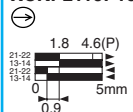
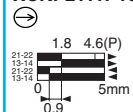
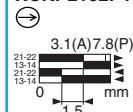
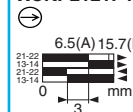
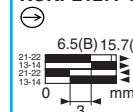
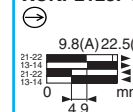

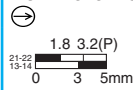
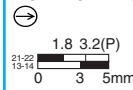
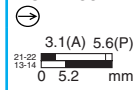
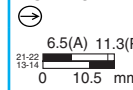
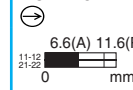
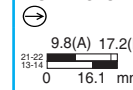

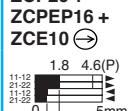
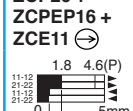
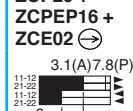
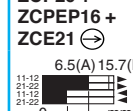
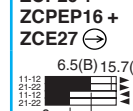
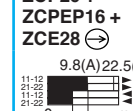

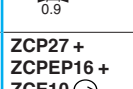
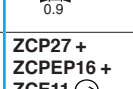
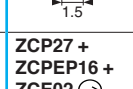
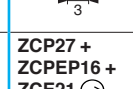
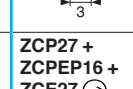
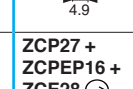

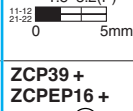

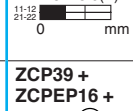

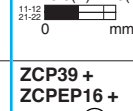
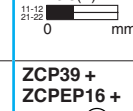

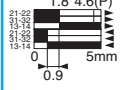
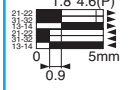

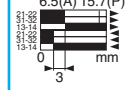
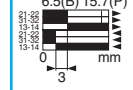
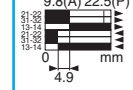
Voltage V	24	48	120
~m W	4	3	2

Limit switches

OsiSense XC Standard




Compact design, plastic, type XCKP
Complete switches with 1 cable entry






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

References of complete switches with 1 ISO M16 x 1.5 cable entry (2)							
	2-pole NC + NO snap action (XE2SP2151)	XCKP2110P16 	XCKP2111P16 	XCKP2102P16 	XCKP2121P16 	XCKP2127P16 	XCKP2128P16 
	2-pole NC + NO break before make, slow break (XE2NP2151)	XCKP2510P16 	XCKP2511P16 	XCKP2502P16 	XCKP2521P16 	XCKP2527P16 	XCKP2528P16 
	2-pole NC + NC snap action (XE2SP2141)	ZCP29 + ZCPEP16 + ZCE10 	ZCP29 + ZCPEP16 + ZCE11 	ZCP29 + ZCPEP16 + ZCE02 	ZCP29 + ZCPEP16 + ZCE21 	ZCP29 + ZCPEP16 + ZCE27 	ZCP29 + ZCPEP16 + ZCE28 
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCP27 + ZCPEP16 + ZCE10 	ZCP27 + ZCPEP16 + ZCE11 	ZCP27 + ZCPEP16 + ZCE02 	ZCP27 + ZCPEP16 + ZCE21 	ZCP27 + ZCPEP16 + ZCE27 	ZCP27 + ZCPEP16 + ZCE28 
	3-pole NC + NC + NO snap action (XE3SP2141)	ZCP39 + ZCPEP16 + ZCE10 	ZCP39 + ZCPEP16 + ZCE11 	ZCP39 + ZCPEP16 + ZCE02 	ZCP39 + ZCPEP16 + ZCE21 	ZCP39 + ZCPEP16 + ZCE27 	ZCP39 + ZCPEP16 + ZCE28 
	3-pole NC + NC + NO break before make, slow break (XE3NP2141)	ZCP37 + ZCPEP16 + ZCE10 	ZCP37 + ZCPEP16 + ZCE11 	ZCP37 + ZCPEP16 + ZCE02 	ZCP37 + ZCPEP16 + ZCE21 	ZCP37 + ZCPEP16 + ZCE27 	ZCP37 + ZCPEP16 + ZCE28 
Weight (kg)		0.090	0.090	0.095	0.105	0.100	0.105

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

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

Contact operation	 closed  open	(A) (B) = cam displacement (P) = positive opening point	 NC contact with positive opening operation
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Characteristics	On end	By 30° cam				
Switch actuation						
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 36 N	6 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 1/136.

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