
Limit switches

OsiSense XC Standard

Catalogue



Simply easy!™

Limit switches

OsiSense XC Standard

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OsiSense XC Standard

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Limit switches

OsiSense XC Standard

Design	Miniature format	Compact format, CENELEC EN 50047	
	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		CE, UL, CSA, CCC, EAC	CENELEC EN 50047 UL, CSA, CCC, EAC	
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	•	•	•
	slow break with positive opening operation	•	•	•
2 same polarity contacts	snap action	–	–	–
	slow break	–	–	–
3 electrically separate contacts	snap action with positive opening operation	•	•	•
	slow break with positive opening operation	•	•	•
4 electrically separate contacts	snap action with positive opening operation	•	–	–
	slow break with positive opening operation	–	–	–
4 contacts (2 x 2 same polarity contacts)	snap action	–	–	–
		–	–	–
Degree of protection IP/IK		IP 66, IP 67, IP 68, IK 06	IP 66, IP 67, 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		20	46 and 50	58

Compact format, CENELEC EN 50047		Compact format, with reset	
Metal, 1 cable entry	Plastic, 1 cable entry	Plastic, 2 cable entries	Metal, 1 cable entry



Metal	Plastic, double insulated		Metal
Head, body and connection modularity	-		
CENELEC EN 50047 UL, CSA, CCC, EAC	CE, UL, CSA, EAC		
31 x 65 x 30	31 x 65 x 30	58 x 51 x 30	31 x 65 x 30
Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional Same heads for ranges XCMD, XCKD, XCKP and XCKT	Linear movement (plunger) Rotary movement (lever)		
•	•	•	•
•	•	•	•
-	-	-	-
-	-	-	-
•	-	-	-
•	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
IP 66, IP 67, IK 06	IP 66, IP 67, IK 04 and IK06 (for XCDR)		
-25°C... +70°C			
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)	1 entry for ISO M20 or Pg 13.5 cable gland or 1/2" NPT
-			
M12	-		
XCKD	X CPR	XCTR	XCDR
52 and 56	68	72	70

Design	"Classic" format		EN 50041 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 (XCKM), 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
	Connector	–		Integral M12 or 7/8"-16UN
Type reference	XCKM	XCKL	XCKS	XCKJ
Pages	88	88	104	116

Limit switches

OsiSense XC Basic

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, 2 cable entries



Plastic, double insulated	Plastic, double insulated			
-				
CE, UL, CSA, CCC, EAC	GENELEC EN 50047 UL, CSA, CCC, EAC		CE, UL, CSA, CCC, EAC	
30 x 50 x 16	31 x 65 x 30	59 x 51 x 30	31 x 65 x 30	59 x 51 x 30
Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional				
•	•	•	•	•
-	•	•	•	•
-	-	-	-	-
-	-	•	-	•
-	•	-	•	-
-	-	-	-	-
-	-	-	-	-
-	-	-	-	-
IP 65, IK 04				
- 25°C... + 70°C				
-	1 entry for ISO M20 or Pg 11 cable gland Other cable entries (3): ISO M16 x 1.5 and 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 (3): ISO M16 x 1.5 and PF 1/2 (G1/2)	2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT (using adaptor)
Ø 7.5 PvR, CEI, halogen free, depending on model	-			
XCMN	XCKN	XCNT	XCNR	XCNTR
42	76	78	84	85

Limit switches

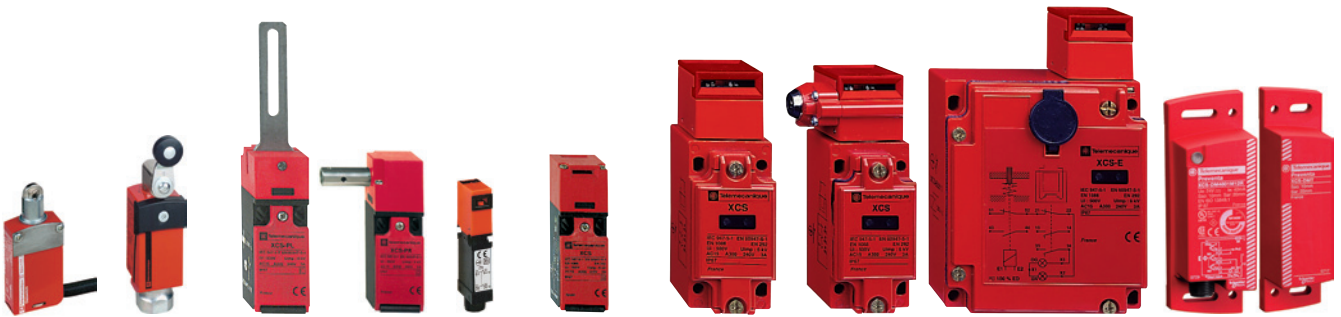
OsiSense XC Special

Design/Applications	Very severe applications	Very severe material handling applications	For hoisting and material handling applications (XCR); for conveyor belt shift monitoring (XCRT)	For hoisting and material handling applications	Subminiature format and microswitch. Applications requiring high precision and a low operating force
	Metal, 1 cable entry	Metal, 3 cable entries	Metal or polyester, 1 cable entry	Metal or plastic, 3 cable entries	Plastic, pre-cabled



Enclosure	Metal	Metal	Metal or polyester	Metal or plastic	Polyester
Features	Head and body modularity	–	–	–	–
Conformity/Certifications	CE, UL, CSA, EAC	CE, CSA, EAC	CE, CSA (XCR) CCC (XCR), EAC	CE, UL, CSA, CCC, EAC	CE, UL
Body dimensions (w x h x d) in mm	40 x 81 x 41	77 x 83 x 44	85 x 95 x 75	118 x 77 x 59 (metal) 118 x 77 x 67 (plastic)	Depending on type
Head	Linear movement (plunger) or rotary movement (lever)	Linear movement (plunger)	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 65	IP 54/IK 07 or IP 65 depending on model	IP 66/IK 07 (metal) IP 65/IK 04 (plastic)	IP 67 or IP 40 depending on model IP 00 (tags)
Operating temperature	- 25°C... + 70°C; - 40° C or + 120° C (XC2J depending on model)				
Connection					
Screw terminals (entry for cable gland)	1 entry with integral cable gland	3 tapped entries for Pg 13.5 cable gland	1 tapped entry for Pg 13.5 cable gland	3 tapped entries for Pg 13.5 cable gland or tapped M20 x 1.5	Tag connections or pre-wired depending on model
Pre-cabled	–	–	–	–	–
Connector	–	–	–	–	–
Type reference	XC2J	XC1AC	XCR XCRT	XCKMR XCKVR	XEP
Pages	Please refer to our catalogue "Limit switches OsiSense XC Special".				

Safety limit switches and guard switches Preventa XCS							
Standard		With lever or hinge		Actuator operated			Coded magnetic for detection without contact Rectangular or cylindrical format
Miniature format	Compact format	Compact format	Miniature format	Compact format	Industrial format with or without locking	Rectangular format with solenoid interlocking	
Metal, pre-cabled	Metal or plastic, 1 cable entry	Plastic, 1 or 2 cable entries	Plastic, pre-cabled	Plastic, 1 or 2 cable entries	Metal, 1 cable entry		Coded magnetic switch or coded magnetic system, pre-cabled or connector
					Without locking	With locking, manual unlocking	



Metal	Metal or plastic	Plastic, double insulated	Plastic, double insulated	Metal	Metal	Plastic, double insulated	Plastic		
–	–	–	–	–	–	–	–		
CE, UL, CSA	–	CE, UL, CSA	CE, UL, CSA	CE, UL, CSA, EAC	CE, UL, CSA, EAC	CE, UL, CSA, EAC	CE, UL, CSA, TÜV, EAC depending on model		
30 x 50 x 16	34 x 65 x 34.5	Depending on type	30 x 78 x 15	30 x 93 x 30 52 x 114 x 30	40 x 60 x 44	98 x 146 x 44 110 x 93.5 x 33	Depending on type		
Linear movement (plunger) or rotary movement (lever)	–	Rotary movement (lever)	Turret head	–	Turret head	–	–		
–	–	–	–	–	–	–	Depending on model		
–	–	•	•	–	–	•	–		
–	–	–	–	–	–	–	–		
–	–	•	•	–	–	•	–		
•	–	•	•	–	–	–	–		
•	–	•	•	•	•	–	–		
–	–	–	–	–	–	–	–		
–	–	–	–	–	–	–	–		
•	–	–	–	–	–	–	–		
IP 66, IP 67 IP 68 (XCSP) IK 06 (XCSP & XCSD) IK 04 (XCSP)	–	IP 67	IP 67	IP 67	IP 67	IP 67	IP 66, IP 67 IP 69K depending on model		
-25°C... +70°C	–	-25°C... +70°C	-25°C... +70°C	-25°C... +70°C	-25°C... +70°C	-25°C... +70°C	-25°C... +70°C		
XCSP and XCSD: 1 entry for Pg 13.5 or M20 cable gland or 1/2" NPT	–	Depending on model: 1 or 2 entries for Pg 13.5 or ISO M20 cable gland or 1/2" NPT	Depending on model: 1 or 2 entries for ISO M16 or Pg 11 cable gland or 1/2" NPT	1 entry for ISO M20 or Pg 13.5 cable gland or 1/2" NPT	–	Depending on model: 1 or 2 entries for Pg 13.5 or ISO M20 cable gland or 1/2" NPT	–		
XCSP: Ø 7.5 cable, PvR	–	–	XCSP: Ø 7.5 cable, PvR	–	–	–	PVC cable		
–	–	–	–	–	–	–	Remote M8, remote M12 or integral M12 depending on model		
XCSP	XCSD	XCSP, XCSPR XCSTL, XCSTR	XCSP	XCSPA XCSTA	XCSA	XCSB XCSC	XCSE	XCSTE	XCSDM/C/P/R XCSDM3/4

Please refer to our catalogue "Preventa XCS safety switches".

Limit switches

OsiSense XC

Variable composition: simplicity through innovation

Principle

Variable composition principle

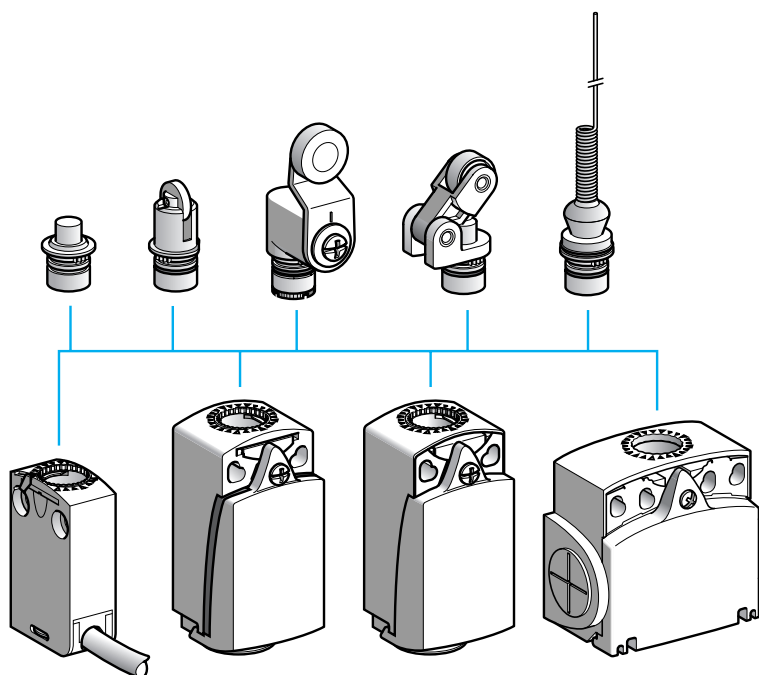
■ The Miniature design XCMD and Compact design XCKD, XCKP and XCKT ranges benefit from the variable composition concept.

■ A worldwide detection first for improving productivity. A complete offer for resolving the most commonly encountered detection problems:

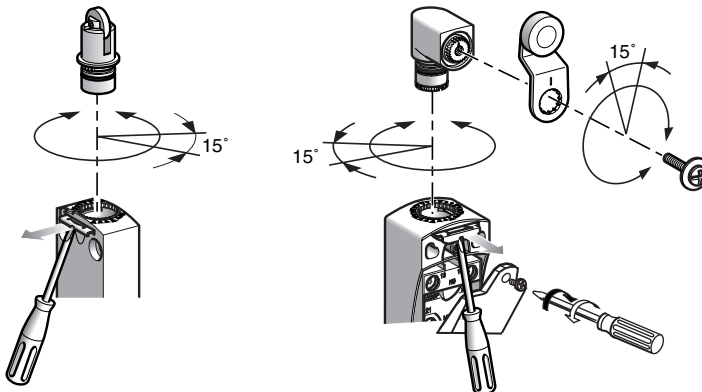
- product selection simplified,
- product availability simplified,
- installation and setting-up simplified,
- maintenance simplified.

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.

Limit switches

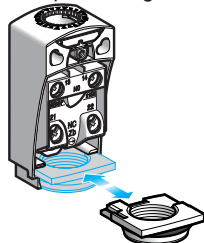
OsiSense XC

Variable composition: simplicity through innovation

Principle (continued)

Cable entries

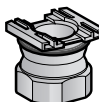
- The cable entries for Compact design XCKD and XCKP switches enable:
 - simple cabling due to unrestricted access to contacts,



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



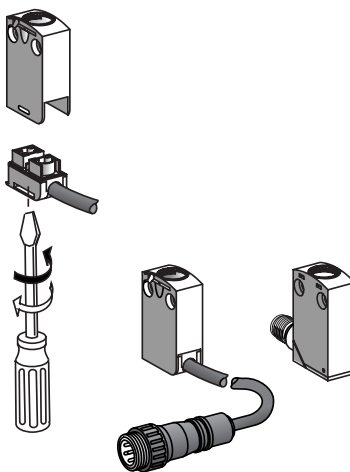
- ISO M16 x 1.5
- Pg 11



- 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.

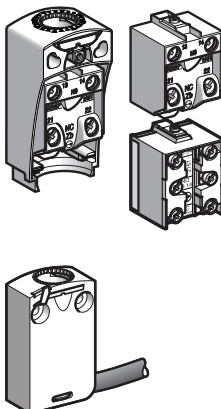
Connection components



- 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

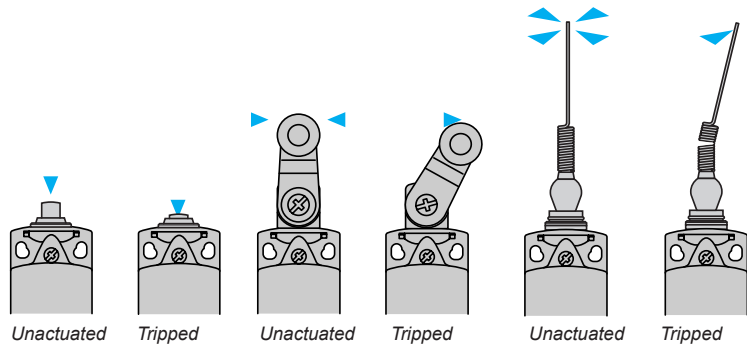
- galvanic separation of circuits,
- models suitable for low power switching combined with good electrical durability,
- very good short-circuit withstand in coordination with appropriate fuses,
- total immunity to electromagnetic interference,
- high rated operational voltage.

■ 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



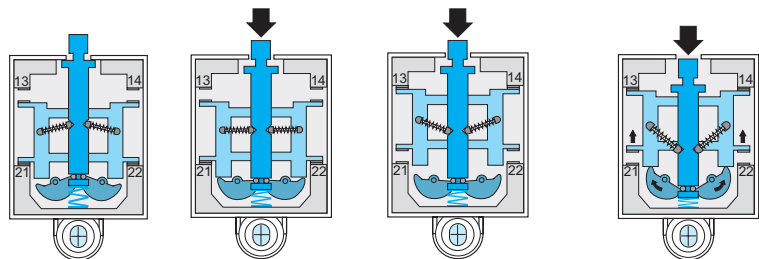
Terminology

Rated value of a quantity	<ul style="list-style-type: none"> ■ This replaces the term “nominal value”. ■ It is the fixed value for a specific function.
Utilisation categories:	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ 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	<ul style="list-style-type: none"> ■ 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

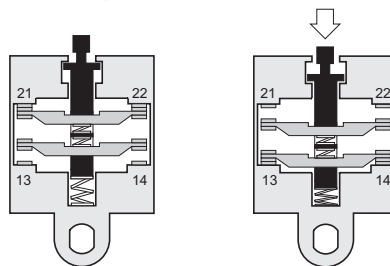
- Snap action contacts are characterised by different tripping and reset points (differential travel).
- The displacement speed of the moving contacts is not related to the speed of the operator.
- This feature ensures satisfactory electrical performance in applications involving low speed actuators.



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

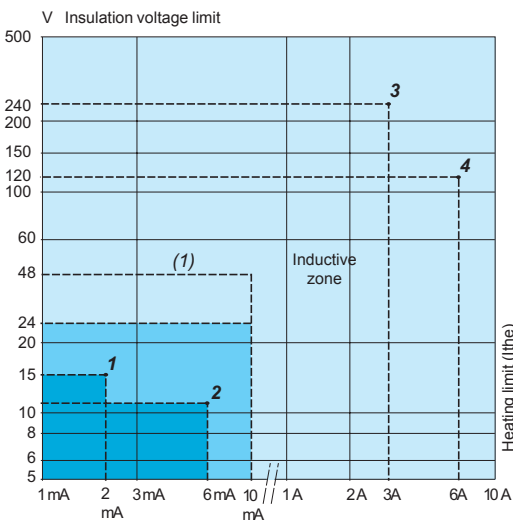
Q300 125 V 0.55 A R300 125 V 0.27 A

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:

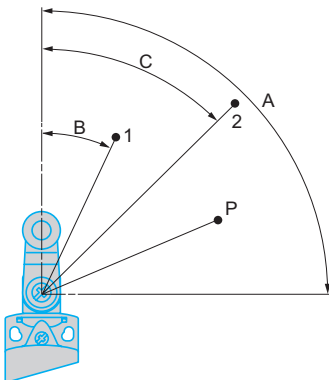
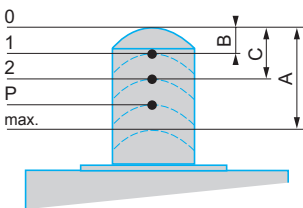
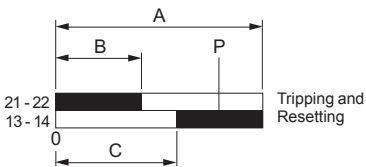
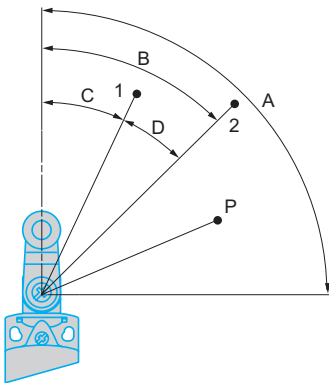
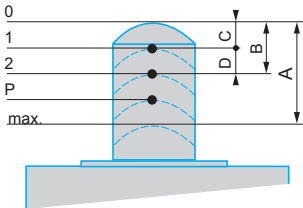
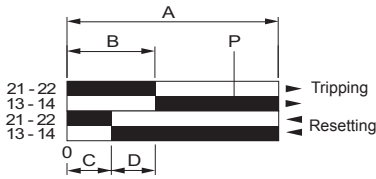
- failure rate of less than 1 for 100 million operating cycles using snap action contacts (contacts XE2SP),
- failure rate of less than 1 for 20 million operating cycles using slow break contacts (contacts XE●NP and XE3SP).
- failure rate of less than 1 for 5 million operating cycles using contacts XCMD.



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 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.

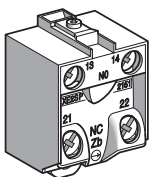
□ Linear movement (plunger)

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.

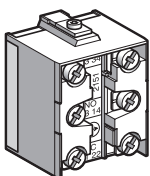
□ Rotary movement (lever)

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

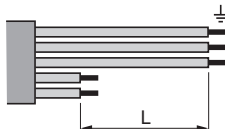


XE3•P screw clamp terminal connections

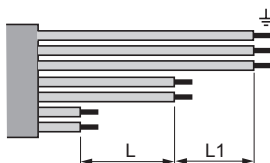
Mounting

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,

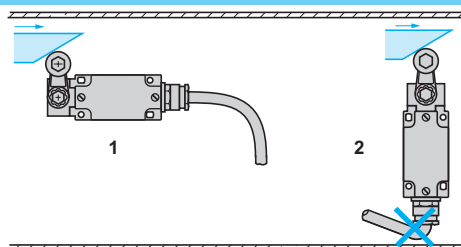


- for XE3•P, L = 14 mm, L1 = 11 mm.



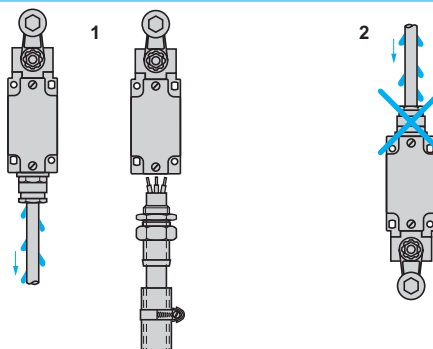
Sweep of connecting cable

- 1 Recommended
- 2 To be avoided



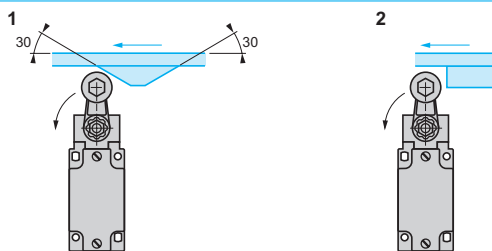
Position of cable gland

- 1 Recommended
- 2 To be avoided



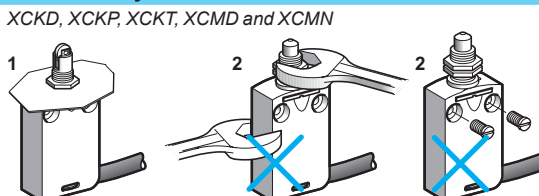
Type of cam

- 1 Recommended
- 2 To be avoided



Mounting and fixing limit switches by the head

- 1 Recommended
- 2 Forbidden



XCKD, XCKP, XCKT, XCMD and XCMN

Limit switches

OsiSense XC

General

Setting-up

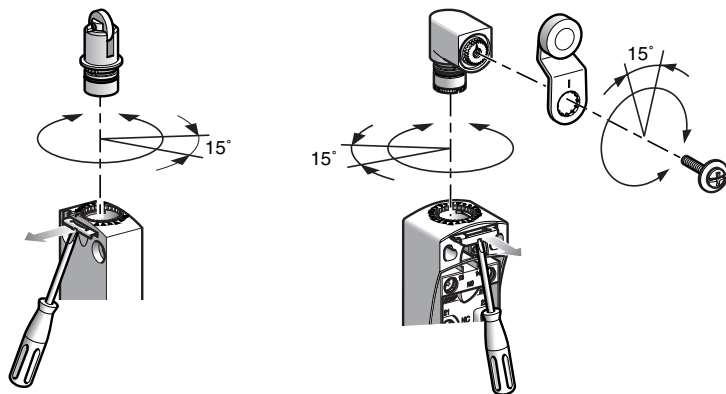
Tightening torque

- 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)	
		Min.	Max.
Compact design XCKD, XCKP, XCKT	Cover	0.8	1.2
	Fixing screw for lever on rotary head	1	1.5
Miniature design XCMD, XCMN	—	—	—
	Fixing screw for lever on rotary head	1	1.5
Compact design XCKN	Cover	0.8	1.2
	Fixing screw for lever on rotary head	1	1.5
Classic design XCKJ	Cover	1	1.5
	Fixing nut for lever on rotary head	1	1.5
Classic design XCKS	Cover	0.8	1.2
	Fixing nut for lever on rotary head ZCKD	1	1.5
	Fixing nut for lever on rotary head XCKS	0.8	1.2
	Fixing head on body	0.8	1.2
Classic design XCKM, XCKML, XCKL	Cover	0.8	1.2
	Fixing nut for lever on rotary head	1	1.5

XCKD, XCKP, XCKT, XCMD

- Adjustable in 3 planes:

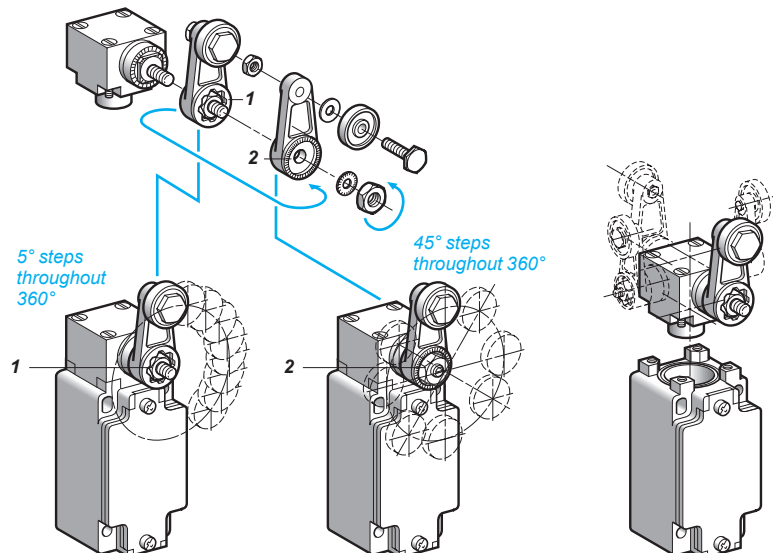


All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

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

XCKJ

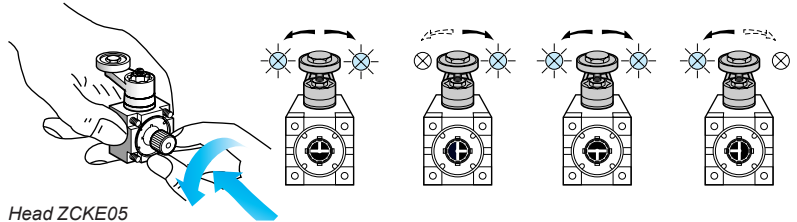
- Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever or its mounting.
- 1 Reversed $\alpha = 5^\circ$
 - 2 Forward $\alpha = 45^\circ$



Setting-up (continued)

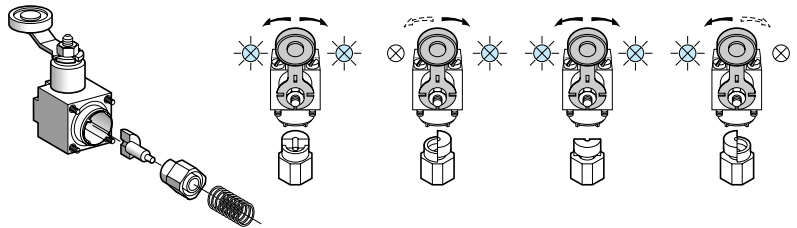
Direction of actuation programming

■ XCKJ



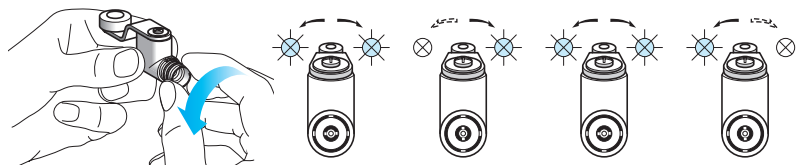
Head ZCKE05

■ XCKS



Head ZCKD05

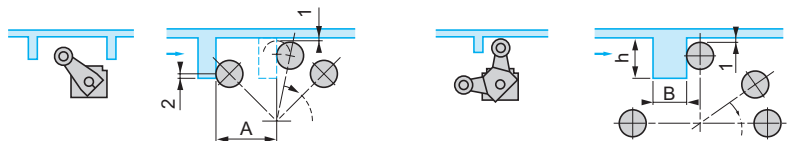
■ XCKD, XCKP, XCKT and XCMD



Head ZCE05

Specific cams for head ZCKE09

- 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.

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

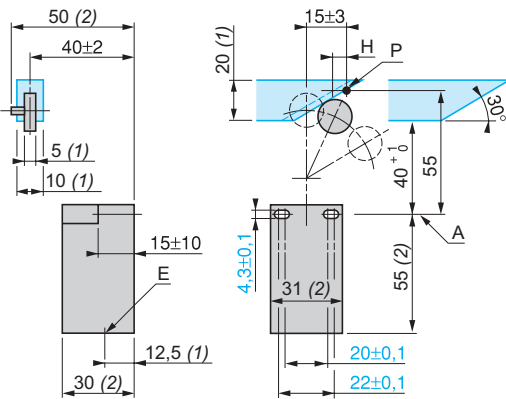
The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the first type of limit switch.

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

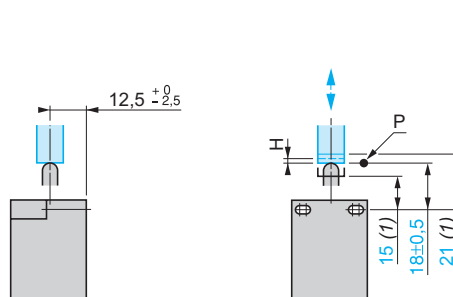
- (1) Minimum value
- (2) Maximum value

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

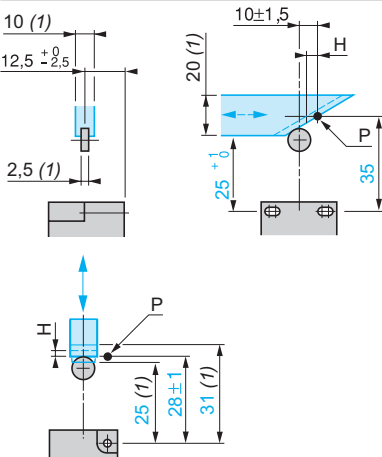
Form A, with roller lever



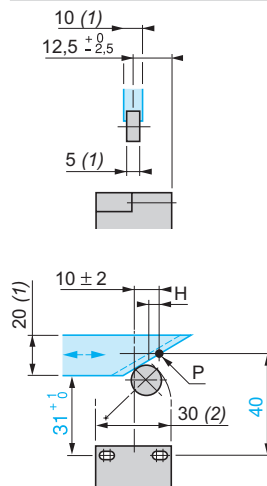
Form B, with end plunger (rounded)



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.

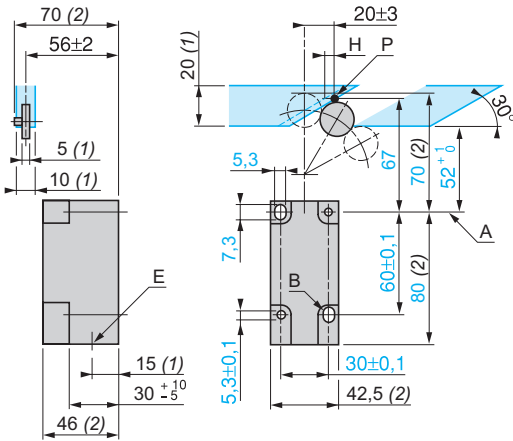
It defines 6 variants of devices (forms A, B, C, D, F, G).
Limit switches XCKJ and XCKS conform to standard EN 50041.

(1) Minimum value
(2) Maximum value

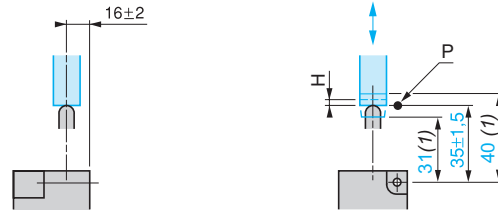
A: reference axis
B: optional elongated holes
H: differential travel
P: tripping point
E: cable entry

Za: tripping zone
Sa: tripping threshold

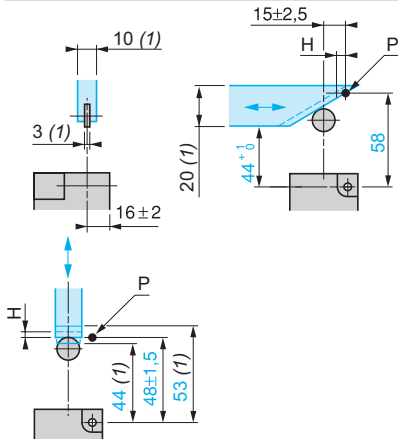
Form A, with roller lever



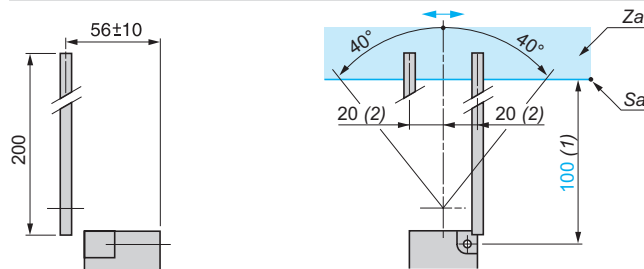
Form B, with end plunger (rounded)



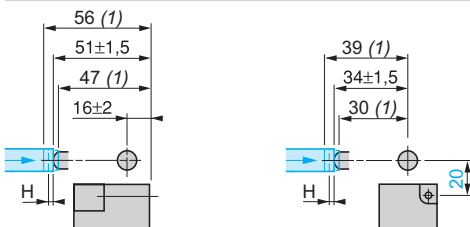
Form C, with end roller plunger



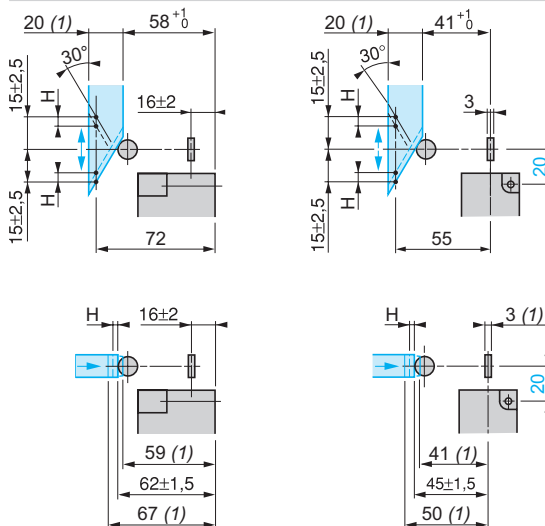
Form D, with rod lever



Form F, with side plunger (rounded)



Form G, with side roller plunger



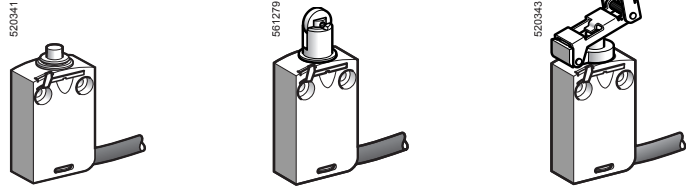
Limit switches

OsiSense XC Standard

Miniature design, metal, XCMD

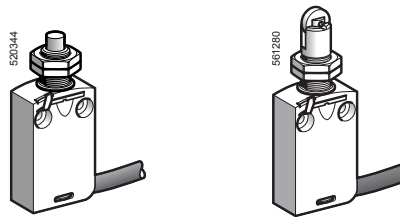
XCMD
pre-cabled

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



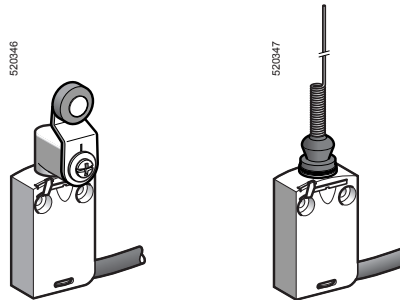
Complete switches: page 20. Variable composition: page 22

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



Complete switches: page 20. Variable composition: page 22

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

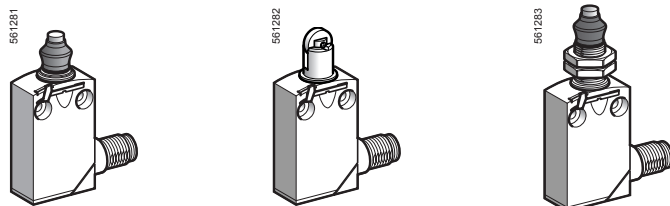


Complete switches: page 21. Variable composition: page 23

XCMD
with connector

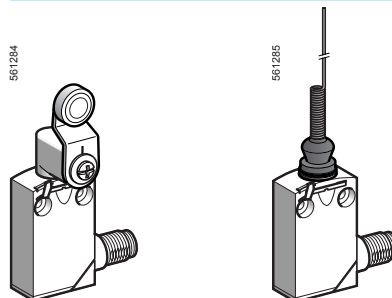
□ With head for linear movement (plunger)
Fixing by the body

Fixing by the head



Complete switches: page 26. Variable composition: page 28

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



Complete switches: page 27. Variable composition: page 29

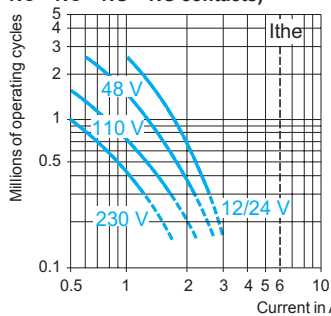
Environment characteristics		
Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA (except products with special cables), CCC
Protective treatment		Standard version: "TC"
Ambient air temperature		For operation: - 25... + 70°C. 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.

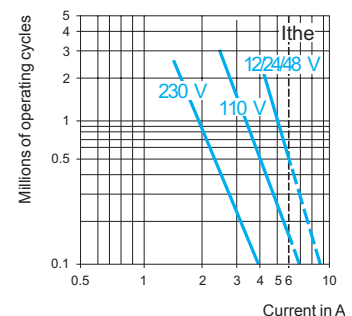
Contact block characteristics		
Rated operational characteristics	Switches with 2 contacts	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A) ::: DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	Switches with 3 and 4 contacts	~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A) :::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

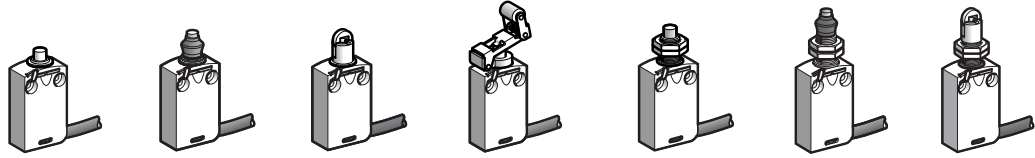
Power broken in W for 5 million operating cycles				
Voltage	V	24	48	120
m.	W	3	2	1

Power broken in W for 5 million operating cycles				
Voltage	V	24	48	120
m.	W	4	3	3

Limit switches

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

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

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
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205
Contact operation			(A) = cam displacement (P) = positive opening point				

Complementary characteristics not shown under general characteristics (see page 19)

Switch actuation	On end	By 30° cam		On end	By 30° cam	
Type of actuation						
Maximum actuation speed	0.5 m/s				0.1 m/s	
Mechanical durability	10 million operating cycles					
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling	PvR cable, 5 x 0.75 mm ² , length 1 m					

(1) Nitrile for indoor use

Limit switches

OsiSense XC Standard
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)
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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			(A) = cam displacement (P) = positive opening point		

Complementary characteristics not shown under general characteristics (see page 19)		
Switch actuation	By 30° cam	
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

OsiSense XC Standard
Miniature design, metal, XCMD
Modular units
Pre-cabled

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

References (combined with removable terminal block)							
2-pole NC + NC snap action 	ZCMD29L1 + ZCE10 	ZCMD29L1 + ZCE11 	ZCMD29L1 + ZCE02 	ZCMD29L1 + ZCE24 	ZCMD29L1 + ZCEF0 	ZCMD29L1 + ZCEG1 	ZCMD29L1 + ZCEF2
3-pole NC + NC + NO snap action 	ZCMD39L1 + ZCE10 	ZCMD39L1 + ZCE11 	ZCMD39L1 + ZCE02 	ZCMD39L1 + ZCE24 	ZCMD39L1 + ZCEF0 	ZCMD39L1 + ZCEG1 	ZCMD39L1 + ZCEF2
3-pole NC + NC + NO break before make, slow break 	ZCMD29L1 + ZCE10 	ZCMD37L1 + ZCE11 	ZCMD37L1 + ZCE02 	ZCMD37L1 + ZCE24 	ZCMD37L1 + ZCEF0 	ZCMD37L1 + ZCEG1 	ZCMD37L1 + ZCEF2
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205
4-pole 2 NC + 2 NO snap action 	ZCMD4DL1 + ZCE10 	ZCMD4DL1 + ZCE11 	ZCMD4DL1 + ZCE02 	ZCMD4DL1 + ZCE24 	ZCMD4DL1 + ZCEF0 	ZCMD4DL1 + ZCEG1 	ZCMD4DL1 + ZCEF2
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185

References (combined with fixed terminal block)							
4-pole 2 NC + 2 NO snap action 	ZCMD41L1 + ZCE10 	ZCMD41L1 + ZCE11 	ZCMD41L1 + ZCE02 	ZCMD41L1 + ZCE24 	ZCMD41L1 + ZCEF0 	ZCMD41L1 + ZCEG1 	ZCMD41L1 + ZCEF2
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185
Contact operation	closed open		(A) = cam displacement (P) = positive opening point			NC contact with positive opening operation	

Complementary characteristics not shown under general characteristics (see page 19)					
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
	For positive opening	42.5 N	35 N	12.5 N	42.5 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 38.				

(1) Nitrile for indoor use

Limit switches

OsiSense XC Standard
Miniature design, metal, XCMD
Modular units
Pre-cabled

Type of head	Rotary (fixing by the body)				Multi-directional
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)

References (combined with removable terminal block)					
2-pole NC + NC snap action 	ZCMD29L1 + ZCE01 + ZCY15 	ZCMD29L1 + ZCE01 + ZCY16 	ZCMD29L1 + ZCE01 + ZCY17 	ZCMD29L1 + ZCE01 + ZCY45 	ZCMD29L1 + ZCE06
3-pole NC + NC + NO snap action 	ZCMD39L1 + ZCE01 + ZCY15 	ZCMD39L1 + ZCE01 + ZCY16 	ZCMD39L1 + ZCE01 + ZCY17 	ZCMD39L1 + ZCE01 + ZCY45 	ZCMD39L1 + ZCE06
3-pole NC + NC + NO break before make, slow break 	ZCMD37L1 + ZCE01 + ZCY15 	ZCMD37L1 + ZCE01 + ZCY16 	ZCMD37L1 + ZCE01 + ZCY17 	ZCMD37L1 + ZCE01 + ZCY45 	ZCMD37L1 + ZCE06
Weight (kg)	0.220	0.225	0.220	0.230	0.180
4-pole 2 NC + 2 NO snap action 	ZCMD4DL1 + ZCE01 + ZCY15 	ZCMD4DL1 + ZCE01 + ZCY16 	ZCMD4DL1 + ZCE01 + ZCY17 	ZCMD4DL1 + ZCE01 + ZCY45 	ZCMD4DL1 + ZCE06
Weight (kg)	0.200	0.205	0.200	0.210	0.160

References (combined with fixed terminal block)					
4-pole 2 NC + 2 NO snap action 	ZCMD41L1 + ZCE01 + ZCY15 	ZCMD41L1 + ZCE01 + ZCY16 	ZCMD41L1 + ZCE01 + ZCY17 	ZCMD41L1 + ZCE01 + ZCY45 	ZCMD41L1 + ZCE06
Weight (kg)	0.200	0.205	0.200	0.210	0.160
Contact operation			(A) = cam displacement (P) = positive opening point		

Complementary characteristics not shown under general characteristics (see page 19)		
Switch actuation	By 30° cam	
Type of actuation		
Maximum actuation speed	1.5 m/s	
Mechanical durability	10 million operating cycles	
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 38.	

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

Limit switches

OsiSense XC Standard

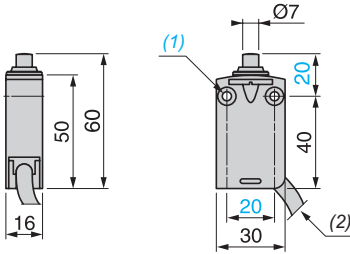
Miniature design, metal, XCMD

Complete units

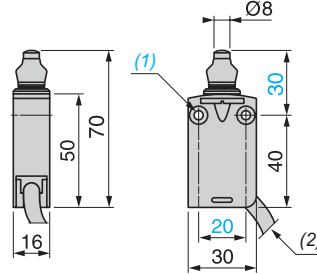
Pre-cabled

Dimensions

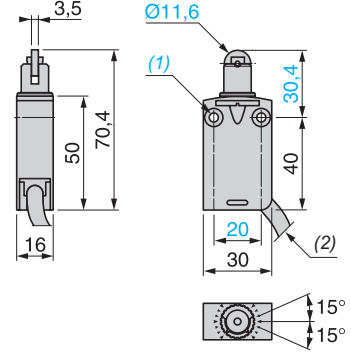
XCMD2•10L1



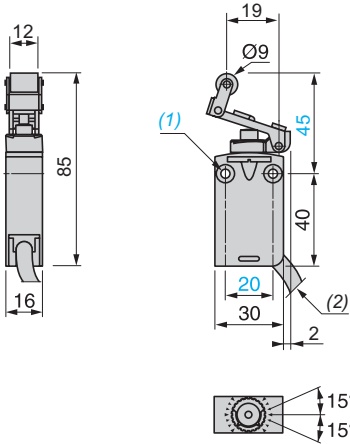
XCMD2•11L1



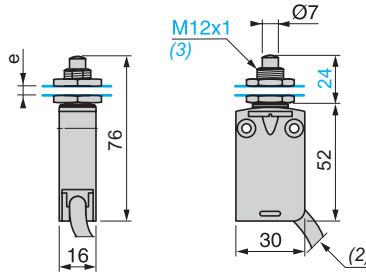
XCMD2•02L1



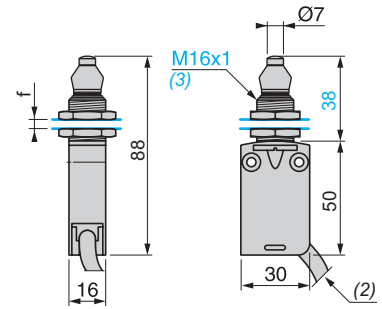
XCMD2•24L1



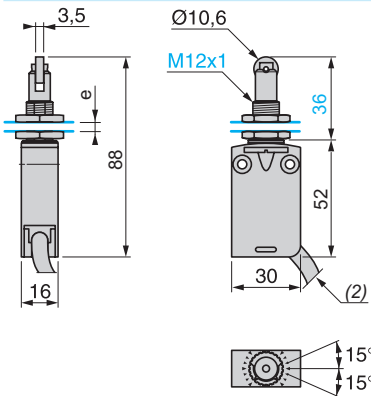
XCMD2•F0L1



XCMD2•G1L1



XCMD2•F2L1



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

(2) External diameter of cable 7.5 mm

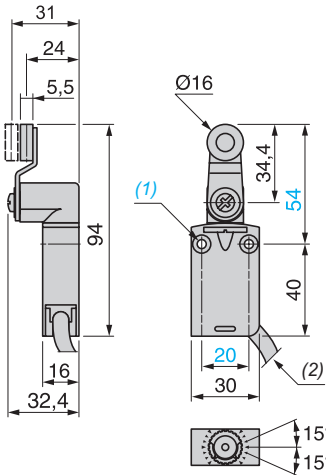
(3) Fixing nut thickness 3.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm

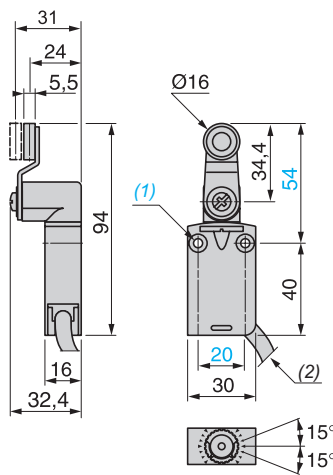
f: 8 mm max, panel cut-out Ø 16.5 mm

Dimensions (continued)

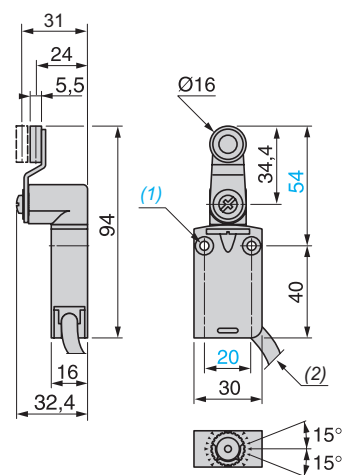
XCMD2●15L1



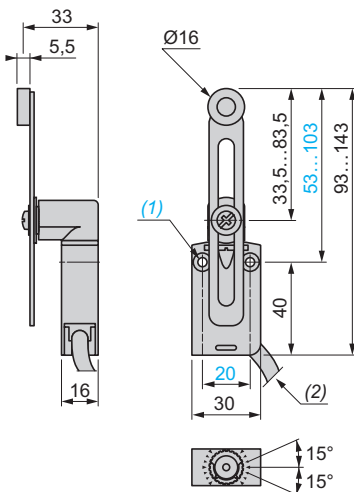
XCMD2●16L1



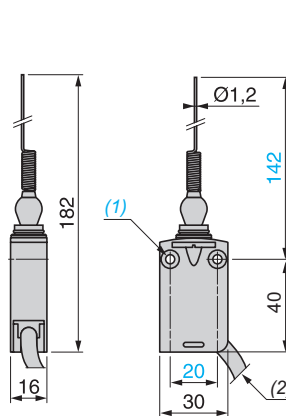
XCMD2●17L1



XCMD2●45L1

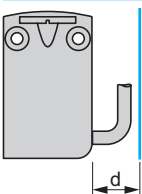


XCMD2●06L1



Mounting: distances 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

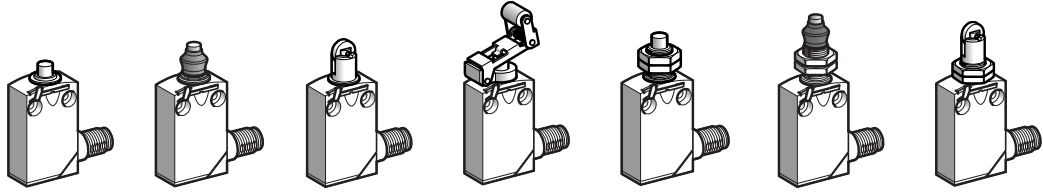
e: 8 mm max, panel cut-out Ø 12.5 mm

f: 8 mm max, panel cut-out Ø 16.5 mm

Limit switches

OsiSense XC Standard
Miniature design, 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

<p>Single-pole CO snap action + integral M12 4-pin connector</p>	<p>XCMD2110M12</p>	<p>XCMD2111M12</p>	<p>XCMD2102M12</p>	<p>XCMD2124M12</p>	<p>XCMD21F0M12</p>	<p>XCMD21G1M12</p>	<p>XCMD21F2M12</p>
	<p>2-pole NC + NO snap action + integral M12 5-pin connector</p>	<p>XCMD2110C12</p>	<p>XCMD2111C12</p>	<p>XCMD2102C12</p>	<p>XCMD2124C12</p>	<p>XCMD21F0C12</p>	<p>XCMD21G1C12</p>
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		

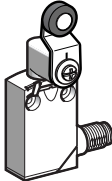
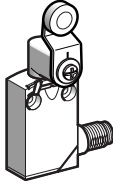
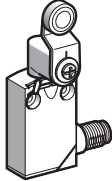
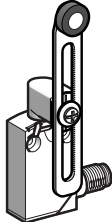
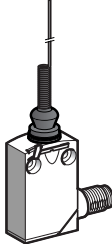
Complementary characteristics not shown under general characteristics (see page 19)

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 because they are single-pole CO.					


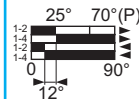
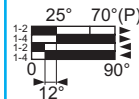
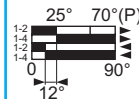
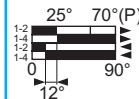
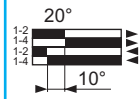

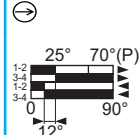
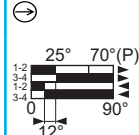
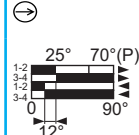
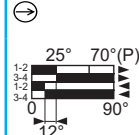
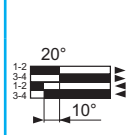
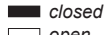

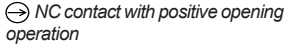
(1) Nitrile for indoor use

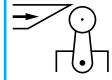


Limit switches

OsiSense XC Standard
Miniature design, metal, XCMD
Complete units
Connector

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

Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
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References	XCMD2115M12	XCMD2116M12	XCMD2117M12	XCMD2145M12	XCMD2106M12
 <p>Single-pole CO snap action With integral M12 4-pin connector</p>					
 <p>2-pole NC + NO snap action With integral M12 5-pin connector</p>					
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 19)		
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	
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

OsiSense XC Standard
Miniature design, metal, XCMD
Modular units
Connector

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

References							
	ZCMD21M12 + ZCE10 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21M12 + ZCE11 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21M12 + ZCE02 ⊖ 3,1(A) 7(P) 1,4 mm	ZCMD21M12 + ZCE24 ⊖ 11,2(A) 25(P) 4,9 mm	ZCMD21M12 + ZCEF0 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21M12 + ZCEG1 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21M12 + ZCEF2 ⊖ 3,1(A) 7(P) 1,4 mm
	ZCMD21C12 + ZCE10 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21C12 + ZCE11 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21C12 + ZCE02 ⊖ 3,1(A) 7(P) 1,4 mm	ZCMD21C12 + ZCE24 ⊖ 11,2(A) 25(P) 4,9 mm	ZCMD21C12 + ZCEF0 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21C12 + ZCEG1 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21C12 + ZCEF2 ⊖ 3,1(A) 7(P) 1,4 mm
	ZCMD29C12 + ZCE10 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD29C12 + ZCE11 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD29C12 + ZCE02 ⊖ 3,1(A) 7(P) 1,4 mm	ZCMD29C12 + ZCE24 ⊖ 11,2(A) 25(P) 4,9 mm	ZCMD29C12 + ZCEF0 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD29C12 + ZCEG1 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD29C12 + ZCEF2 ⊖ 3,1(A) 7(P) 1,4 mm
Weight (kg)	0.085	0.085	0.090	0.105	0.100	0.125	0.110
	ZCMD21L08R12 + ZCE10 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08R12 + ZCE11 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08R12 + ZCE02 ⊖ 3,1(A) 7(P) 1,4 mm	ZCMD21L08R12 + ZCE24 ⊖ 11,2(A) 25(P) 4,9 mm	ZCMD21L08R12 + ZCEF0 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08R12 + ZCEG1 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08R12 + ZCEF2 ⊖ 3,1(A) 7(P) 1,4 mm
	ZCMD21L08U78 + ZCE10 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08U78 + ZCE11 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08U78 + ZCE02 ⊖ 3,1(A) 7(P) 1,4 mm	ZCMD21L08U78 + ZCE24 ⊖ 11,2(A) 25(P) 4,9 mm	ZCMD21L08U78 + ZCEF0 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08U78 + ZCEG1 ⊖ 1,8 4,2(P) 0,8 5mm	ZCMD21L08U78 + ZCEF2 ⊖ 3,1(A) 7(P) 1,4 mm
Weight (kg)	0.150	0.150	0.155	0.170	0.165	0.190	0.175
Contact operation			(A) = cam displacement (P) = positive opening point		⊖ NC contact with positive opening operation		

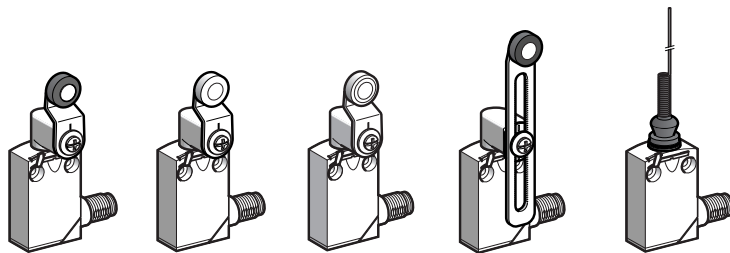
Complementary characteristics not shown under general characteristics (see page 19)						
Switch actuation	On end	By 30° cam		On end	By 30° cam	
Type of actuation						
Maximum actuation speed	0.5 m/s				0.1 m/s	
Mechanical durability	10 million operating cycles					
Minimum force or torque	For tripping	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

OsiSense XC Standard
Miniature design, 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

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

Complementary characteristics not shown under general characteristics (see page 19)

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

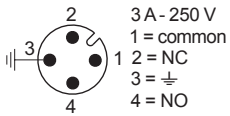
References of suitable pre-wired female connectors

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

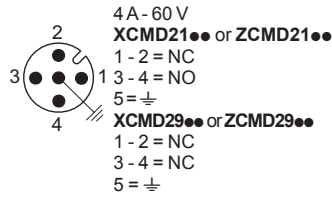
Connections

XCMD with connector

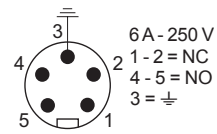
4-pin, M12



5-pin, M12

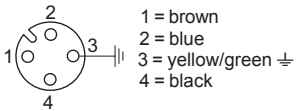


5-pin, 7/8"-16 UN

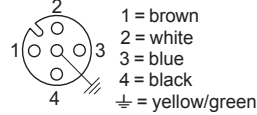


XZCP pre-wired female connectors

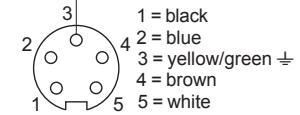
4-pin, M12



5-pin, M12

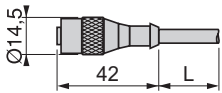


5-pin, 7/8"-16 UN

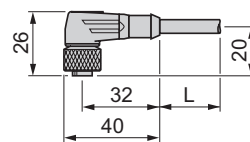


Dimensions

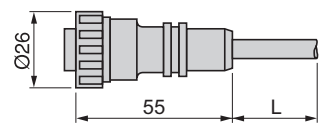
XZCP116●L●



XZCP1264L●



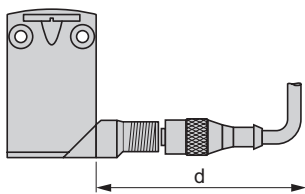
XZCP1771L●



L: cable length 2, 5 or 10 m.

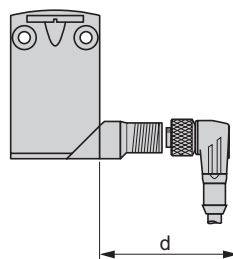
Distances required for plug-in connectors

M12 straight connector



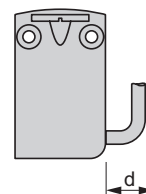
d: min. 65 mm, recommended 69 mm

M12 elbowed connector



d: min. 42 mm, recommended 45 mm

Connector on flying lead



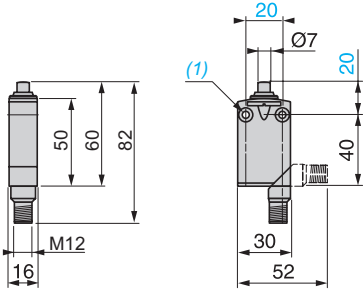
d: min. 20 mm

Limit switches

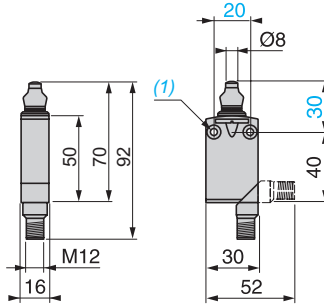
OsiSense XC Standard
 Miniature design, metal, XCMD
 Complete units
 Connector

Dimensions

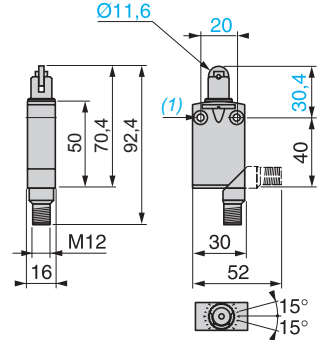
XCMD2•10M12



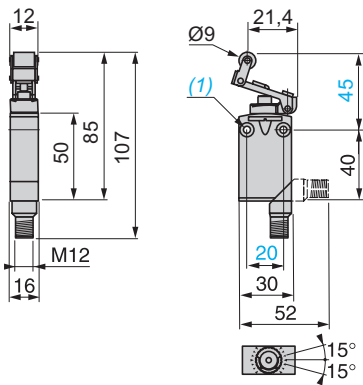
XCMD2•11M12



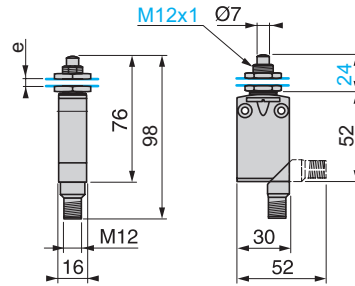
XCMD2•02M12



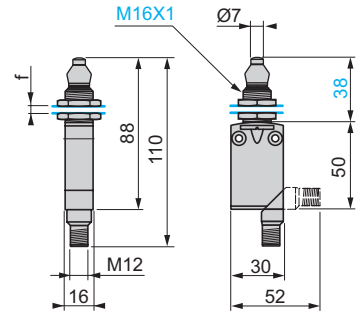
XCMD2•24M12



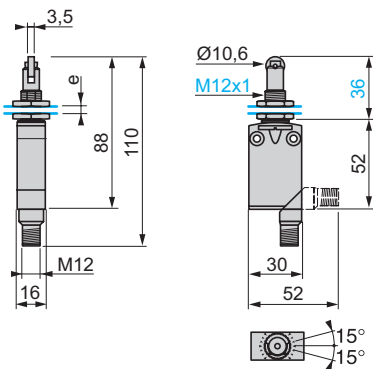
XCMD2•F0M12



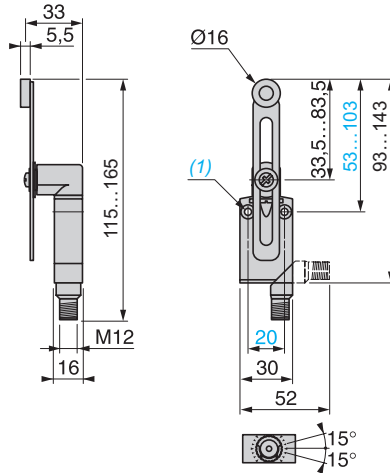
XCMD2•G1M12



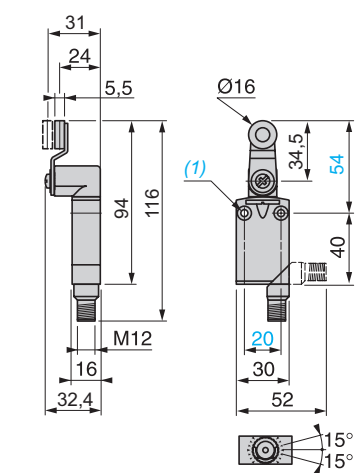
XCMD2•F2M12



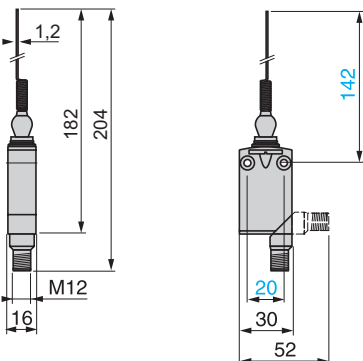
XCMD2•45M12



XCMD2•15M12/•16M12/•17M12



XCMD2•06M12



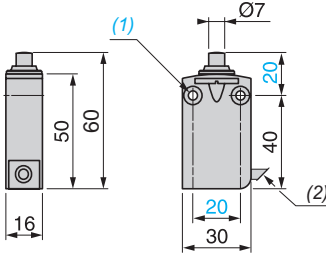
(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep
 e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm
 f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm

Limit switches

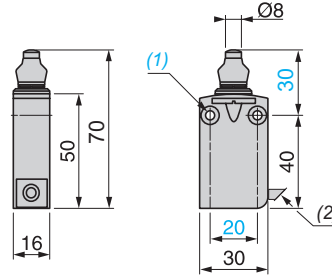
OsiSense XC Standard
 Miniature design, metal, XCMD
 Modular units
 Connector

Dimensions (continued)

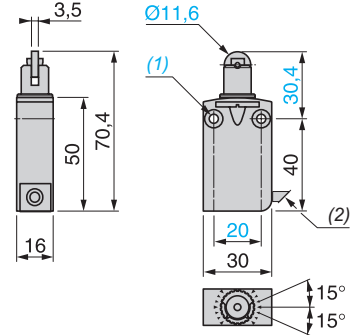
ZCMD21L08●●● + ZCE10



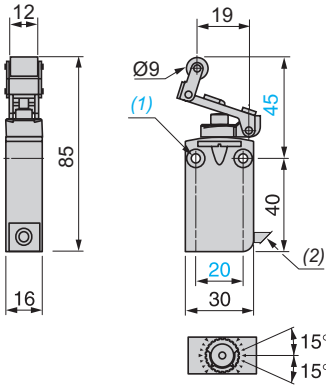
ZCMD21L08●●● + ZCE11



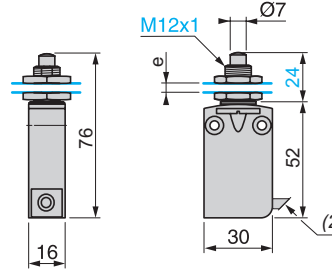
ZCMD21L08●●● + ZCE02



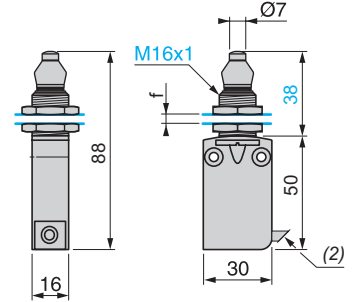
ZCMD21L08●●● + ZCE24



ZCMD21L08●●● + ZCEF0



ZCMD21L08●●● + ZCEG1



(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

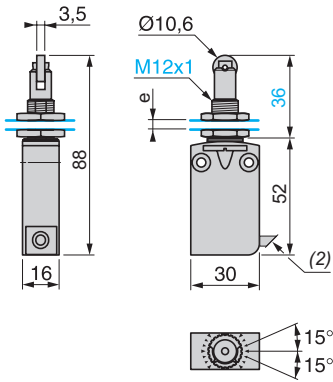
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm

Limit switches

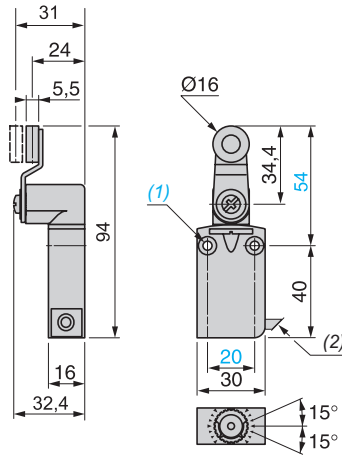
OsiSense XC Standard
 Miniature design, metal, XCMD
 Modular units
 Connector

Dimensions (continued)

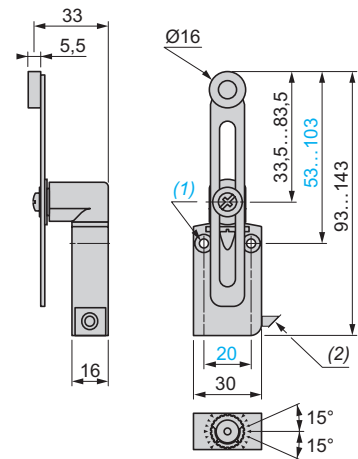
ZCMD21L08... + ZCEF2



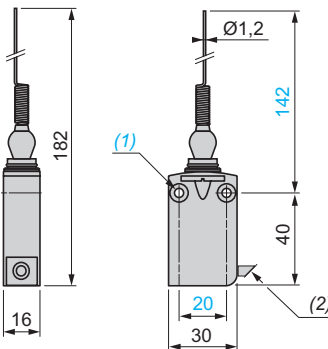
ZCMD21L08... + ZCE01 + ZCY15/16/17



ZCMD21L08... + ZCE01 + ZCY45



ZCMD21L08... + ZCE06



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

(2) External diameter 7.5 mm.

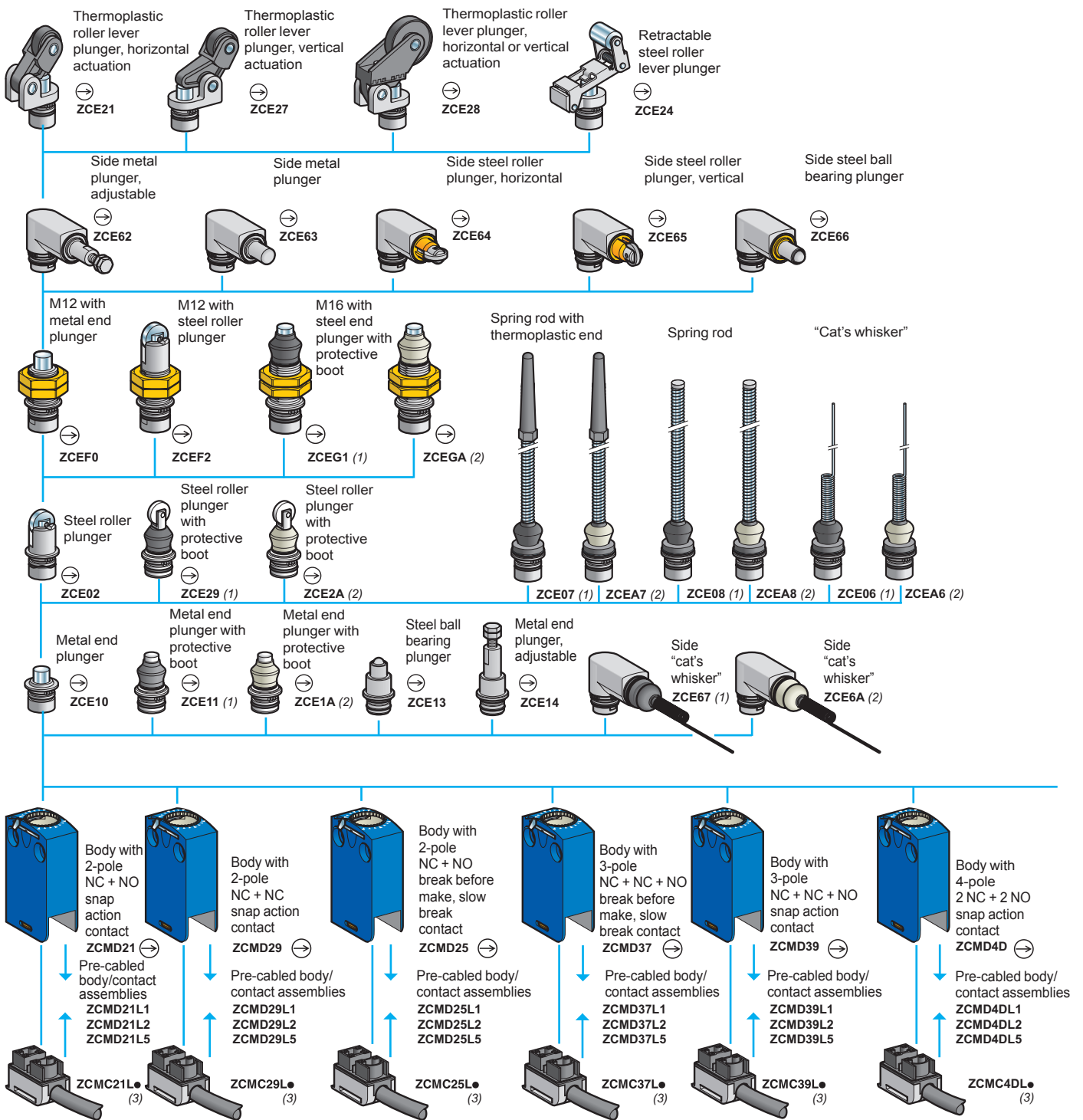
e: 8 mm max., panel cut-out Ø 12.5 mm, fixing nut thickness 3.5 mm
 f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm

Limit switches

OsiSense XC Standard

Miniature design, metal, XCMD

Variable composition



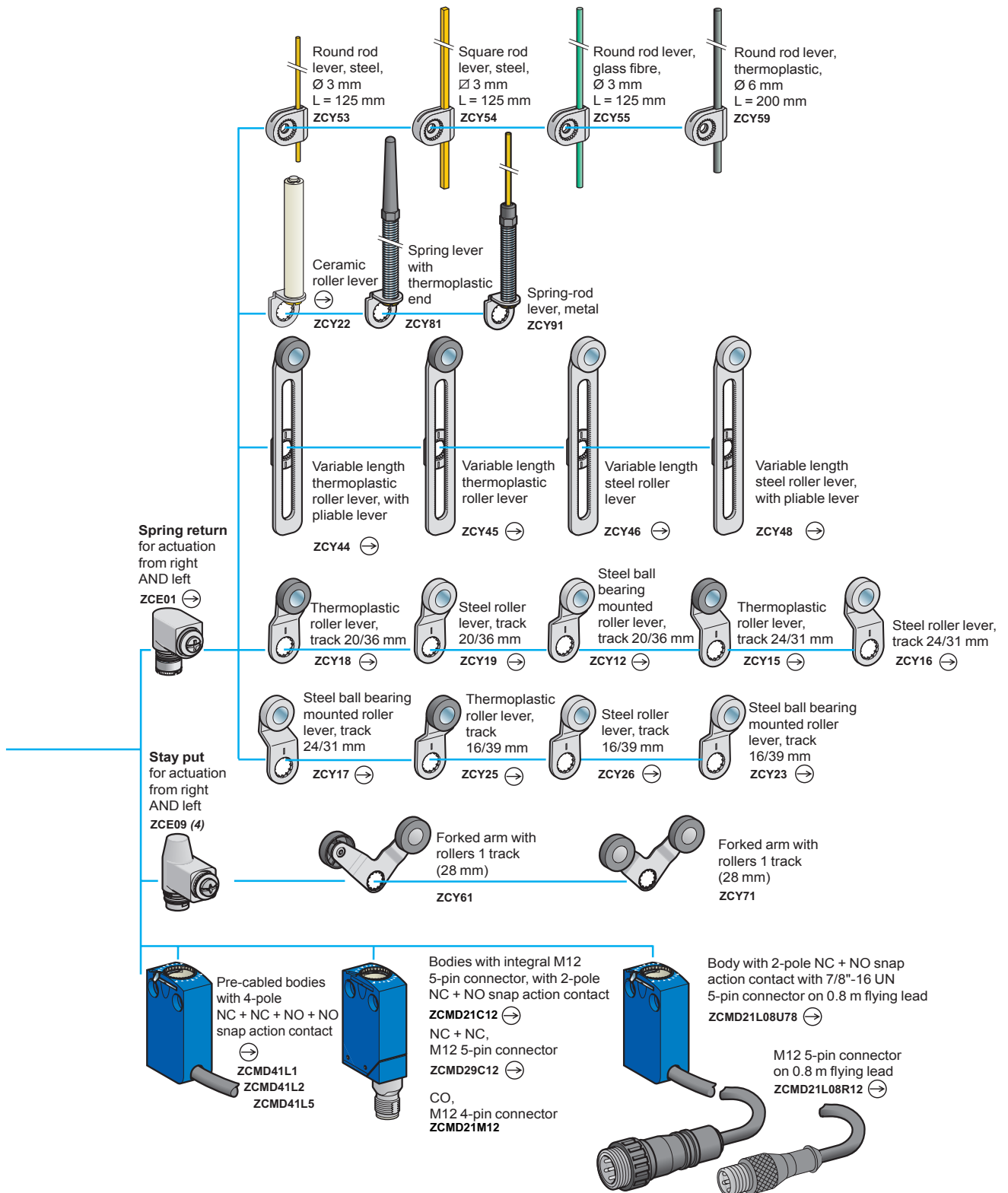
(1) Nitrile boot for indoor use.

(2) Silicone boot for outdoor use.

(3) 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●.



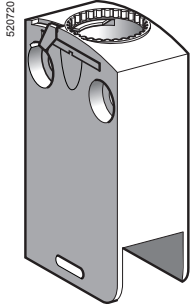
(4) Cannot be used on bodies ZCMD21, ZCMD29, ZCMD39, ZCMD41, ZCMD21C12, ZCMD21M12, ZCMD29C12 or ZCMD21L08●●●.

Limit switches

OsiSense XC Standard

Miniature design, metal, XCMD

Body/contact assemblies



ZCMD6●
ZCMD7●
ZCMD4D

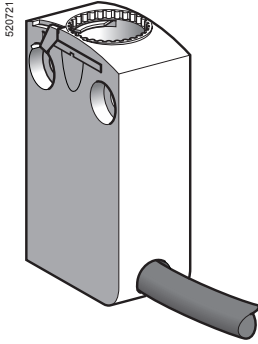
Body/contact assemblies					
Type of contact	Positive operation (1)	Scheme	Type of contact	Reference	Weight kg
2-pole					
NC + NO snap action	⊕		Standard	ZCMD21	0.055
			Gold plated	ZCMD61	0.055
NC + NC snap action	⊕		Standard	ZCMD29	0.055
			Gold plated	ZCMD69	0.055
NC + NO break before make, slow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

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

Limit switches

OsiSense XC Standard

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

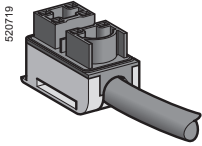
(1) ⊕ bodies with contacts assuring positive opening operation.

Limit switches

OsiSense XC Standard

Miniature design, metal, XCMD

Connection components



ZCMC2●L●●
ZCMC3●L●●
ZCMC4DL●

Pre-cabled connection components with PVC cable

2-pole

Type of contact	Scheme	Length of cable in metres	Reference	Weight kg
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

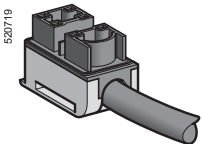
Pre-cabled connection components with halogen free cable (2)

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
			1	ZCMC21T1	0.130
NC + NO snap action	⊕		2	ZCMC21T2	0.250
			5	ZCMC21T5	0.520

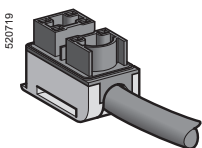
(1) Cable not UL or CSA certified.

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

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



ZCMC21E●



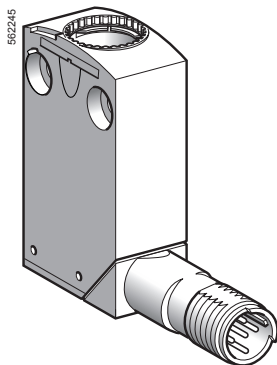
ZCMC25T06
ZCMC21T●

Limit switches

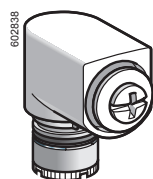
OsiSense XC Standard

Miniature design, metal, XCMD

Separate parts



ZCMD61●●●



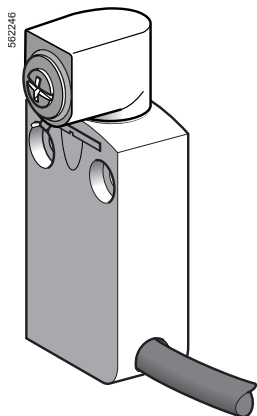
ZCE05



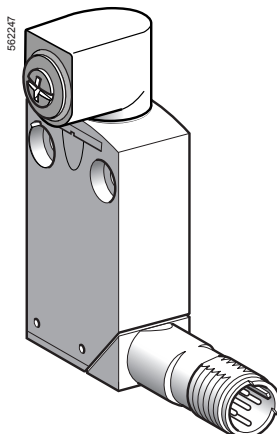
XCMZ06



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 (2)		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.

(2) For programming see page 10.

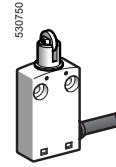
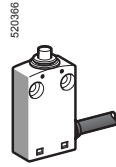
Limit switches

OsiSense XC Basic

Miniature design, plastic, XCMN

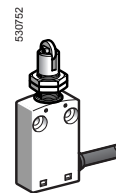
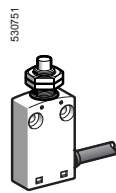
■ XCMN
pre-cabled

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



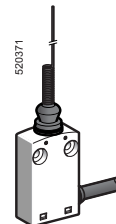
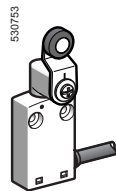
Page 42

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



Page 42

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



Page 43

Environment characteristics		
Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25...+ 70°C
	For storage	- 40...+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	5 gn (10...500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	25 gn (18 ms)
Electric shock protection		Class II conforming to IEC 61140 and NF C 20030
Degree of protection		IP 65 conforming to IEC 60529; IK 04 conforming to EN 50102
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

OsiSense XC Basic

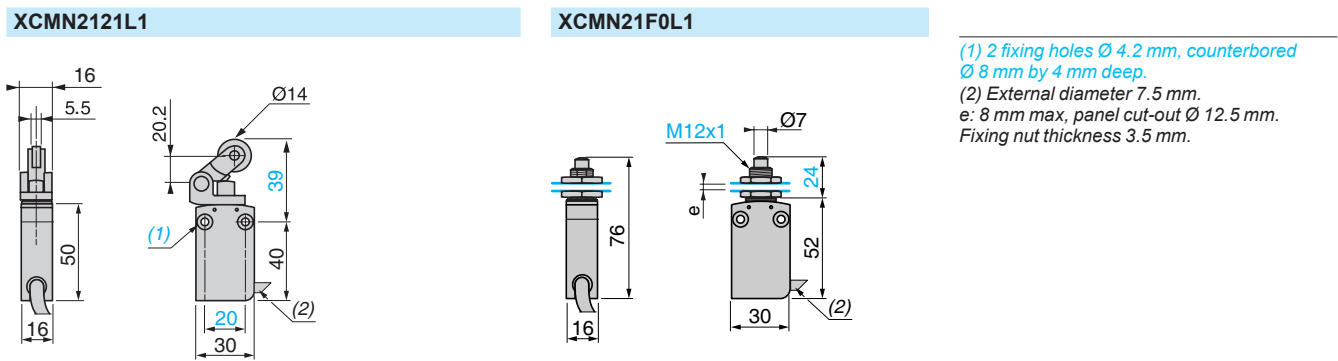
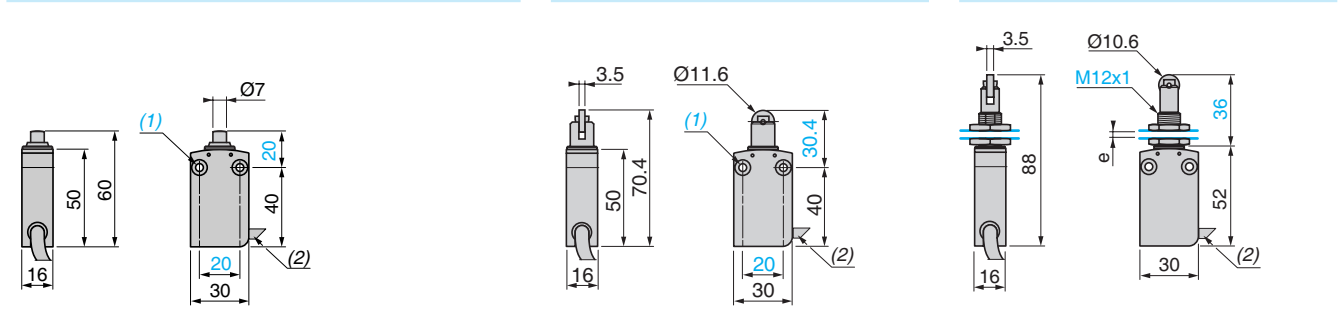
Miniature design, plastic, XCMN
Pre-cabled

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	XCMN2110L1	XCMN2102L1	XCMN2103L1	XCMN2121L1	XCMN21F0L1	XCMN21F2L1	XCMN21F3L1
 2-pole NC + NO snap action BK-WH, BU, BN, BK-BK-WH, BK-BU, BK-BU	 1.8 4.2(P) 0.8 5mm	 3.1(A) 7(P) 0 1.4 mm	 3.1(A) 7(P) 0 1.4 mm	 65(A) 14(P) 0 2.8 mm	 1.8 4.2(P) 0.8 5mm	 3.1(A) 7(P) 0 1.4 mm	 3.1(A) 7(P) 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	On end		By 30° cam		On end		By 30° cam	
Switch actuation								
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	2.5 N	8.5 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N	12.5 N	42.5 N
Cabling	PvR cable, 4 x 0.75 mm ² , length 1 metre							

Dimensions



(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.

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	XCMN2115L1	XCMN2145L1	XCMN2159L1	XCMN2107L1	XCMN2106L1
 2-pole NC + NO snap action BK-WH, BU, BN	 25° 70°(P) BK-BK-WH, BN-BU, BK-BK-WH, BN-BU 12° 90°	 25° 70°(P) BK-BK-WH, BN-BU, BK-BK-WH, BN-BU 12° 90°	 25° BK-BK-WH, BN-BU, BK-BK-WH, BN-BU 12° 90°	 20° BK-BK-WH, BU-BN, BK-BK-WH, BU-BN 10°	 20° BK-BK-WH, BU-BN, BK-BK-WH, BU-BN 10°
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	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	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
 31, 24, 5.5, 94, 16, 32.4, 30, 20, 40, 34.4, 54, Ø16, (1), (2)	 30, 232 max., 16, 40.5, 30, 20, 40, 192 max., Ø6, (1), (2)	 168, 16, 30, 20, 40, 128, Ø6.4, (1), (2)	
 33, 5.5, 16, 30, 20, 93...143, 59...103, 33.5...83.5, Ø16, (1), (2)	 182, 16, 30, 20, 40, 142, Ø1.2, (1), (2)		

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

Limit switches

OsiSense XC Standard

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 52 and 56



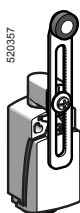
Pages 46 and 50



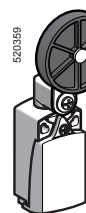
□ With head for rotary movement (lever) or multi-directional. Fixing by the body

XCKD

XCKP



Pages 53 and 57



Pages 47 and 51



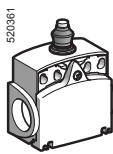
■ XCKT

with 2 cable entries

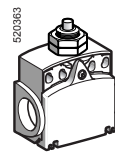
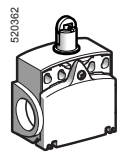
Tripping/resetting points and fixing centres conform to CENELEC EN 50047

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

XCKT



Page 58

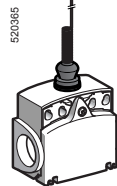


□ With head for rotary movement (lever) or multi-directional. Fixing by the body

XCKT



Page 58



Environment characteristics

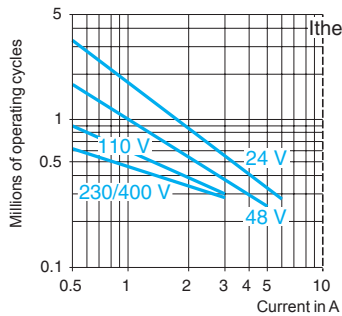
Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25...+ 70°C
	For storage	- 40...+ 70°C
Vibration resistance	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

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

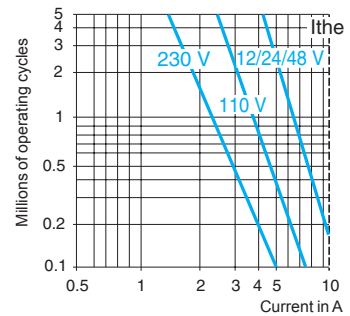
Electrical durability	<ul style="list-style-type: none"> ■ Conforming to IEC 60947-5-1 Appendix C ■ Utilisation categories AC-15 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5
-----------------------	--

AC supply
50/60 Hz ~
mm. inductive circuit

XE2SP●151, XE2SP2141



XE2NP21●1, XE2NP31●1



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm. W	10	7	4

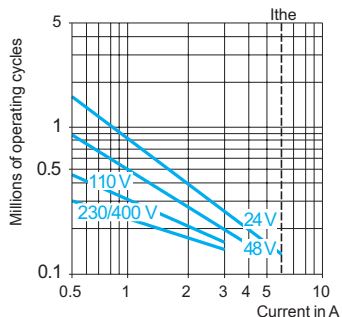
Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm. W	13	9	7

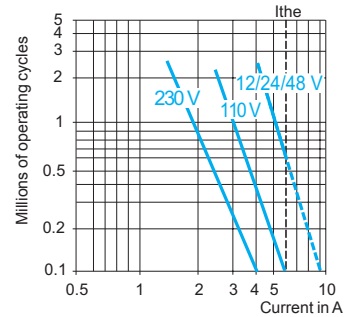
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply
50/60 Hz ~
mm. inductive circuit

XE3SP●●●●



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.


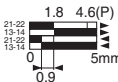
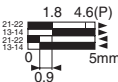
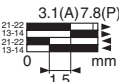
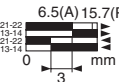
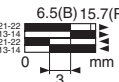
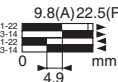

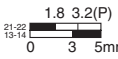
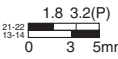
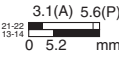
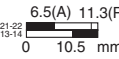
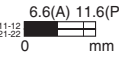
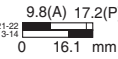


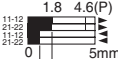

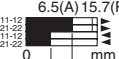

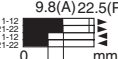

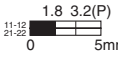
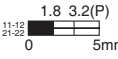
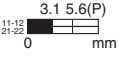
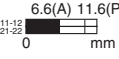
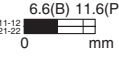
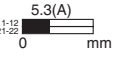

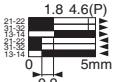
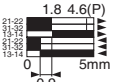
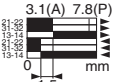
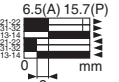
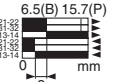
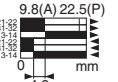



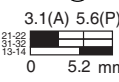
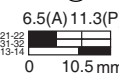

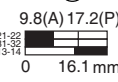
Voltage V	24	48	120
mm. W	4	3	2

Limit switches

OsiSense XC Standard




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

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

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

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

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by G11. Example: XCKP2110P16 becomes XCKP2110G11 or ZCPEP16 becomes ZCEG11.

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

Characteristics	
Switch actuation	On end
Type of actuation	By 30° cam
Maximum actuation speed	0.5 m/s
Mechanical durability (in millions of operating cycles)	15
Minimum force or torque	15 N
For tripping	45 N
For positive opening	12 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 16.

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

Limit switches

OsiSense XC Standard

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 1.8 4.6(P) 0.9 5mm	XCKP21H2P16 3.1(A) 7.8(P) 0 1.5 mm	XCKP2118P16 25° 70°(P) 0 12° 90°	XCKP2145P16 25° 70°(P) 0 12° 90°	XCKP2139P16 25° 70°(P) 0 12° 90°	XCKP2149P16 25° 70°(P) 0 12° 90°	XCKP2106P16 20° 0 15°
	XCKP25H0P16 1.8 3.2(P) 0 3 5mm	XCKP25H2P16 3.1(A) 5.6(P) 0 5.2 mm	XCKP2518P16 25° 46°(P) 0 42° 90°	XCKP2545P16 25° 46°(P) 0 42° 90°	XCKP2539P16 25° 46°(P) 0 42° 90°	XCKP2549P16 25° 46°(P) 0 42° 90°	XCKP2506P16 20° 0 45°
	ZCP29 + ZCPEP16 + ZCEH0 1.8 4.6(P) 0.9 5mm	ZCP29 + ZCPEP16 + ZCEH2 3.1(A) 7.8(P) 0 1.5 mm	ZCP29 + ZCPEP16 + ZCE01 + ZCY18 25° 70°(P) 0 12° 90°	ZCP29 + ZCPEP16 + ZCE01 + ZCY45 25° 70°(P) 0 12° 90°	ZCP29 + ZCPEP16 + ZCE01 + ZCY39 25° 70°(P) 0 12° 90°	ZCP29 + ZCPEP16 + ZCE01 + ZCY49 25° 70°(P) 0 12° 90°	ZCP29 + ZCPEP16 + ZCE06 20° 0 15°
	ZCP27 + ZCPEP16 + ZCEH0 1.8 3.2(P) 0 3 5mm	ZCP27 + ZCPEP16 + ZCEH2 3.1 5.6(P) 0 5.2 mm	ZCP27 + ZCPEP16 + ZCE01 + ZCY18 25° 46°(P) 0 42° 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY45 25° 46°(P) 0 42° 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY39 25° 46°(P) 0 42° 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY49 25° 46°(P) 0 42° 90°	ZCP27 + ZCPEP16 + ZCE06 20° 0 45°
	ZCP39 + ZCPEP16 + ZCEH0 1.8 4.6(P) 0.9 5mm	ZCP39 + ZCPEP16 + ZCEH2 3.1(A) 7.8(P) 0 1.5 mm	ZCP39 + ZCPEP16 + ZCE01 + ZCY18 25° 70°(P) 0 12° 90°	ZCP39 + ZCPEP16 + ZCE01 + ZCY45 25° 70°(P) 0 12° 90°	ZCP39 + ZCPEP16 + ZCE01 + ZCY39 25° 70°(P) 0 12° 90°	ZCP39 + ZCPEP16 + ZCE01 + ZCY49 25° 70°(P) 0 12° 90°	ZCP39 + ZCPEP16 + ZCE06 20° 0 15°
	ZCP37 + ZCPEP16 + ZCEH0 1.8 3.2(P) 0 3 5mm	ZCP37 + ZCPEP16 + ZCEH2 3.1(A) 5.6(P) 0 5.2 mm	ZCP37 + ZCPEP16 + ZCE01 + ZCY18 25° 46°(P) 0 42° 90°	ZCP37 + ZCPEP16 + ZCE01 + ZCY45 25° 46°(P) 0 42° 90°	ZCP37 + ZCPEP16 + ZCE01 + ZCY39 25° 46°(P) 0 42° 90°	ZCP37 + ZCPEP16 + ZCE01 + ZCY49 25° 46°(P) 0 42° 90°	ZCP37 + ZCPEP16 + ZCE06 20° 0 45°
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 For positive opening	15 N 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 16.

(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.

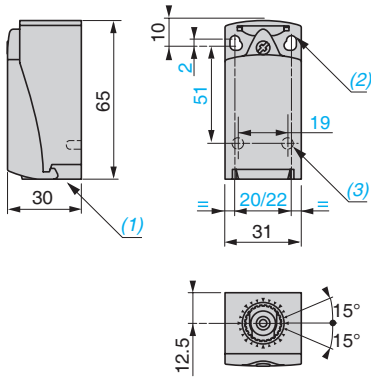
Limit switches

OsiSense XC Standard

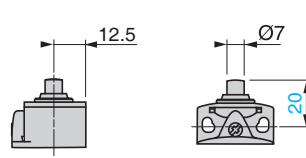
Compact design, plastic, XCKP

Complete switches with 1 cable entry

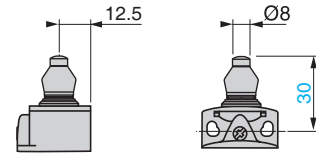
ZCP2● + ZCPEP16/ZCP3● + ZCPEP16



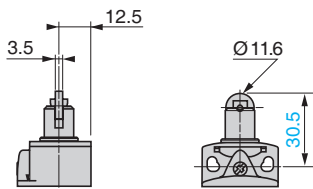
ZCE10



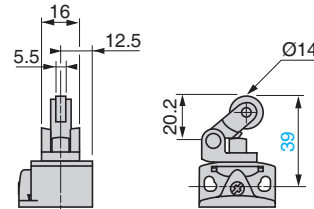
ZCE11



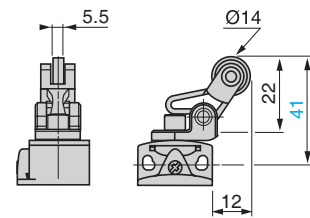
ZCE02



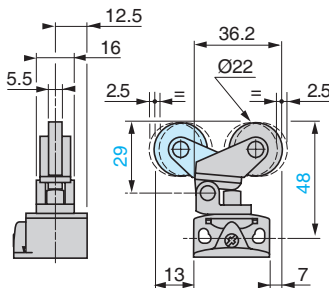
ZCE21



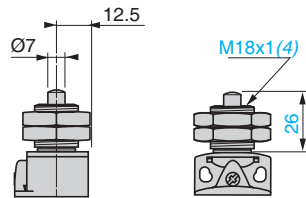
ZCE27



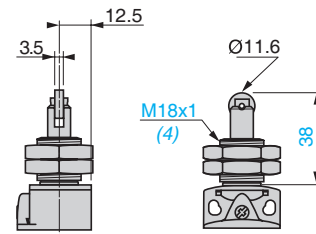
ZCE28



ZCEH0



ZCEH2



- (1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
- (2) 2 elongated holes $\varnothing 4.3 \times 6.3$ 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.

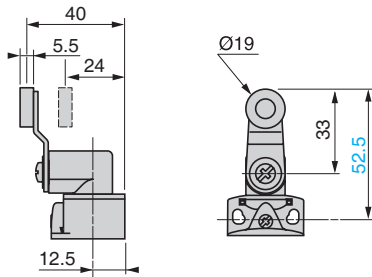
Limit switches

OsiSense XC Standard

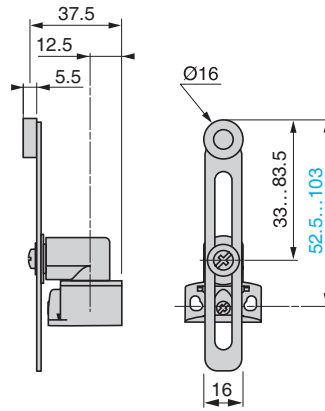
Compact design, plastic, XCKP

Complete switches with 1 cable entry

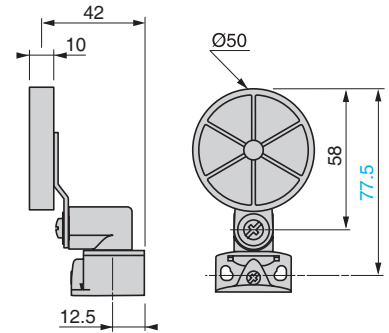
ZCE01 + ZCY18



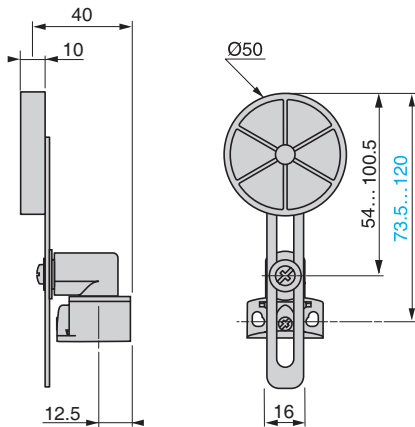
ZCE01 + ZCY45



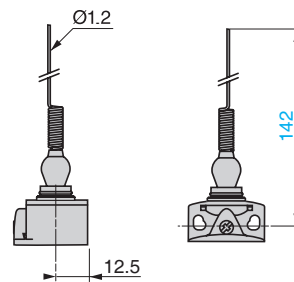
ZCE01 + ZCY39



ZCE01 + ZCY49



ZCE06



Limit switches

OsiSense XC Standard

Compact design, plastic, XCKP
M12 connector

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

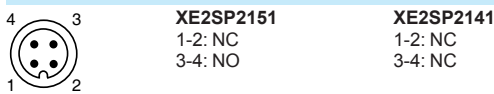
References							
2-pole NC + NO snap action (XE2SP2151)		XCKP2110M12 	XCKP2111M12 	XCKP2102M12 	XCKP2121M12 	XCKP2127M12 	XCKP2128M12
2-pole NC + NC snap action (XE2SP2141)		ZCP29M12 + ZCE10 	ZCP29M12 + ZCE11 	ZCP29M12 + ZCE02 	ZCP29M12 + ZCE21 	ZCP29M12 + ZCE27 	ZCP29M12 + ZCE28
Weight (kg)		0.100	0.100	0.100	0.110	0.110	0.110
Contact operation		closed open		(A) (B) = cam displacement (P) = positive opening point		NC contact with positive opening operation	

(1) Form conforming to EN 50047, see page 16.
(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 For positive opening: 45 N	12 N 36 N	6 N 18 N
Connection	M12 connector, U _i = 250 V, I _e = 3 A maximum, I _{th} = 3 A		

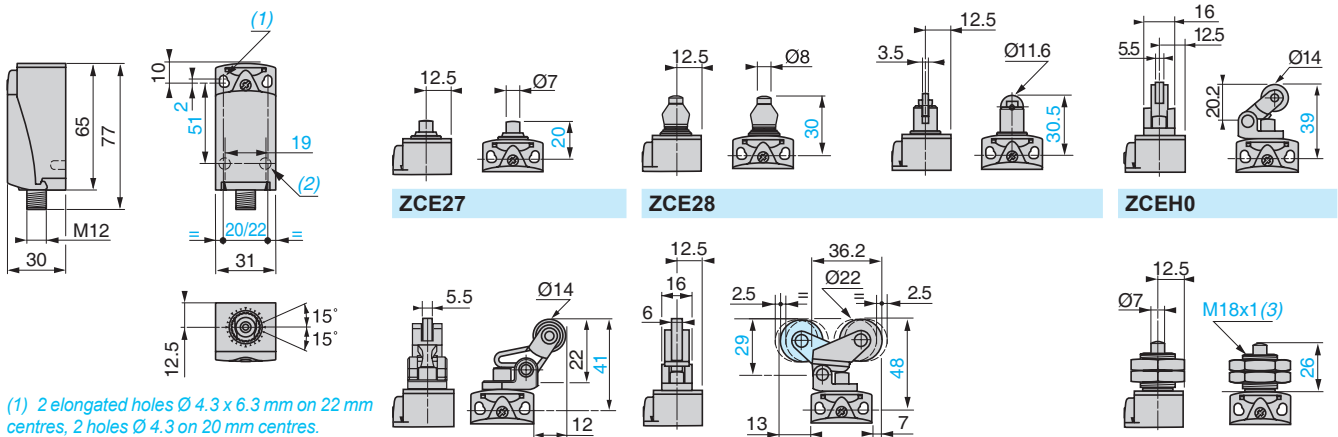
Connections






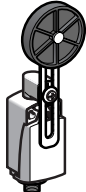

M12 connector


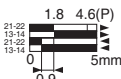


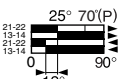
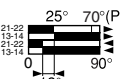
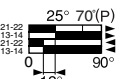
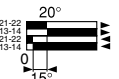

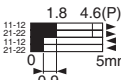
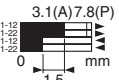
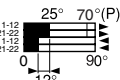
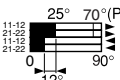
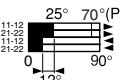
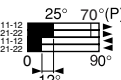





Dimensions






ZCP2•M12	ZCE10	ZCE11	ZCE02	ZCE21
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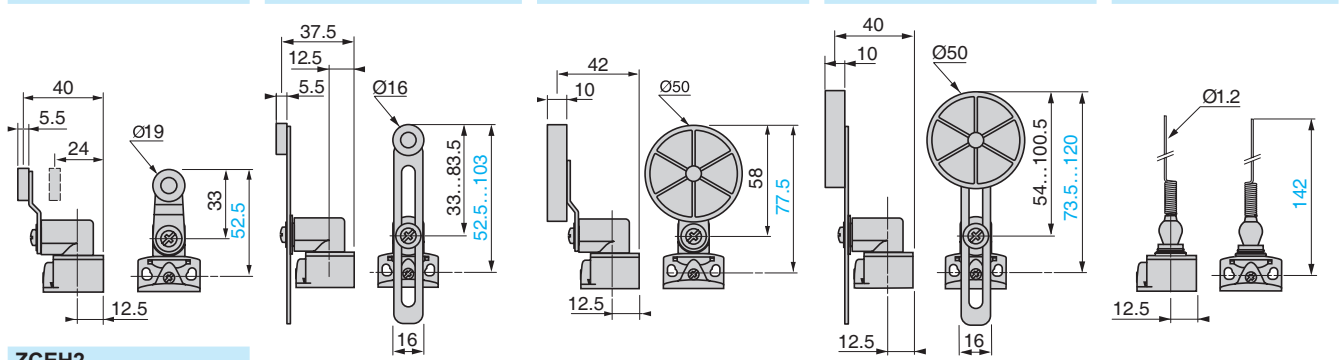
Type of head	Plunger (fixing by the head)	Rotary (fixing by the body)					Multi-directional
		Form A (1)					
							
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker" (2)

References								
2-pole NC + NO snap action (XE2SP2151)		XCKP21H0M12 	XCKP21H2M12 	XCKP2118M12 	XCKP2145M12 	XCKP2139M12 	XCKP2149M12 	XCKP2106M12 
	2-pole NC + NC snap action (XE2S P2141)		ZCP29M12 + ZCEH0 	ZCP29M12 + ZCEH2 	ZCP29M12 + ZCE01 + ZCY18 	ZCP29M12 + ZCE01 + ZCY45 	ZCP29M12 + ZCE01 + ZCY39 	ZCP29M12 + ZCE01 + ZCY49 
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			

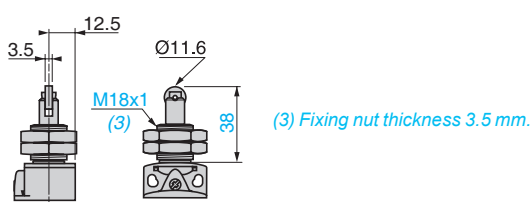
(1) Form conforming to EN 50047, see page 16.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

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

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



ZCEH2



Limit switches

OsiSense XC Standard

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	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 (A) (B) = 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 m/s	
Mechanical durability (in millions of operating cycles)	15	10			15	
Minimum force or torque	For tripping For positive opening	15 N 45 N	12 N 36 N		6 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 16.

(2) Nitrile for indoor use.

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

Limit switches

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

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

References of complete switches with 1 ISO M16 x 1.5 cable entry (3)								
	2-pole NC + NO snap action (XE2S P2151)	XCKD21H0P16 	XCKD21H2P16 	XCKD2118P16 	XCKD2145P16 	XCKD2139P16 	XCKD2149P16 	XCKD2106P16
	2-pole NC + NO break before make, slow break (XE2N P2151)	XCKD25H0P16 	XCKD25H2P16 	XCKD2518P16 	XCKD2545P16 	XCKD2539P16 	XCKD2549P16 	XCKD2506P16
	2-pole NC + NC snap action (XE2S P2141)	ZCD29 + ZCDEP16 + ZCEH0 	ZCD29 + ZCDEP16 + ZCEH2 	ZCD29 + ZCDEP16 + ZCE01 + ZCY18 	ZCD29 + ZCDEP16 + ZCE01 + ZCY45 	ZCD29 + ZCDEP16 + ZCE01 + ZCY39 	ZCD29 + ZCDEP16 + ZCE01 + ZCY49 	ZCD29 + ZCDEP16 + ZCE06
	2-pole NC + NC simultaneous, slow break (XE2N P2141)	ZCD27 + ZCDEP16 + ZCEH0 	ZCD27 + ZCDEP16 + ZCEH2 	ZCD27 + ZCDEP16 + ZCE01 + ZCY18 	ZCD27 + ZCDEP16 + ZCE01 + ZCY45 	ZCD27 + ZCDEP16 + ZCE01 + ZCY39 	ZCD27 + ZCDEP16 + ZCE01 + ZCY49 	ZCD27 + ZCDEP16 + ZCE06
	3-pole NC + NC + NO snap action (XE3S P2141)	ZCD39 + ZCDEP16 + ZCEH0 	ZCD39 + ZCDEP16 + ZCEH2 	ZCD39 + ZCDEP16 + ZCE01 + ZCY18 	ZCD39 + ZCDEP16 + ZCE01 + ZCY45 	ZCD39 + ZCDEP16 + ZCE01 + ZCY39 	ZCD39 + ZCDEP16 + ZCE01 + ZCY49 	ZCD39 + ZCDEP16 + ZCE06
	3-pole NC + NC + NO break before make, slow break (XE3N P2141)	ZCD37 + ZCDEP16 + ZCEH0 	ZCD37 + ZCDEP16 + ZCEH2 	ZCD37 + ZCDEP16 + ZCE01 + ZCY18 	ZCD37 + ZCDEP16 + ZCE01 + ZCY45 	ZCD37 + ZCDEP16 + ZCE01 + ZCY39 	ZCD37 + ZCDEP16 + ZCE01 + ZCY49 	ZCD37 + ZCDEP16 + ZCE06
Weight (kg)	0.220	0.220	0.225	0.235	0.235	0.245	0.175	

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

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by G11. Example: 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		
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
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 16.
 (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.

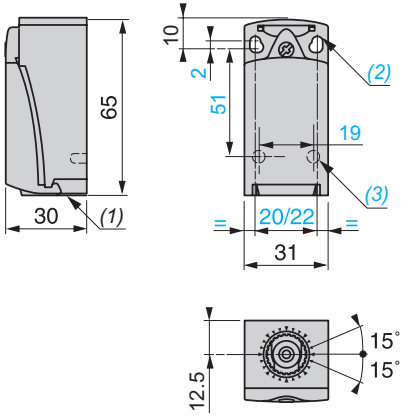
Limit switches

OsiSense XC Standard

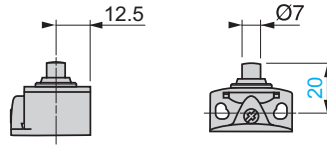
Compact design, metal, XCKD

Complete switches with 1 cable entry

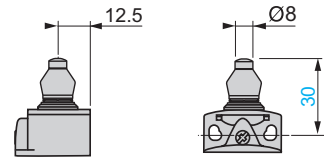
ZCD2● + ZCDEP16/ZCD3● + ZCDEP16



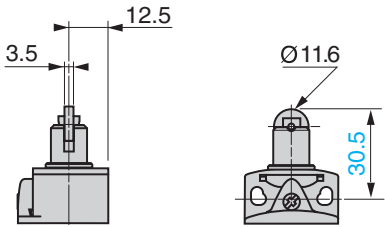
ZCE10



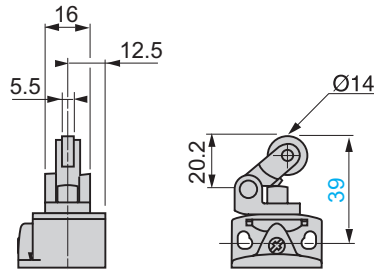
ZCE11



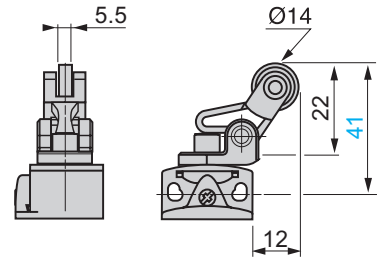
ZCE02



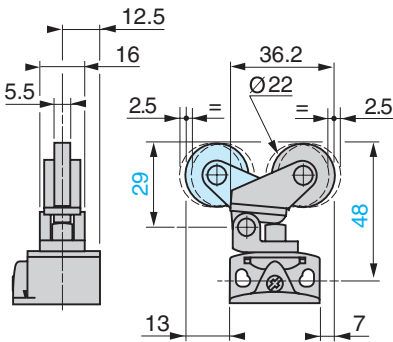
ZCE21



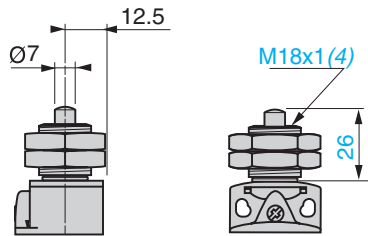
ZCE27



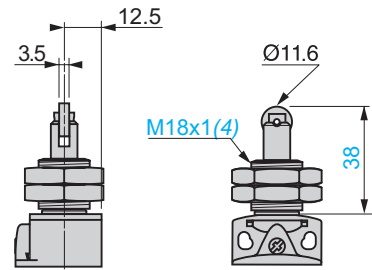
ZCE28



ZCEH0



ZCEH2



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

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

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

(4) Fixing nut thickness 3.5 mm.

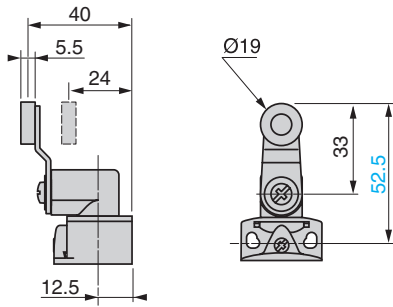
Limit switches

OsiSense XC Standard

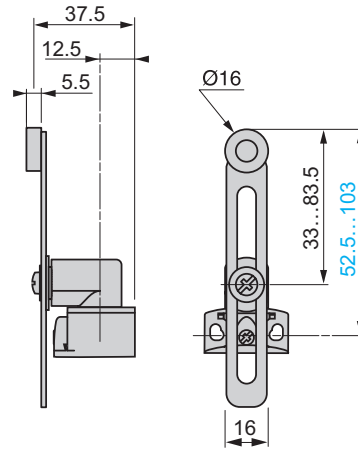
Compact design, metal, XCKD

Complete switches with 1 cable entry

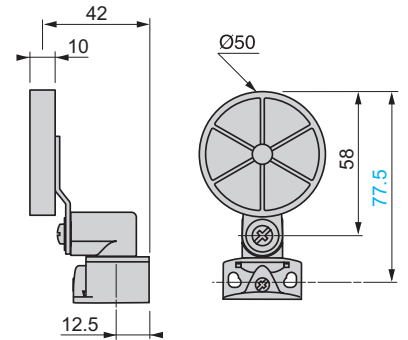
ZCE01 + ZCY18



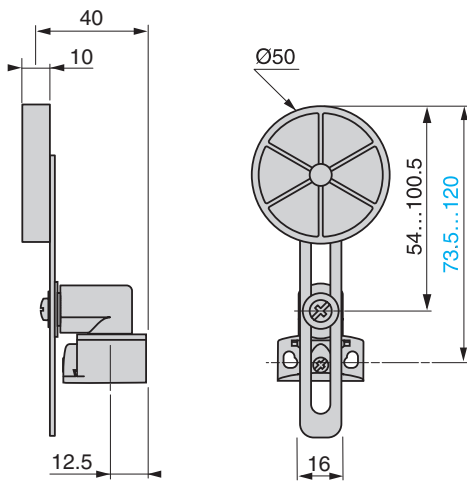
ZCE01 + ZCY45



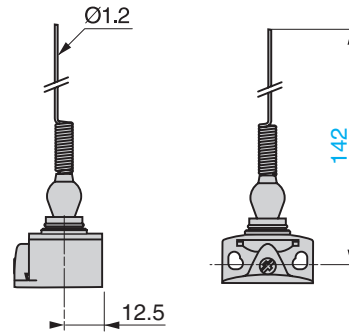
ZCE01 + ZCY39



ZCE01 + ZCY49










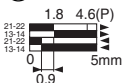
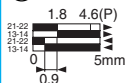
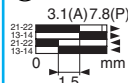
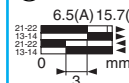
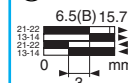
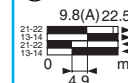

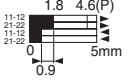
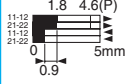
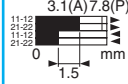
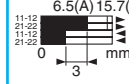
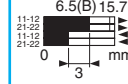
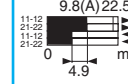



ZCE06


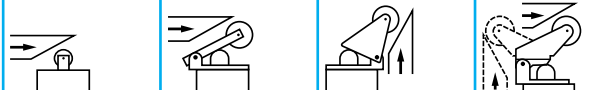



Limit switches

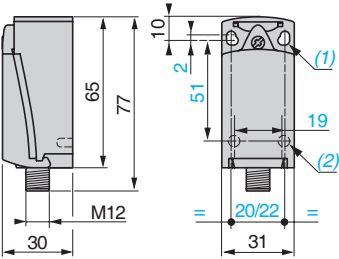
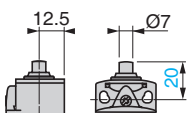
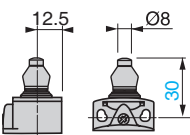
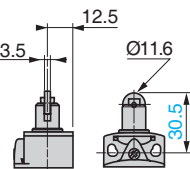
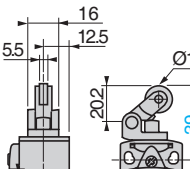
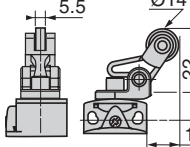
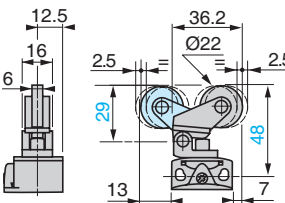
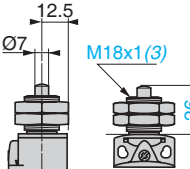
OsiSense XC Standard
Compact design, metal, XCKD
M12 connector

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

References							
2-pole NC + NO snap action (XE2S P2151)		XCKD2110M12 	XCKD2111M12 	XCKD2102M12 	XCKD2121M12 	XCKD2127M12 	XCKD2128M12 
2-pole NC + NC snap action (XE2S P2141)		ZCD29M12 + ZCE10 	ZCD29M12 + ZCE11 	ZCD29M12 + ZCE02 	ZCD29M12 + ZCE21 	ZCD29M12 + ZCE27 	ZCD29M12 + ZCE28 
Weight (kg)	0.190	0.190	0.195	0.205	0.200	0.205	
Contact operation	 closed  open			(A) (B) = cam displacement (P) = positive opening point	 NC contact with positive opening operation		
(1) Form conforming to EN 50047, see page 16.							
(2) Nitrile for indoor use.							

Characteristics	
Switch actuation	On end By 30° cam
Type of actuation	 
Maximum actuation speed	0.5 m/s 1 m/s
Mechanical durability (in millions of operating cycles)	15 10 15
Minimum force or torque	For tripping: 15 N 12 N 6 N For positive opening: 45 N 36 N 18 N
Connection	M12 connector, U _i = 60 V, I _e = 4 A maximum, l _{th} = 4 A

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

OsiSense XC Standard
Compact design, metal, XCKD
M12 connector

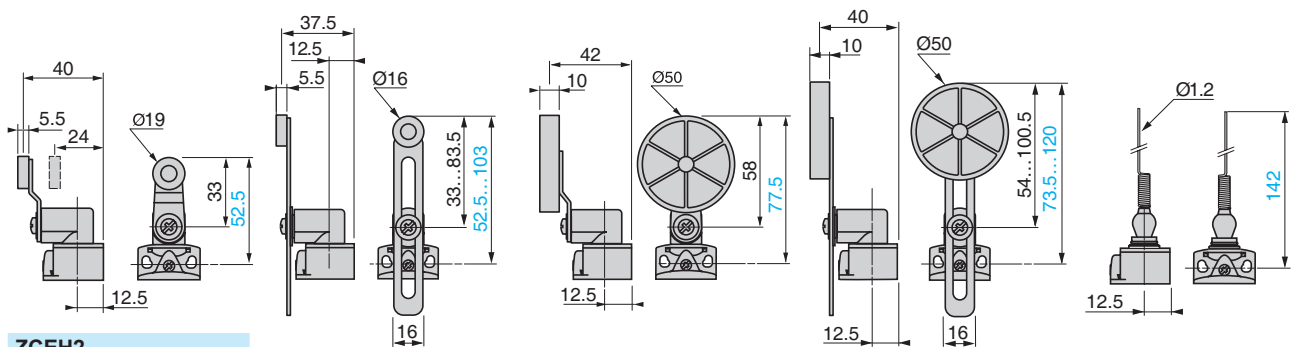
Type of head	Plunger (fixing by the head)		Rotary (fixing by the body)				Multi-directional
			Form A (1)				
Type of operator	M18 with metal end plunger	M18 with steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length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

References	XCKD21H0M12	XCKD21H2M12	XCKD2118M12	XCKD2145M12	XCKD2139M12	XCKD2149M12	XCKD2106M12
2-pole NC + NO snap action (XE2S P2151)							
2-pole NC + NC snap action (XE2S P2141)							
Weight (kg)	0.235	0.235	0.220	0.220	0.220	0.220	0.185
Contact operation			(A) = cam displacement (P) = positive opening point		⊕ NC contact with positive opening operation		

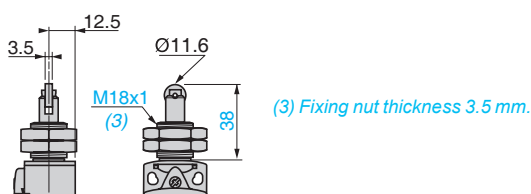
(1) Form conforming to EN 50047, see page 16.
(2) Value taken with actuation by moving part at 100 mm from the fixing.

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	1.5 m/s	1 m/s (any direct.)	
Mechanical durability (in millions of operating cycles)	10		5	
Minimum force or torque	For tripping: 15 N For positive opening: 45 N	10 N 36 N	0.1 N.m 0.25 N.m	0.13 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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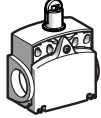
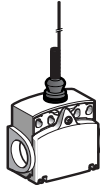


ZCEH2


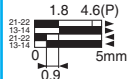
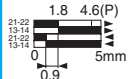
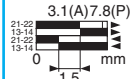
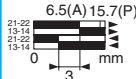

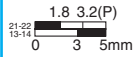
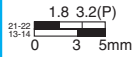
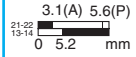
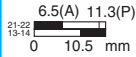
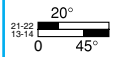


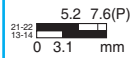
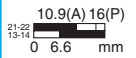
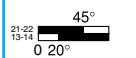




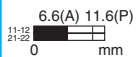
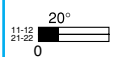

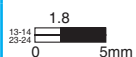
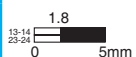
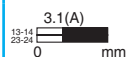
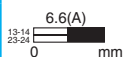
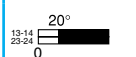


Limit switches

OsiSense XC Standard
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)

	XCKT2110P16	XCKT2111P16	XCKT2102P16	XCKT2121P16	XCKT2106P16
 2-pole NC + NO snap action (XE2SP3151)					
 2-pole NC + NO break before make, slow break (XE2NP3151)					
 2-pole NC + NO make before break, slow break (XE2NP3161)					
 2-pole NC + NC simultaneous, slow break (XE2NP2141)					
 2-pole NO + NO simultaneous, slow break (XE2NP3131)					
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.

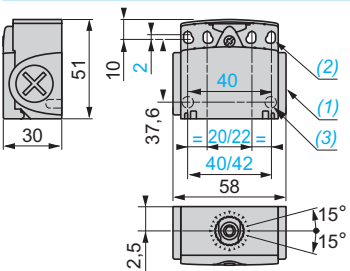
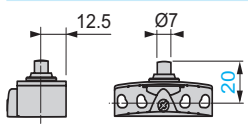
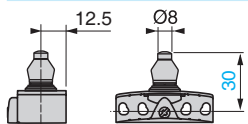
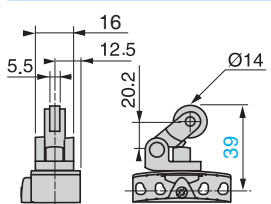
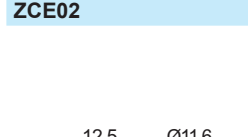
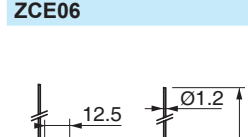
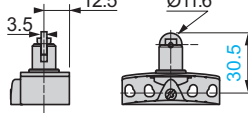
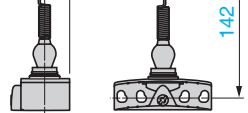
Contact operation  closed (A) = cam displacement  NC contact with positive opening operation
 open (P) = positive opening point

Characteristics				
Switch actuation	On end	By 30° cam		By any moving part
Type of actuation				
Maximum actuation speed	0.5 m/s		1 m/s	1 m/s (any direction)
Mechanical durability (in millions of operating cycles)	15	10	15	5
Minimum force or torque	For tripping: 15 N For positive opening: 45 N	12 N	6 N 18 N	0.3 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 16. (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
			
			
			

(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.

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		
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 16.

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

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

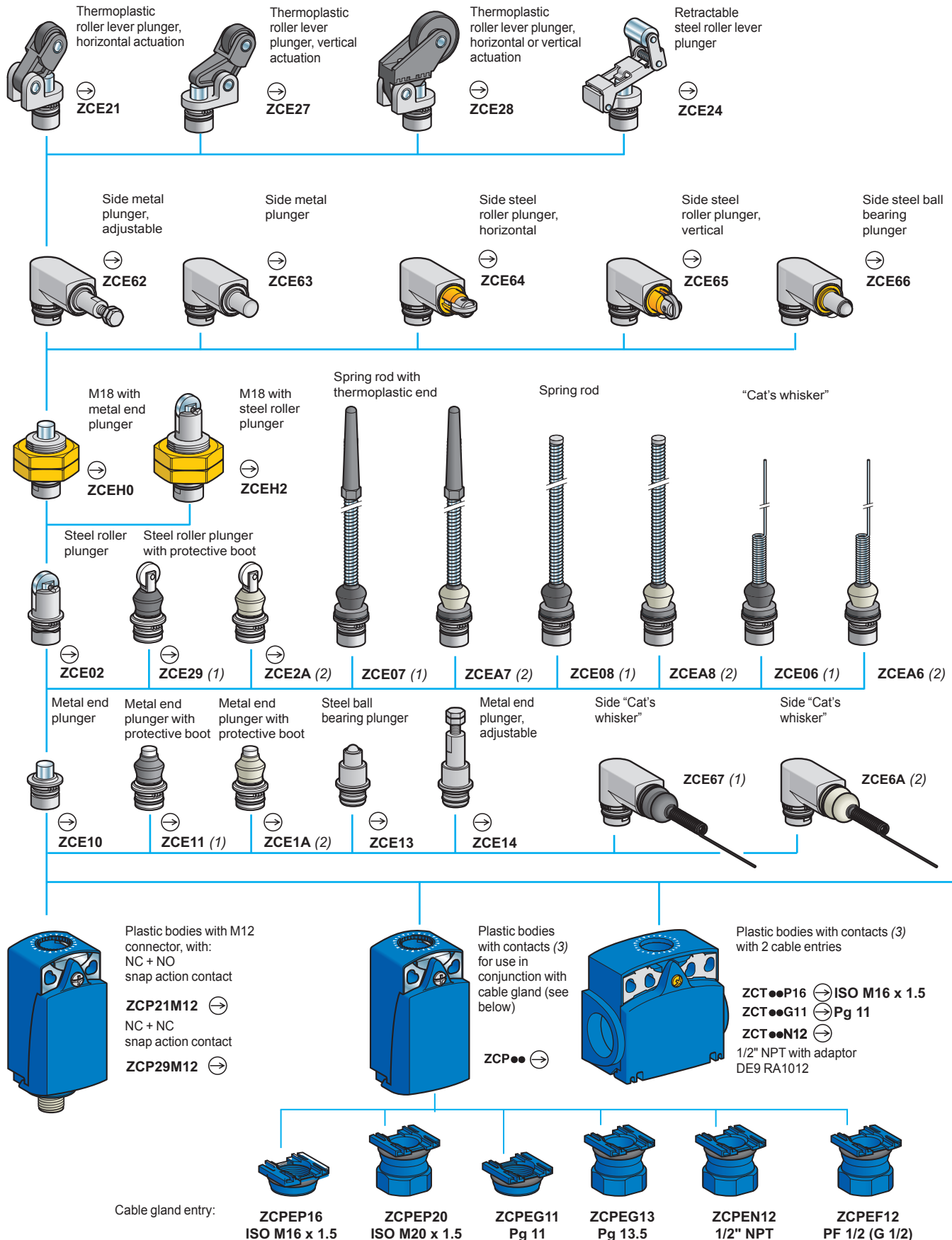
(4) Fixing nut thickness 3.5 mm.

Limit switches

OsiSense XC Standard

Compact design, XCKD, XCKP and XCKT

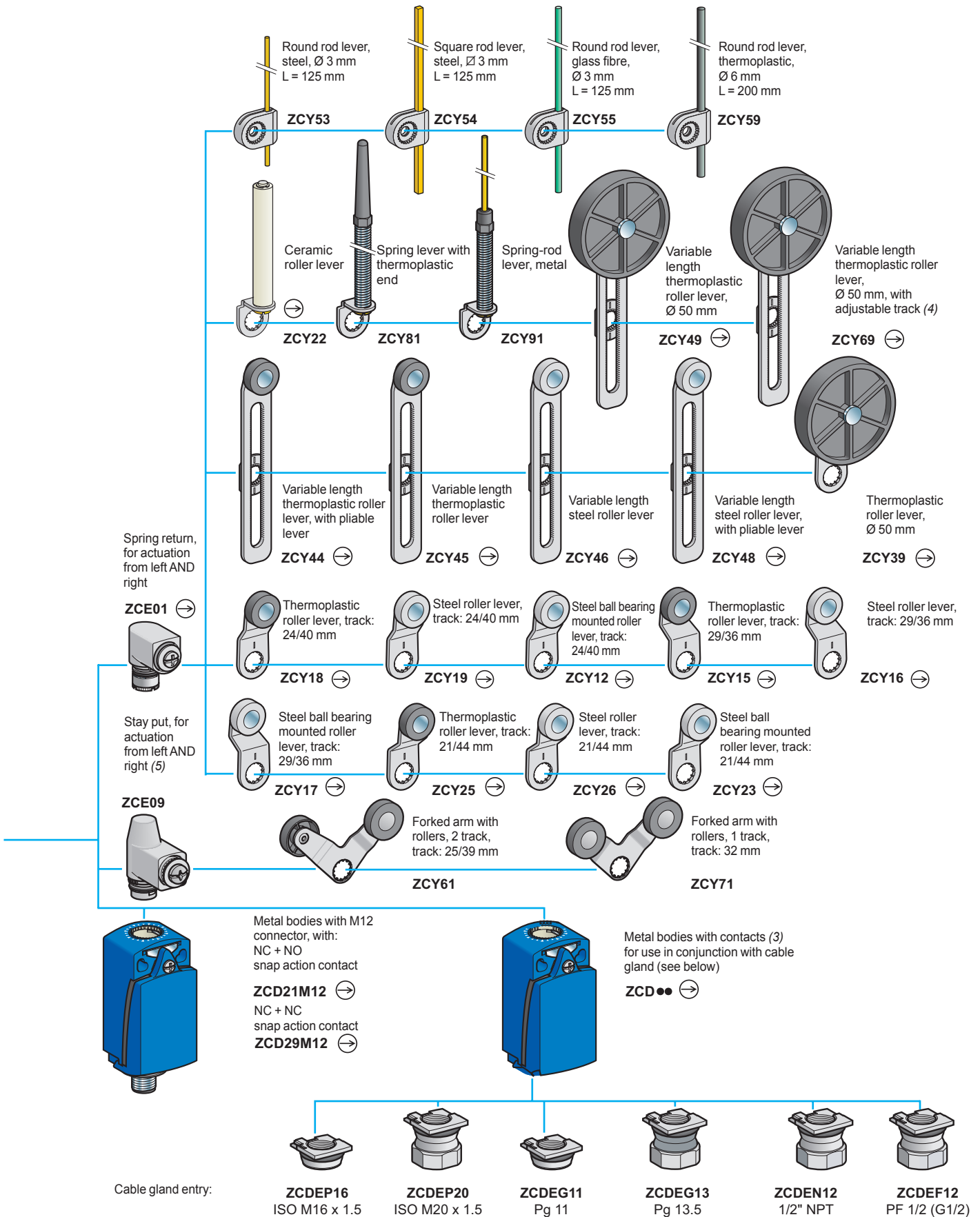
Variable composition



(1) Nitrile boot for indoor use.

(2) Silicone boot for outdoor use.

(3) For further information, see pages 62 and 63.

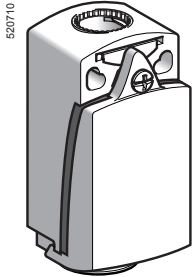


(4) Variable length and adjustable track by lever deformation.

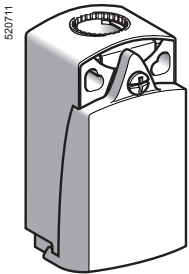
(5) Suitable with bodies: ZCD21, ZCP21, ZCT21●●, ZCD29, ZCP29, ZCD31, ZCP31, ZCD39, ZCP39, ZCD2●M12, ZCP2●M12

Limit switches

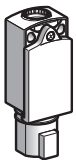
OsiSense XC Standard
Compact design, metal, XCKD
or plastic, XCKP
Adaptable sub-assemblies: bodies with contacts



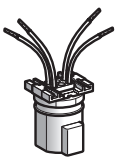
ZCD●●



ZCP●●



ZCP21D44



ZCPED44

Bodies with contacts, XCKD and XCKP (1)

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

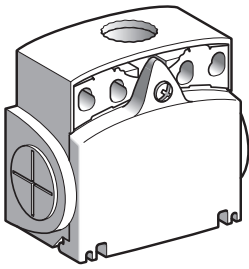
Limit switches

OsiSense XC Standard

Compact design, plastic, XCKT

Adaptable sub-assemblies: bodies with contacts

561390

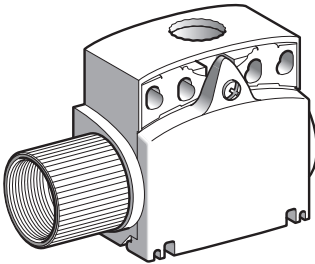


ZCT...•••

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

561387



ZCT...N12

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

Type of contact	Positive operation (1)	Scheme	Reference	Weight kg
2-pole				
NC + NO snap action (XE2SP3151)	⊖		ZCT21N12	0.130
			ZCT25N12	0.130
NC + NO break before make, slow break (XE2NP3151)	⊖		ZCT27N12	0.130
			ZCT28N12	0.130
NC + NC simultaneous, slow break (XE2NP3141)	⊖		ZCT26N12	0.130
			ZCT26N12	0.130
NO + NO simultaneous, slow break (XE2NP3131)	-		ZCT26N12	0.130
			ZCT26N12	0.130
NO + NC make before break, slow break (XE2NP3161)	⊖		ZCT26N12	0.130
			ZCT26N12	0.130

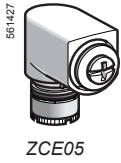
(1) ⊖: bodies with contact assuring positive opening operation.

Limit switches

OsiSense XC Standard

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

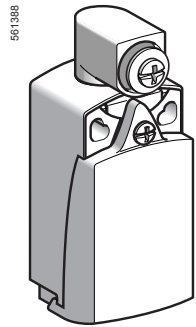
Adaptable sub-assemblies: bodies with contacts



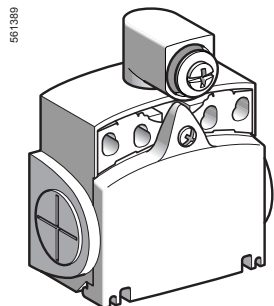
ZCE05



DE9RA1012



XCK2001



XCKT2001

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 10.

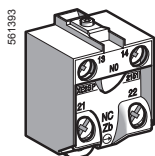
(2) : bodies with contact assuring positive opening operation.

Limit switches

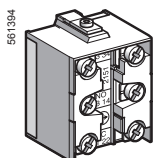
OsiSense XC Standard

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

OsiSense XC Standard

Compact design, plastic, with reset, XCPR and XCTR

Compact design, metal, with reset, XCDR

■ XCPR, XCDR
with 1 cable entry

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

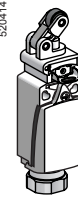
XCDR

520412



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520414



XCDR

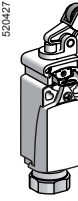
XCPR

520425



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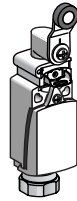
520427



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

XCDR

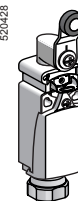
520416



Page 70

XCPR

520428



Page 68

■ XCTR

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

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

XCTR

520436



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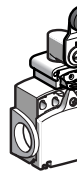
520437



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

XCTR

520438



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Limit switches

OsiSense XC Standard

Compact design, plastic, with reset, XCPR and XCTR

Compact design, metal, with reset, XCDR

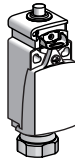
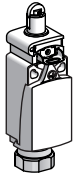
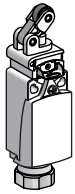
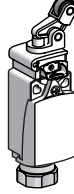
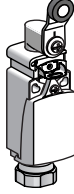

Environment characteristics		
Conformity to standards	Products	CE, EN/IEC 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	EN/IEC 60204-1
Product certifications		UL, CSA
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25...+ 70 °C
	For storage	- 40...+ 70 °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 for XCPR and XCTR
		Class I conforming to IEC 61140 and NF C 20-030 for XCDR
Degree of protection		IP 66 and IP 67 conforming to IEC 60529; IK 04 conforming to EN 50102
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		XCDR : Zamak bodies and heads, XCPR and XCTR : 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 mm ² , max: 2 x 1.5 mm ²
	XE2NP2151	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
Minimum actuation speed (for head with end plunger)		XE2SP2151 : 0.01 m/minute
		XE2NP2151 : 6 m/minute


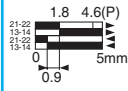
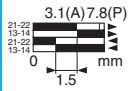
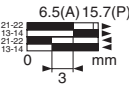
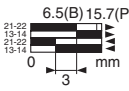
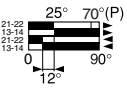
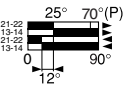

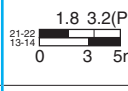
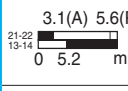
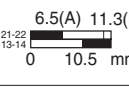
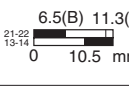
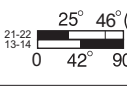
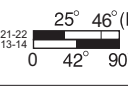

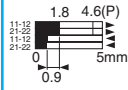
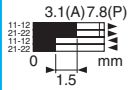
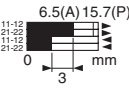
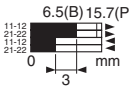
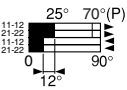
Limit switches

OsiSense XC Standard

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						
 <p>2-pole NC + NO snap action (XE2SP2151)</p>	<p>XCPR2110P20</p> 	<p>XCPR2102P20</p> 	<p>XCPR2121P20</p> 	<p>XCPR2127P20</p> 	<p>XCPR2118P20</p> 	<p>XCPR2119P20</p> 
 <p>2-pole NC + NO break before make, slow break (XE2NP2151)</p>	<p>XCPR2510P20</p> 	<p>XCPR2502P20</p> 	<p>XCPR2521P20</p> 	<p>XCPR2527P20</p> 	<p>XCPR2518P20</p> 	<p>XCPR2519P20</p> 
 <p>2-pole NC + NC snap action (XE2SP2141)</p>	<p>XCPR2910P20</p> 	<p>XCPR2902P20</p> 	<p>XCPR2921P20</p> 	<p>XCPR2927P20</p> 	<p>XCPR2918P20</p> 	–
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	For tripping	15 N	12 N	6 N	0.1 N.m
	For positive opening	45 N	36 N	18 N	0.25 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit				

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

Limit switches

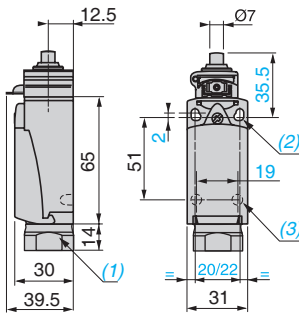
OsiSense XC Standard

Compact design, plastic, with reset, XCPR

Complete switches with 1 cable entry

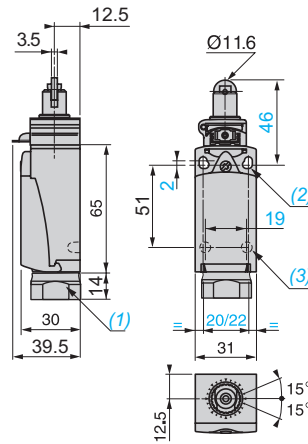
Dimensions

XCPR2•10●●●

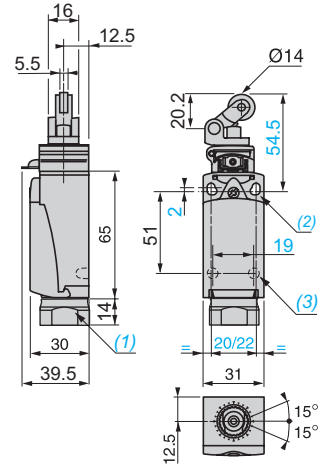


- (1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
- (2) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres.
- (3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

XCPR2•02●●●

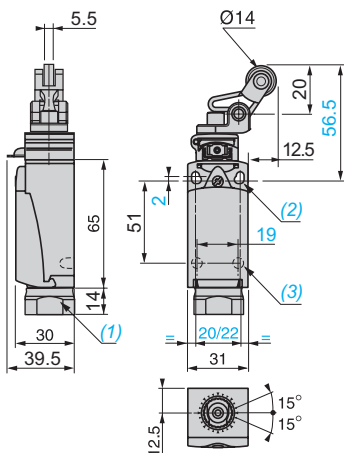


XCPR2•21●●●



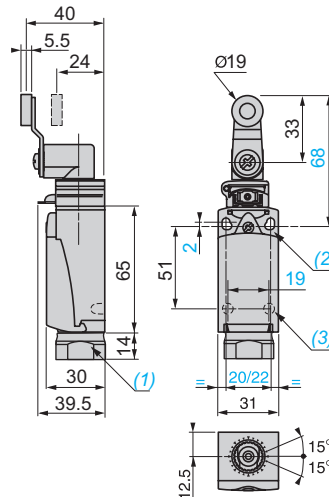
Dimensions

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●●●

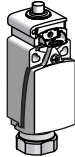







Limit switches


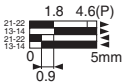
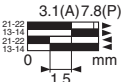
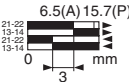
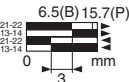
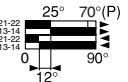
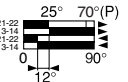
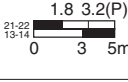
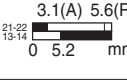
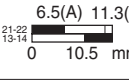
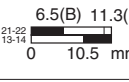
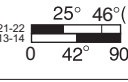
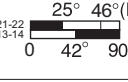
OsiSense XC Standard

Compact design, metal, with reset, XCDR

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
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References of complete switches with 1 ISO M20 x 1.5 cable entry						
 <p>2-pole NC + NO snap action (XE2SP2151)</p>	<p>XCDR2110P20</p> 	<p>XCDR2102P20</p> 	<p>XCDR2121P20</p> 	<p>XCDR2127P20</p> 	<p>XCDR2118P20</p> 	<p>XCDR2119P20</p> 
	<p>XCDR2510P20</p> 	<p>XCDR2502P20</p> 	<p>XCDR2521P20</p> 	<p>XCDR2527P20</p> 	<p>XCDR2518P20</p> 	<p>XCDR2519P20</p> 
Weight (kg)	0.215	0.220	0.225	0.225	0.255	0.255






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: XCDR2110P20 becomes XCDR2110G13.

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: XCDR2110P20 becomes XCDR2110N12.

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	For tripping	15 N	12 N	6 N	0.1 N.m
	For positive opening	45 N	36 N	18 N	0.25 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit				

Limit switches

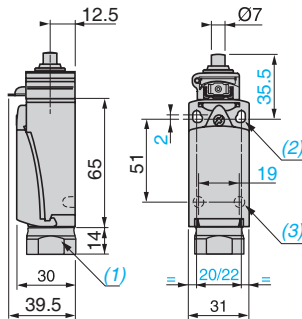
OsiSense XC Standard

Compact design, metal, with reset, XCDR

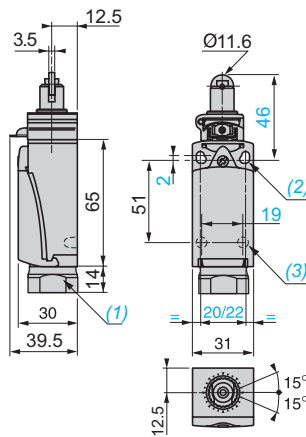
Complete switches with 1 cable entry

Dimensions

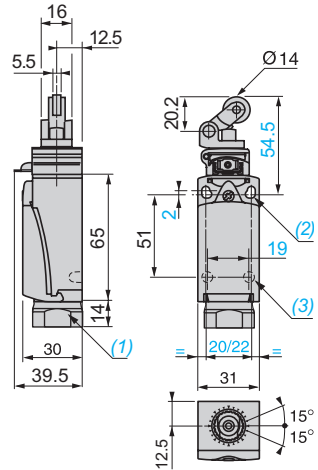
XCDR2•10•••



XCDR2•02•••



XCDR2•21•••



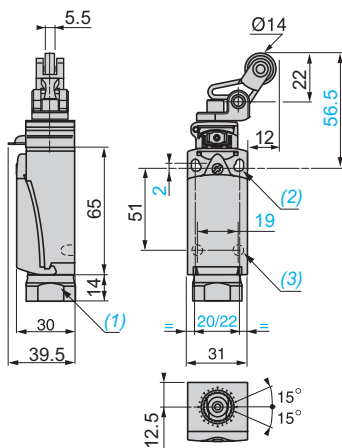
(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

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

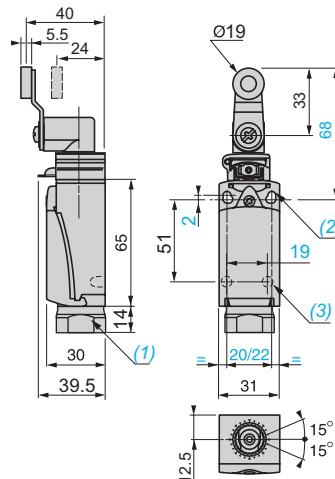
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Dimensions

XCDR2•27•••



XCDR2•18•••, XCDR2•19•••



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


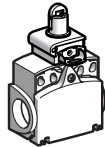
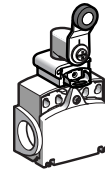
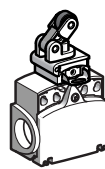
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.



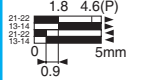

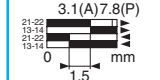

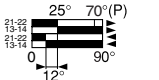




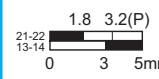

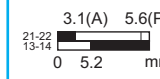

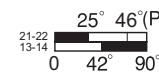

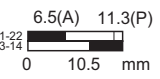
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Limit switches

OsiSense XC Standard

Compact design, plastic, with reset, XCTR
Complete switches with 2 cable entries

Type of head	Plunger (fixing by the body)			
				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction




References of complete switches with 2 ISO M16 x 1.5 cable entries				
	2-pole NC + NO snap action (XE2SP3151) XCTR2110P16  1.8 4.6(P) 	XCTR2102P16  3.1(A) 7.8(P) 	XCTR2118P16  25° 70°(P) 	XCTR2121P16  6.5(A) 15.7(P) 
	2-pole NC + NO break before make, slow break (XE2NP3151) XCTR2510P16  1.8 3.2(P) 	XCTR2502P16  3.1(A) 5.6(P) 	XCTR2518P16  25° 46°(P) 	XCTR2521P16  6.5(A) 11.3(P) 
Weight (kg)	0.120	0.125	0.165	0.135

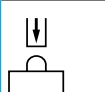
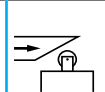
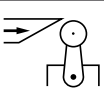
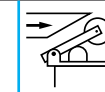
References of complete switches with 2 Pg 11 cable entries

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

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

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

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

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

Limit switches

OsiSense XC Standard

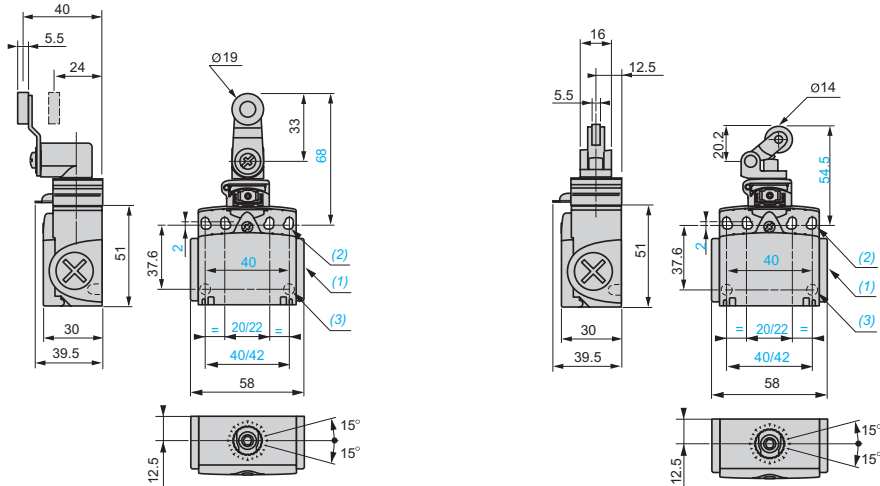
Compact design, plastic, with reset, XCTR

Complete switches with 2 cable entries

Dimensions

XCTR2●18●●●

XCTR2●21●●●



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

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

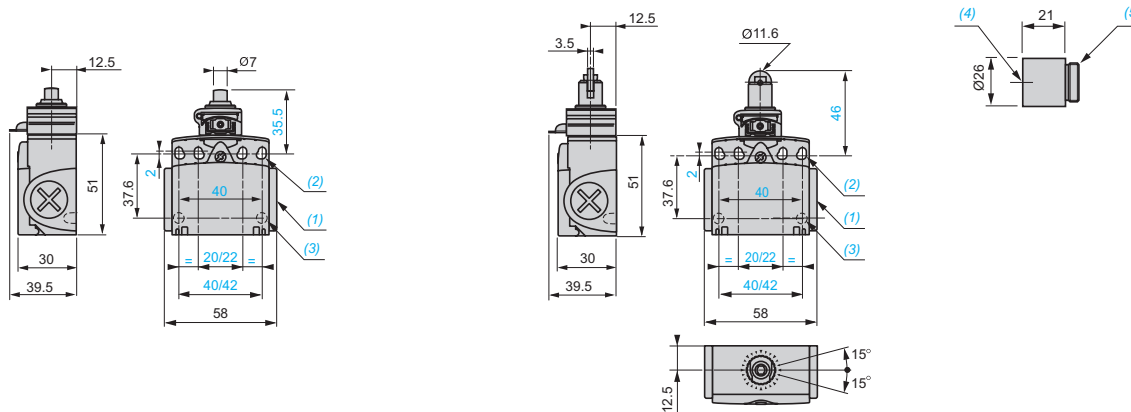
(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

Dimensions

XCTR2●10●●●

XCTR2●02●●●

DE9RA1012



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

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

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

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

(5) Pg 11 threaded sleeve.

Limit switches

OsiSense XC Basic

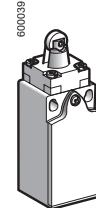
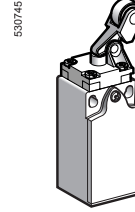
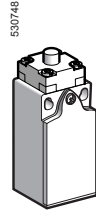
Compact design, plastic, XCKN and XCNT

■ XCKN

with 1 cable entry

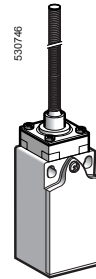
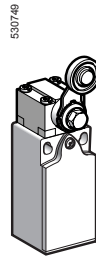
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 76

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



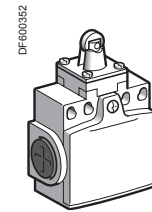
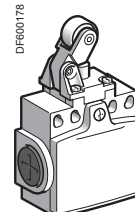
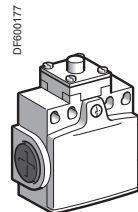
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■ XCNT

with 2 cable entries

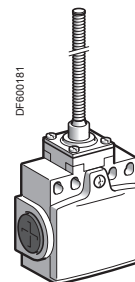
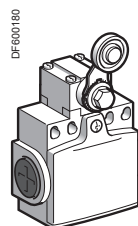
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 78

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



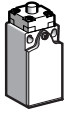
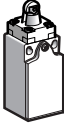
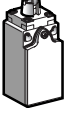


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
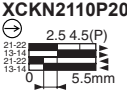
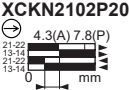
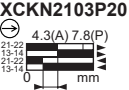

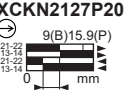

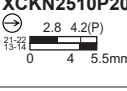
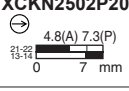
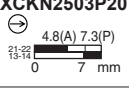
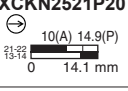
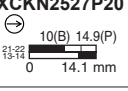

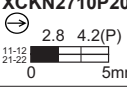
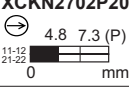
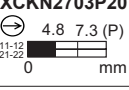
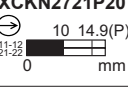
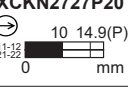

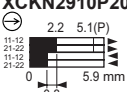
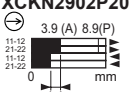
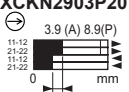
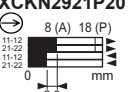
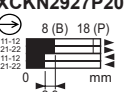



Environment characteristics		
Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Version	Standard: "TC"
Ambient air temperature	For operation	- 25...+ 70°C
	For 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 EN 50102
Cable entry		Depending on model: tapped entry for ISO M20 x 1.5 or Pg 11 cable gland, ISO M 16 x 1.5 cable gland or PF 1/2 (G 1/2).
Materials	Bodies	Plastic
	Heads	Plastic
Contact block characteristics		
Rated operational characteristics		~ AC-15; A300 (U _e = 240 V, I _e = 3 A); I _{the} = 10 A ≡ 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

OsiSense XC Basic

Compact design, plastic, XCKN
Complete switches with 1 cable entry

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

References of complete switches with 1 ISO M20 x 1.5 cable entry						
	2-pole NC + NO snap action	XCKN2110P20 	XCKN2102P20 	XCKN2103P20 	XCKN2121P20 	XCKN2127P20 
	2-pole NC + NO break before make, slow break	XCKN2510P20 	XCKN2502P20 	XCKN2503P20 	XCKN2521P20 	XCKN2527P20 
	2-pole NC + NC simultaneous, slow break	XCKN2710P20 	XCKN2702P20 	XCKN2703P20 	XCKN2721P20 	XCKN2727P20 
	2-pole NC + NC snap action	XCKN2910P20 	XCKN2902P20 	XCKN2903P20 	XCKN2921P20 	XCKN2927P20 
Weight (kg)		0.065	0.065	0.065	0.070	0.070
Contact operation		 closed  open	(A) (B) = cam displacement (P) = positive opening point		 NC contact with positive opening operation	

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

References of complete switches with 1 Pg 11 cable entry

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

Other cable entries

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

Other contacts

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

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

Limit switches

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

Type of head	Rotary (fixing by the body)				Multi-directional	
Type of operator	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever, Ø 50 mm	Spring rod	"Cat's whisker"
Sold and packed in lots of	20	20	20	20	20	20

References of complete switches with 1 ISO M20 x 1.5 cable entry							
	2-pole NC + NO snap action	XCKN2118P20 	XCKN2145P20 	XCKN2139P20 	XCKN2149P20 	XCKN2108P20 	XCKN2106P20
	2-pole NC + NO break before make, slow break	XCKN2518P20 	XCKN2545P20 	XCKN2539P20 	XCKN2549P20 	XCKN2508P20 	XCKN2506P20
	2-pole NC + NC simultaneous, slow break	XCKN2718P20 	XCKN2745P20 	XCKN2739P20 	XCKN2749P20 	XCKN2708P20 	XCKN2706P20
	2-pole NC + NC snap action	XCKN2918P20 	XCKN2945P20 	XCKN2939P20 	XCKN2949P20 	XCKN2908P20 	XCKN2906P20
Weight (kg)		0.085	0.090	0.110	0.115	0.085	0.075
Contact operation				(A) (B) = cam displacement (P) = positive opening point			

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.


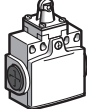
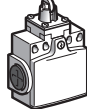

Other contacts
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.


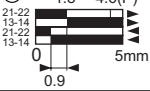
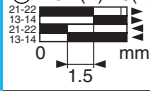
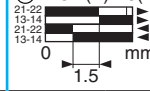
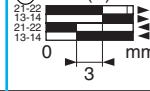

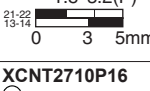
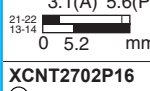

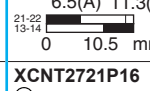

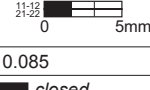
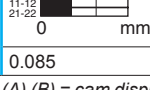
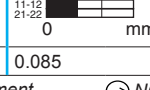
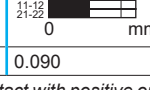



For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.




Limit switches

OsiSense XC Basic

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) 	XCNT2102P16 3.1(A) 7.8(P) 	XCNT2103P16 3.1(A) 7.8(P) 	XCNT2121P16 6.5(A) 15.7(P) 
	2-pole NC + NO break before make, slow break	XCNT2510P16 1.8 3.2(P) 	XCNT2502P16 3.1(A) 5.6(P) 	XCNT2503P16 3.1(A) 5.6(P) 	XCNT2521P16 6.5(A) 11.3(P) 
	2-pole NC + NC simultaneous, slow break	XCNT2710P16 1.8 3.2(P) 	XCNT2702P16 3.1 5.6(P) 	XCNT2703P16 3.1 5.6(P) 	XCNT2721P16 6.5 11.3(P) 
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


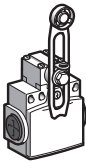
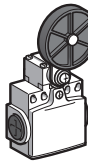
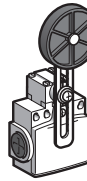
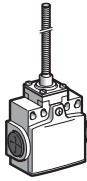
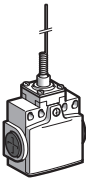
Other contacts
 For complete switches with 2-pole contacts:
 NO + NC make before break, slow break,
 NO + NO simultaneous, slow break, please consult our Customer Care Centre.


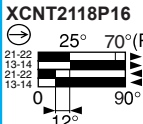
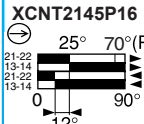
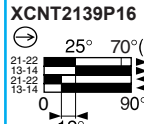
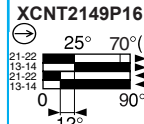

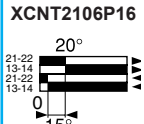

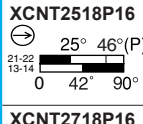
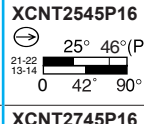
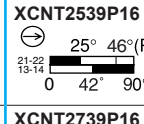
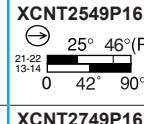
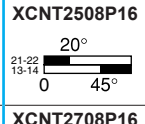
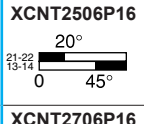

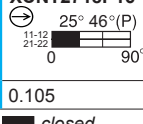
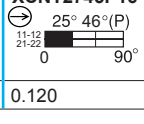
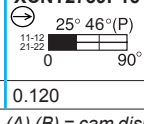
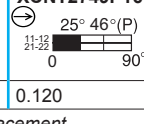
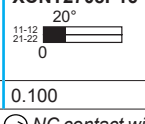
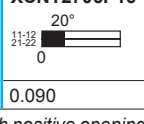



Limit switches

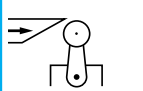
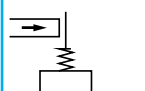
OsiSense XC Basic

Compact design, plastic, XCNT

Complete switches with 2 cable entries

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

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

Characteristics		
Switch actuation	By 30° cam	By any moving part
Type of actuation		
Maximum actuation speed	1.5 m/s	1 m/s (any direction)
Mechanical durability	10 million operating cycles	5 million operating cycles
Minimum force or torque	For tripping: 0.1 N.m 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).



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

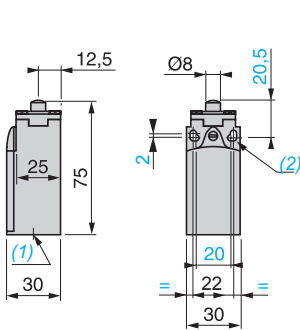
OsiSense XC Basic

Compact design, plastic, XCKN

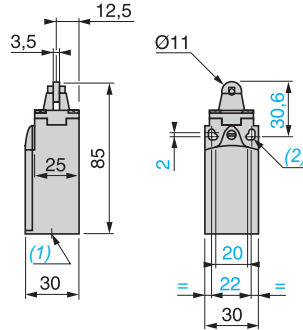
Complete switches with 1 cable entry

Dimensions

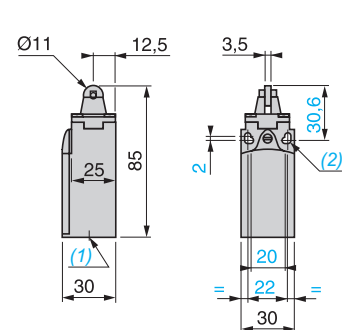
XCKN2●10P20



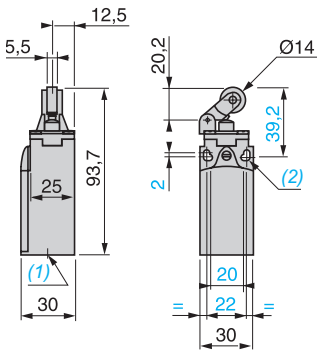
XCKN2●02P20



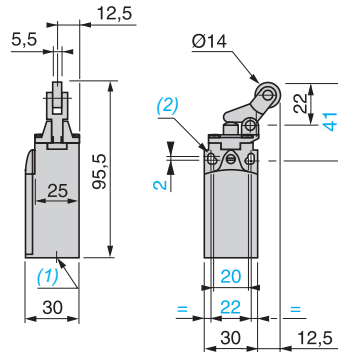
XCKN2●03P20



XCKN2●21P20

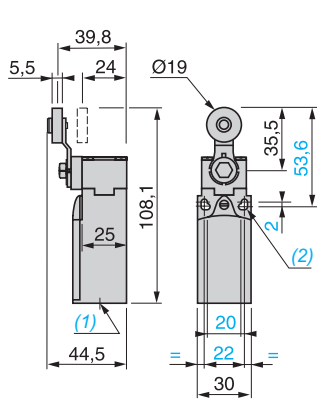


XCKN2●27P20

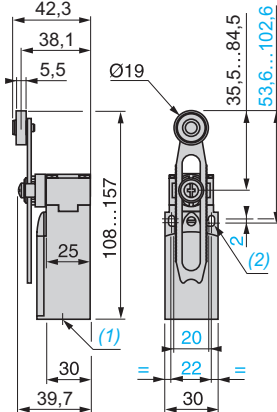


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
 (2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

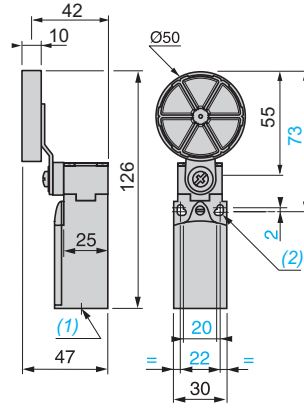
XCKN2●18P20



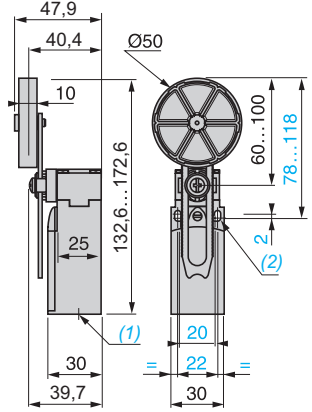
XCKN2●45P20



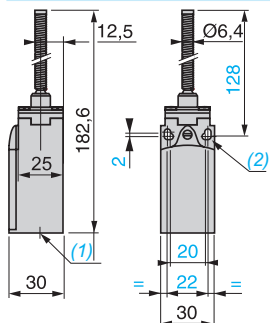
XCKN2●39P20



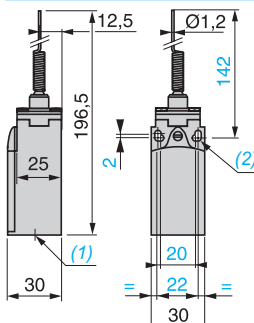
XCKN2●49P20



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

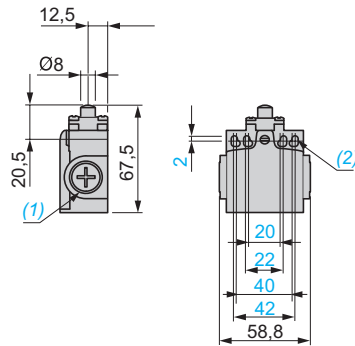
OsiSense XC Basic

Compact design, plastic, XCNT

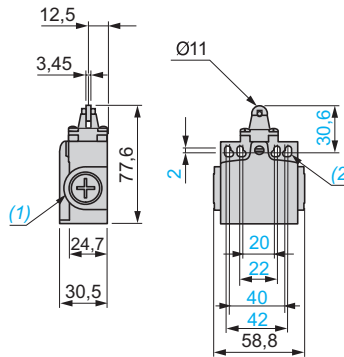
Complete switches with 2 cable entries

Dimensions

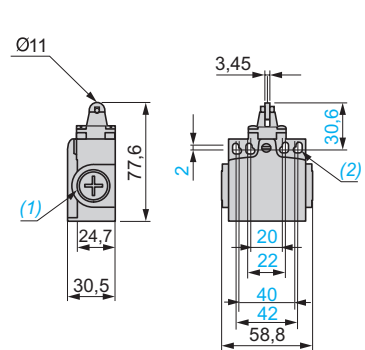
XCNT2•10P20



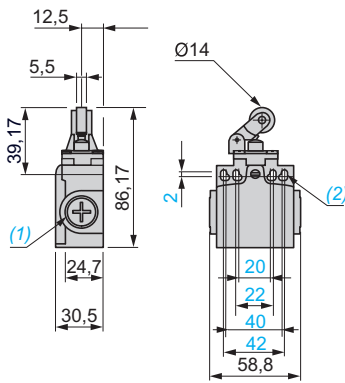
XCNT2•02P20



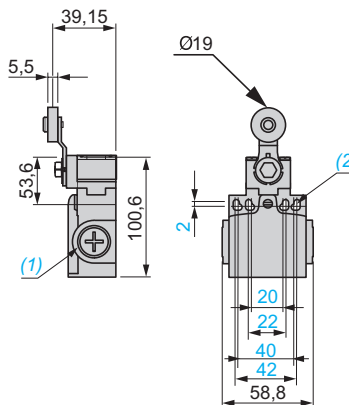
XCNT2•03P20



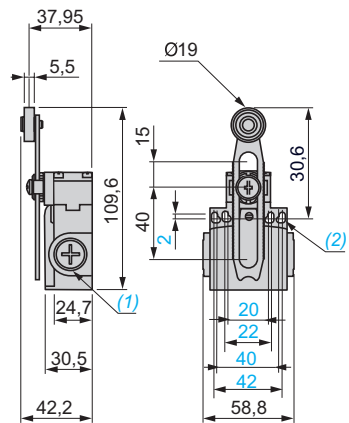
XCNT2•21P20



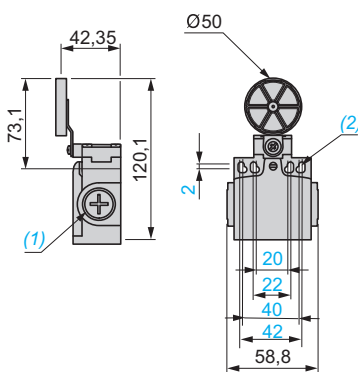
XCNT2•18P16



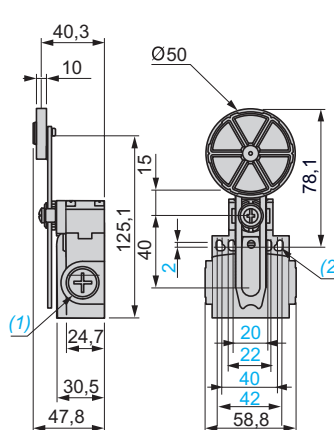
XCNT2•45P16



XCNT2•39P16

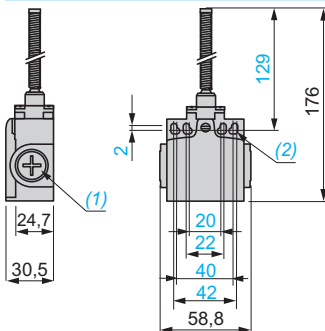


XCNT2•49P16

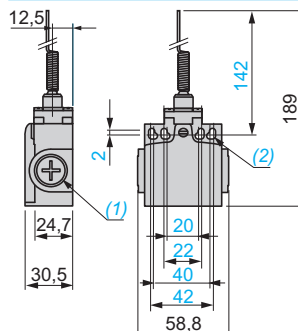


(1) 2 tapped entries for ISOM16 x 1.5 or Pg 11 cable gland.
(2) Ø: 4 elongated holes Ø 4.3 x 6.3

XCNT2•08P16



XCNT2•06P16



Limit switches

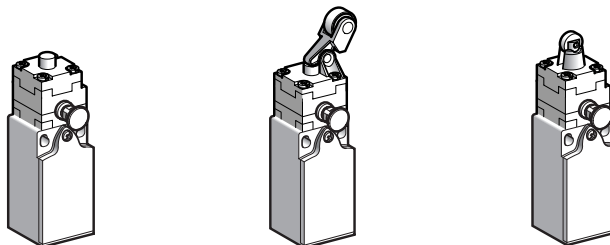
OsiSense XC Basic

Compact design, plastic, with reset knob,
XCNR and XCNTR

■ XCNR

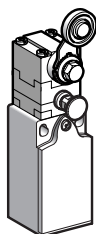
with 1 cable entry

□ With head for linear movement (plunger)



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□ With head for rotary movement (lever)

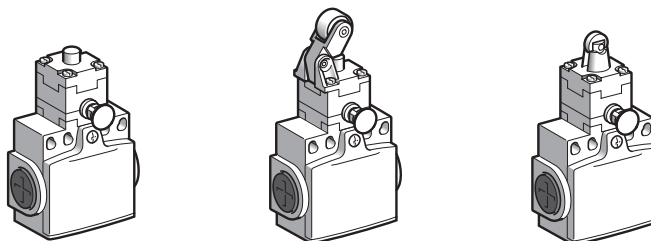


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■ XCNTR

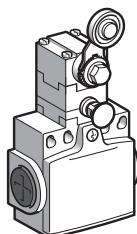
with 2 cable entries

□ With head for linear movement (plunger)



Page 85

□ With head for rotary movement (lever)



Page 85

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 EN 50102
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 (U _e = 240 V, I _e = 3 A); I _{the} = 10 A ≡ 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

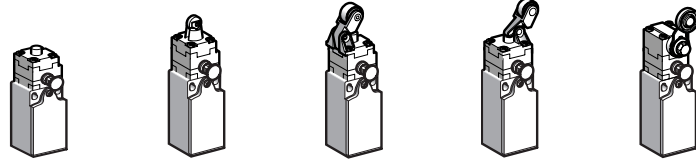
Limit switches

OsiSense XC Basic

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

<p>2-pole NC + NO snap action</p>	<p>XCNR2110P20</p>	<p>XCNR2102P20</p>	<p>XCNR2121P20</p>	<p>XCNR2127P20</p>	<p>XCNR2118P20</p>
<p>2-pole NC + NO break before make, slow break</p>	<p>XCNR2510P20</p>	<p>XCNR2502P20</p>	<p>XCNR2521P20</p>	<p>XCNR2527P20</p>	<p>XCNR2518P20</p>
<p>2-pole NC + NC simultaneous, slow break</p>	<p>XCNR2710P20</p>	<p>XCNR2702P20</p>	<p>XCNR2721P20</p>	<p>XCNR2727P20</p>	<p>XCNR2718P20</p>
<p>2-pole NC + NC snap action</p>	<p>XCNR2910P20</p>	<p>XCNR2902P20</p>	<p>XCNR2921P20</p>	<p>XCNR2927P20</p>	<p>XCNR2918P20</p>
Weight (kg)	0.080	0.080	0.085	0.090	0.100
Contact 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.

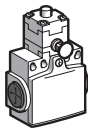
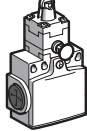
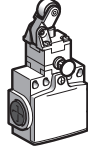
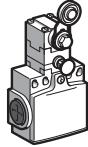

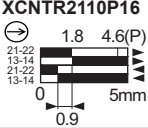
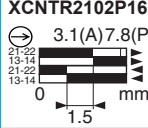
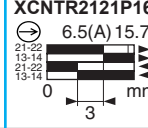
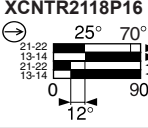

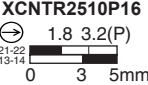
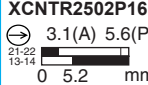

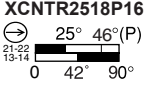

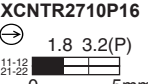
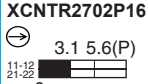
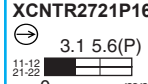




For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.





Limit switches

OsiSense XC Basic

Compact design, plastic, with reset knob, XCNTR

Complete switches with 2 cable entries

Type of head	Plunger (fixing by the body)				Rotary (fixing by the body)
					
Type of operator	Metal end plunger	Plastic roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever	
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	XCNTR2110P16 	XCNTR2102P16 	XCNTR2121P16 	XCNTR2118P16 	
 2-pole NC + NO break before make, slow break	XCNTR2510P16 	XCNTR2502P16 	XCNTR2521P16 	XCNTR2518P16 	
 2-pole NC + NC simultaneous, slow break	XCNTR2710P16 	XCNTR2702P16 	XCNTR2721P16 	XCNTR2718P16 	
Weight (kg)	0.105	0.110	0.135	0.095	
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	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: XCNTR2110P16 becomes **XCNTR2110G11**.

Complete switches with 1/2" NPT cable entry

For complete switches with 1/2" NPT cable entry use adaptor DE9 RA1012 (compatible with XCNTR●●●●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

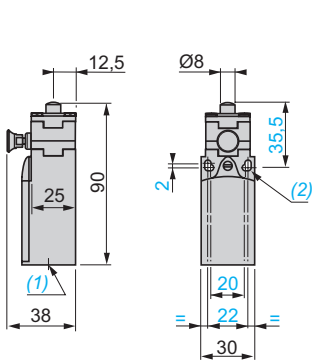
OsiSense XC Basic

Compact design, plastic, with reset knob, XCNR

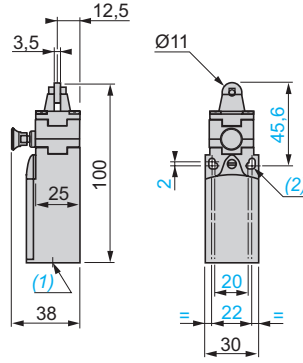
Complete switches with 1 cable entry

Dimensions

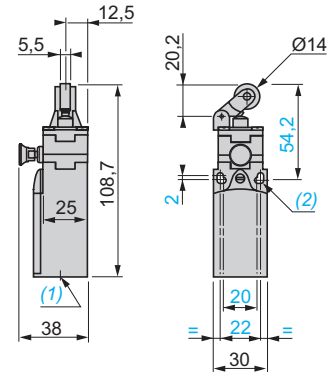
XCNR2•10P20



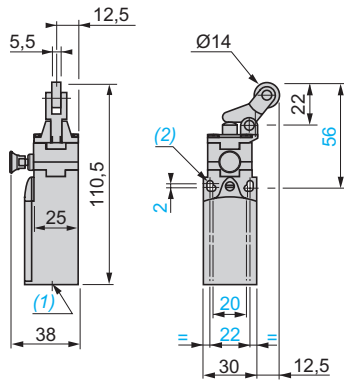
XCNR2•02P20



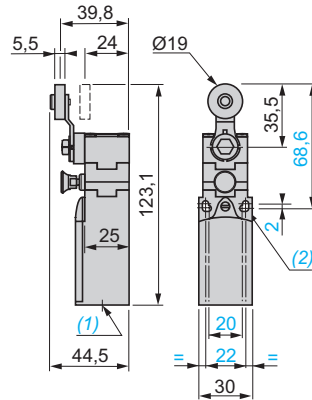
XCNR2•21P20



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

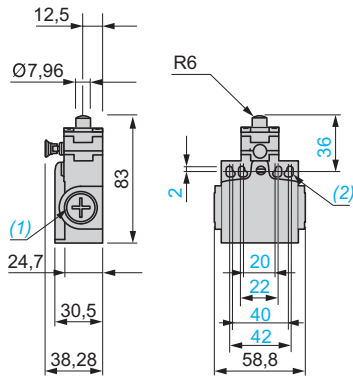
OsiSense XC Basic

Compact design, plastic, with reset knob, XCNTR

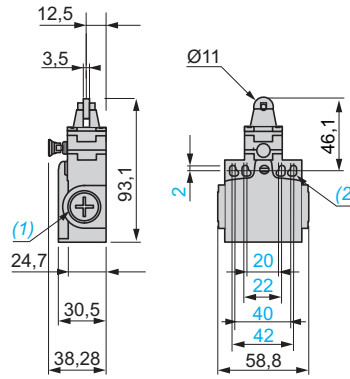
Complete switches with 2 cable entries

Dimensions

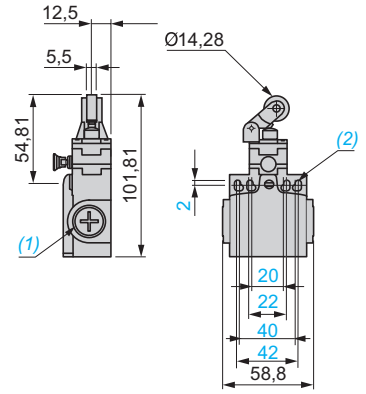
XCNTR2•10P16



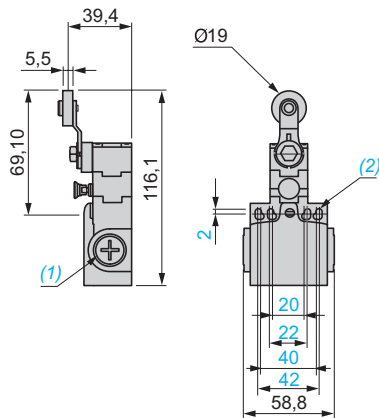
XCNTR2•02P16



XCNTR2•21P16



XCNTR2•18P16



(1) 2 tapped entries for ISO M16 x 1.5 or Pg 11 cable gland.
 (2) \varnothing : 4 elongated holes $\varnothing 4.3 \times 6.3$.

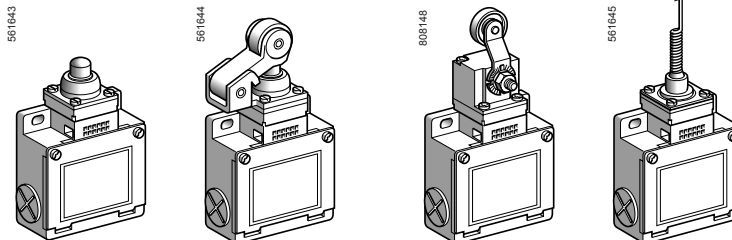
Limit switches

OsiSense XC Standard, Classic format
Metal, XCKM, XCKL and XCKML

■ **XCKM,**
with 3 cable entries

□ With head for linear movement
(plunger)

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

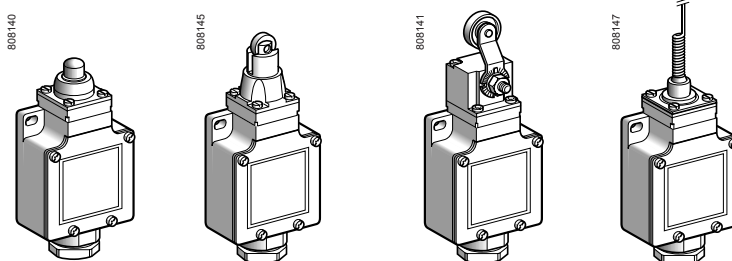


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■ **XCKL,**
with 1 cable entry

□ With head for linear movement
(plunger)

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

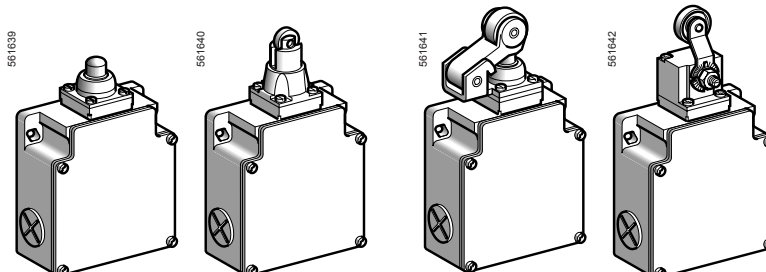


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■ **XCKML,**
with 3 cable entries and 2 x 2-pole contacts

□ With head for linear movement
(plunger)

□ With head for rotary movement
(lever)



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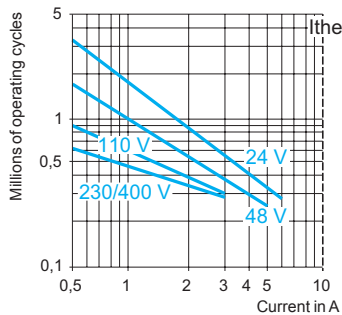
Environment characteristics

Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA CCC (only for XCKM) BV (only for XCKM and XCKL)
Protective treatment	Version	Standard: "TC". Special: "TH"
Ambient air temperature	For operation	- 25...+ 70°C
	For storage	- 40...+ 70°C
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10...500 Hz)
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms)
Electric shock protection		Class I conforming to IEC 61140 and NF C 20-030
Degree of protection		IP 66 conforming to IEC 60529; IK 05 conforming to EN 50102
Repeat accuracy		XCKML 0.1 mm; XCKM and XCKL 0.05 mm on the tripping points, with 1 million operating cycles for head with end plunger
Cable entry or connector	Depending on model	XCKM: 3 tapped entries for Pg 11 cable gland or tapped ISO M20, or with 1/2" NPT adaptor XCKL: 1 tapped entry incorporating Pg 13.5 cable gland or 1 entry tapped 1/2" NPT XCKML: 3 tapped entries for Pg 13.5 cable gland or tapped ISO M20
Materials		Bodies: Zamak. Rotary heads: Zamak or plastic, depending on product reference. Other heads: plastic

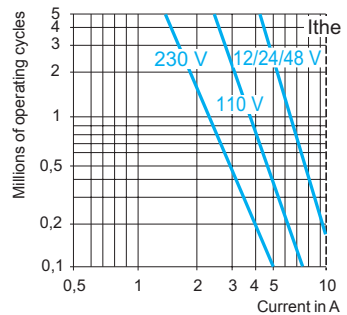
Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min: 1 x 0.34 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		<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

XE2SP21●1, XE2SP2141, XESP2151L



XE2NP21●1, XENP2151L



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
mm	W	10	7	4

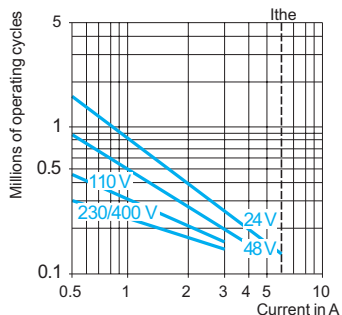
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
mm	W	13	9	7

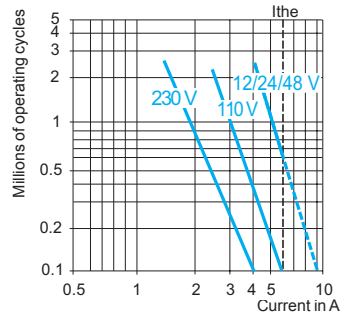
For XE2SP●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

AC supply
50/60 Hz ~
mm inductive circuit

XE3SP●●●●



XE3NP●●●●



DC supply ---

Power broken in W for 5 million operating cycles.

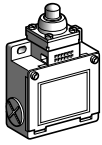
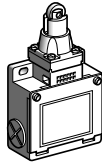
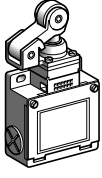
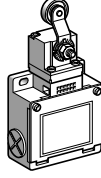
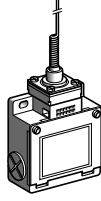
Voltage	V	24	48	120
mm	W	3	2	1

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
mm	W	4	3	2

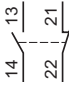




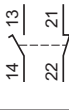




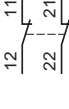




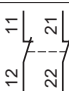




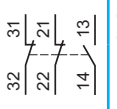




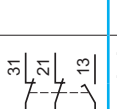







Limit switches

OsiSense XC Standard, Classic format
Metal, XCKM
Complete switches 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)
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References of complete switches 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 switches with 3 Pg 11 cable entries

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

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		1.5 m/s	1 m/s (any direction)
Mechanical durability (4) (in millions of operating cycles)	20			15
Minimum force or torque	For tripping: 15 N For positive opening: 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 XE3P.

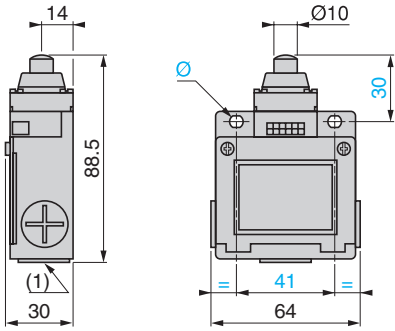
Limit switches

OsiSense XC Standard, Classic format

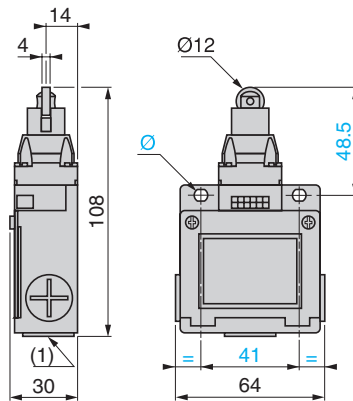
Metal, XCKM

Complete switches with 3 cable entries

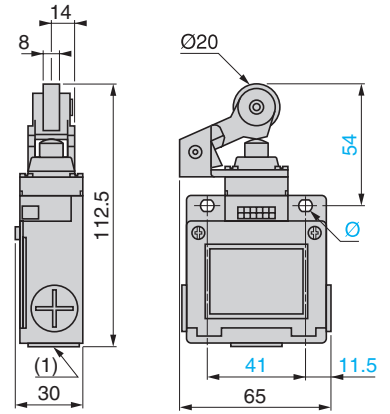
XCKM●10
ZCKMD3● + ZCKD10



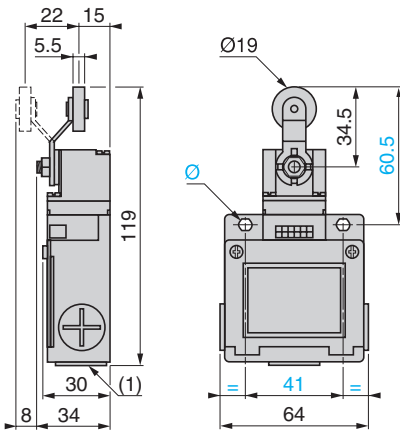
XCKM●02
ZCKMD3● + ZCKD02



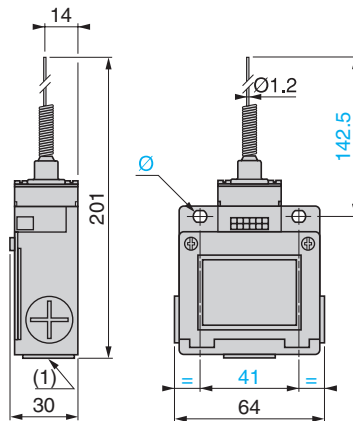
XCKM●21
ZCKMD3● + ZCKD21



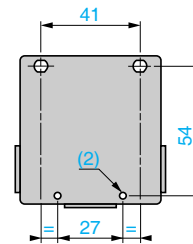
XCKM●15
ZCKMD3● + ZCKD15



XCKM●06
ZCKMD3● + ZCKD06



Rear view XCKM●●●, ZCKM●, ZCKMD3●

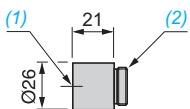


(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.

(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.

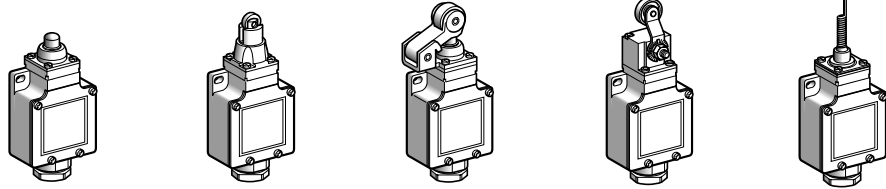
Limit switches

OsiSense XC Standard, Classic format

Metal, XCKL

Complete switches 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)
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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)	"Cat's whisker" (2)
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References (3)					
2-pole NC + NO snap action (XE2SP2151)	XCKL110 ⊕ 1.8 4.5(P) 0.9 5.5mm	XCKL102 ⊕ 3.1(A) 7.8(P) 1.5 mm	XCKL121 ⊕ 4.6(A) 11.1(P) 2.2 mm	XCKL115 ⊕ 26° 58°(P) 11° 70°	XCKL106 30° 14°
2-pole NC + NO break before make, slow break (XE2NP2151)	XCKL510 ⊕ 1.8 3.2(P) 0 5.5mm	XCKL502 ⊕ 3.1(A) 5.6(P) 0 5.2 mm	XCKL521 ⊕ 4.6(A) 8(P) 0 7.6 mm	XCKL515 ⊕ 26° 42°(P) 0 36° 70°	XCKL506 30° 0 40°
3-pole NC + NC + NO snap action (XE3SP2141)	ZCKLD39 + ZCKD10 ⊕ 1.8 4.5(P) mm 0.9 5.5	ZCKLD39 + ZCKD02 ⊕ 3.1(A) 7.8(P) mm 1.5	ZCKLD39 + ZCKD21 ⊕ 4.6(A) 11.1(P) mm 2.2	ZCKLD39 + ZCKD15 ⊕ 26° 58°(P) 11° 70°	ZCKLD39 + ZCKD06 30° 14°
2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCKL7 + ZCKD10 ⊕ 3.2(P) 1.8 5.5mm	ZCKL7 + ZCKD02 ⊕ 5.6(P) 3.1(A) 9mm	ZCKL7 + ZCKD21 ⊕ 8(P) 4.6(A) mm	ZCKL7 + ZCKD15 ⊕ 42°(P) 23° 70°	ZCKL7 + ZCKD06 30°
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	ZCKLD37 + ZCKD10 ⊕ 1.8 3.2(P) mm 0 3 5.5	ZCKLD37 + ZCKD02 ⊕ 3.1(A) 3.2(P) mm 0 5.2 5.5	ZCKLD37 + ZCKD21 ⊕ 4.6(A) 8(P) mm 0 7.6	ZCKLD37 + ZCKD15 ⊕ 26° 42°(P) 0 36° 70°	ZCKLD37 + ZCKD06 30° 0 40°
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.

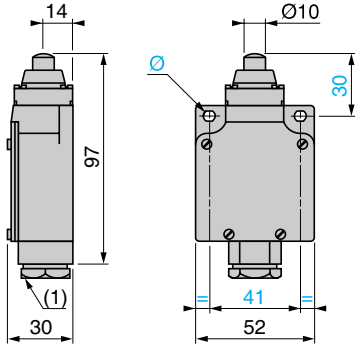
Limit switches

OsiSense XC Standard, Classic format

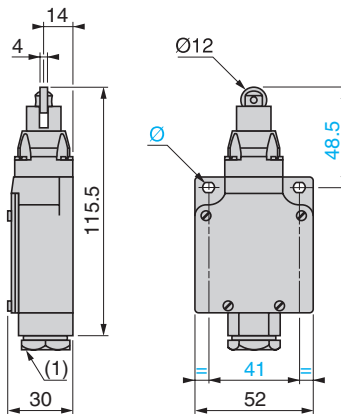
Metal, XCKL

Complete switches incorporating Pg 13.5 cable gland

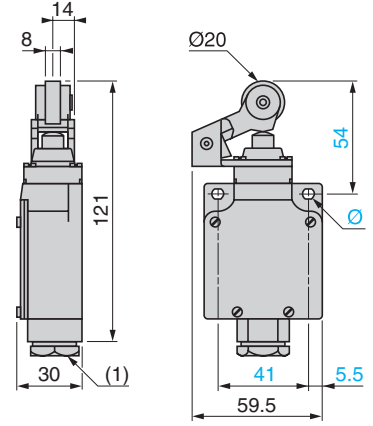
XCKL●10
ZCKL● + ZCKD10
ZCKLD3● + ZCKD10



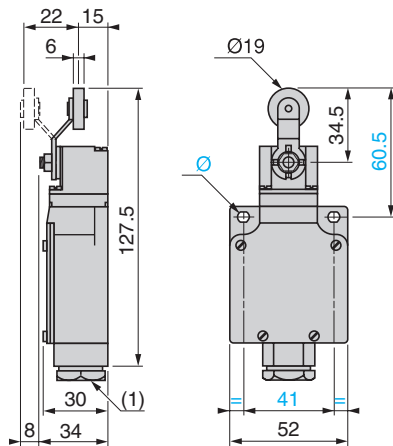
XCKL●02
ZCKL3● + ZCKD02
ZCKLD3● + ZCKD02



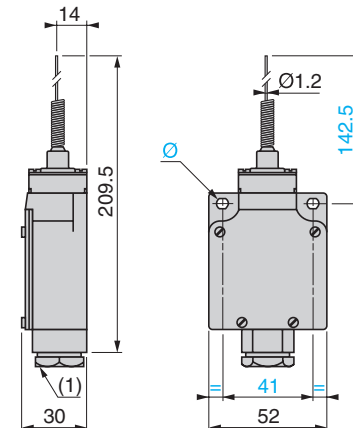
XCKL●21
ZCKL● + ZCKD21
ZCKLD3● + ZCKD21



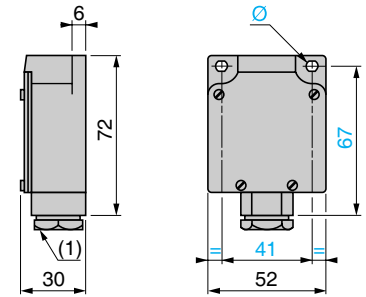
XCKL●15
ZCKL● + ZCKD15
ZCKLD3● + ZCKD15



XCKL●06
ZCKL● + ZCKD06
ZCKLD3● + ZCKD06



Body fixings

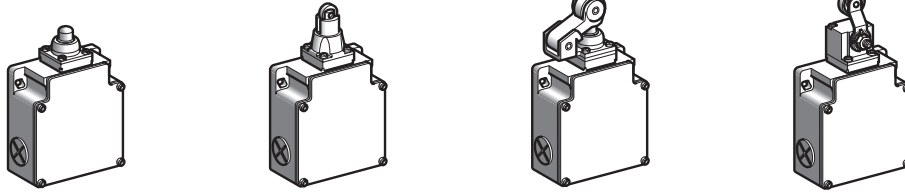


(1) Incorporated Pg 13.5 cable gland
Ø: 2 elongated holes Ø 5.2 x 6.2

Limit switches

OsiSense XC Standard, 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 \rightarrow 	XCKML102H29 \rightarrow 	XCKML121H29 \rightarrow 	XCKML115H29 \rightarrow
2 x 2-pole NC + NO break before make, slow break (XENP2151L) 	XCKML510H29 \rightarrow 	XCKML502H29 \rightarrow 	XCKML521H29 \rightarrow 	XCKML515H29 \rightarrow

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

2 x 2-pole NC + NO snap action (XESP2151L) 	XCKML110 \rightarrow 	XCKML102 \rightarrow 	XCKML121 \rightarrow 	XCKML115 \rightarrow
2 x 2-pole NC + NO break before make, slow break (XENP2151L) 	XCKML510 \rightarrow 	XCKML502 \rightarrow 	XCKML521 \rightarrow 	XCKML515 \rightarrow

Weight (kg)	0.400	0.405	0.450	0.430
Contact operation	closed open	(A) = cam displacement (P) = positive opening point	\rightarrow NC contact with positive opening operation	

Characteristics

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

(1) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.
 (2) Switches available with other 2-pole slow break contact blocks: NO + NC make before break, NC + NC simultaneous (with positive opening operation), NO + NO simultaneous. Please consult our Customer Care Centre.

Note: replacement parts
 The heads of limit switches XCKML are the same as those for XCKM and XCKL (see heads ZCKD10, ZCKD02, ZCKD21 and ZCKD15 on page 96).

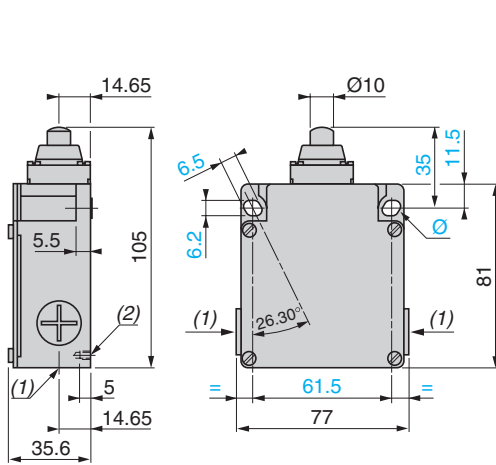
Limit switches

OsiSense XC Standard, Classic format

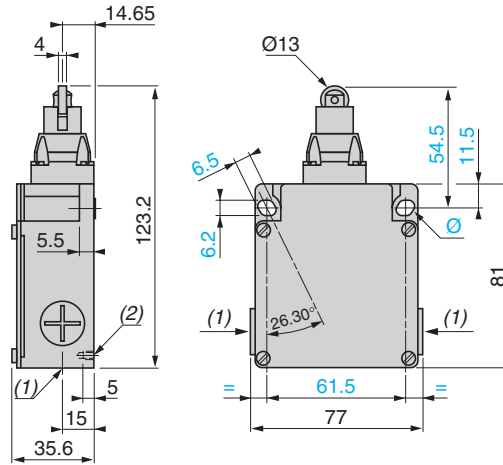
Metal, 2 x 2-pole contacts, XCKML

Complete switches with 3 cable entries

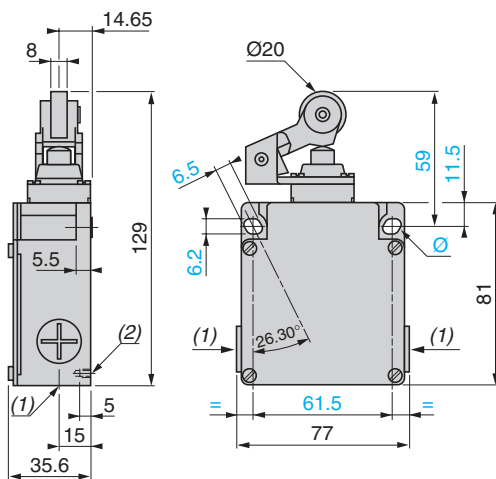
XCKML110H29, XCKML510H29, XCKML110, XCKML510



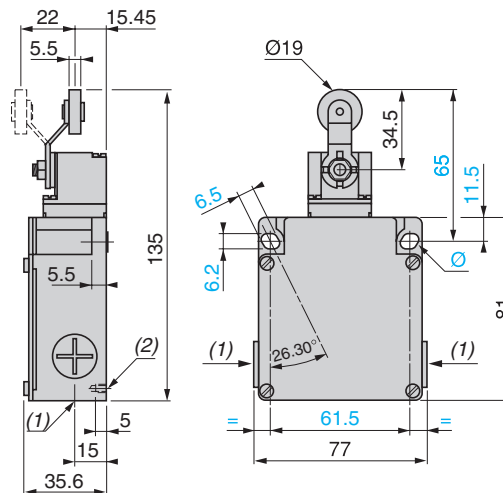
XCKML102H29, XCKML502H29, XCKML102, XCKML502



XCKML121H29, XCKML521H29, XCKML121, XCKML521



XCKML115H29, XCKML515H29, XCKML115, XCKML515



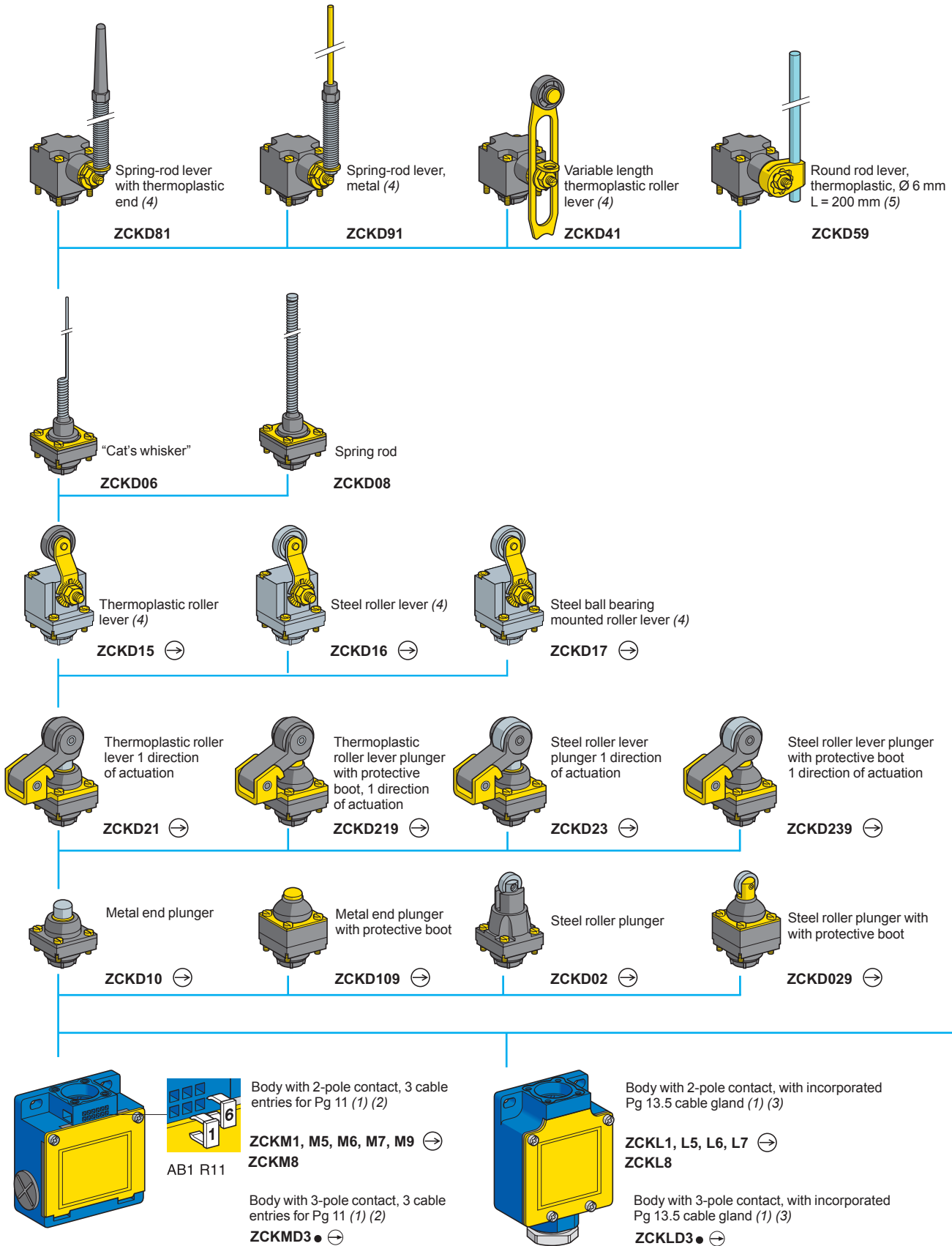
(1) XCKML●●●H29: 3 entries tapped M20 x 1.5. XCKML●●●: 3 tapped entries for n° 13 cable gland.

(2) 2 centring holes Ø 3.9 ± 0.2, for cover fixing holes alignment.

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

Limit switches

OsiSense XC Standard, Classic format
Metal, XCKM and XCKL
Variable composition

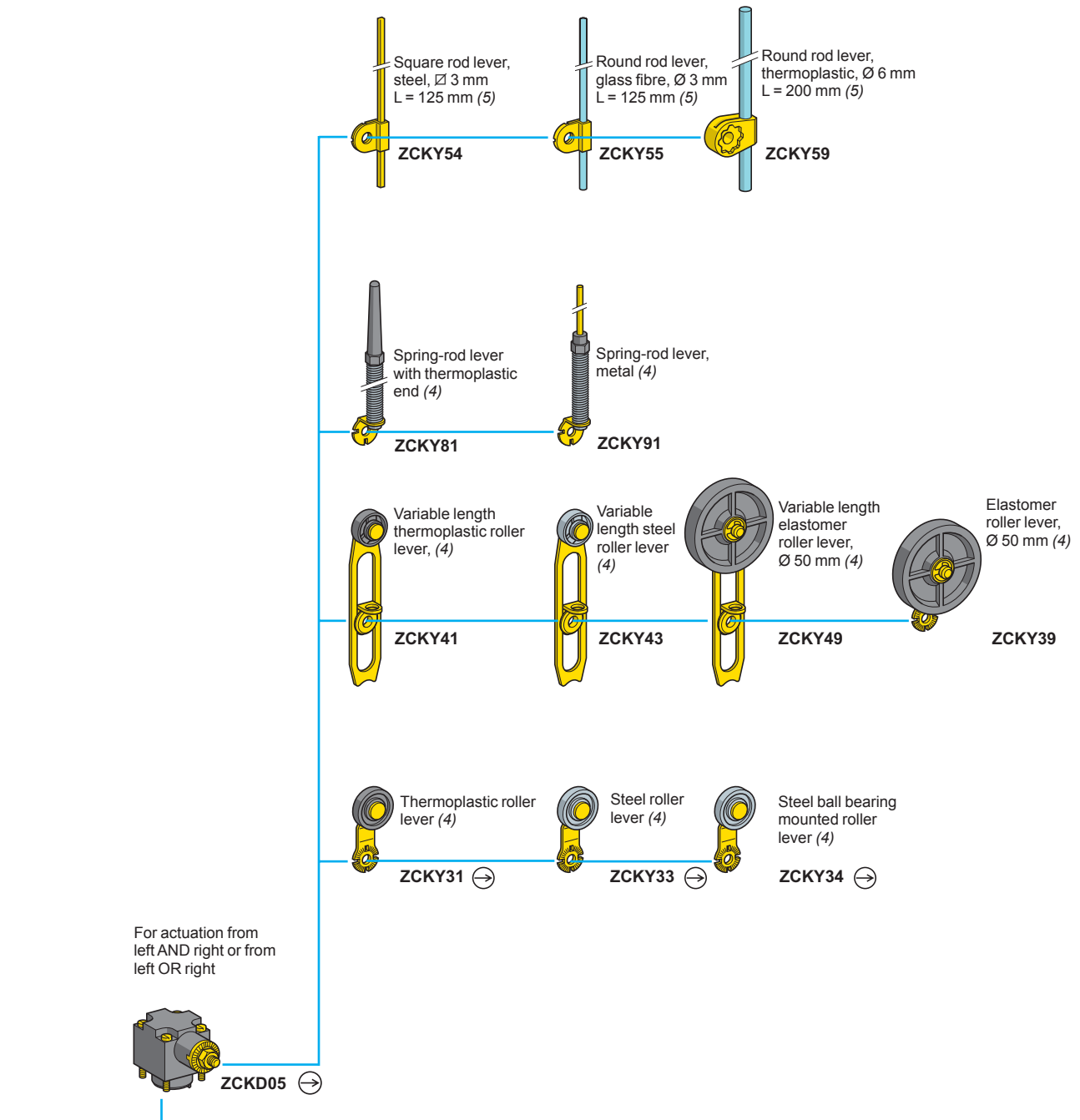


(1) For further information, see page 98.

(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.

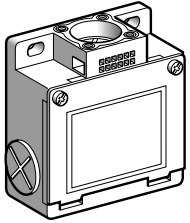
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Limit switches

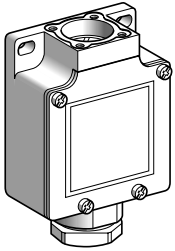
OsiSense XC Standard, Classic format

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 type 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 type 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.

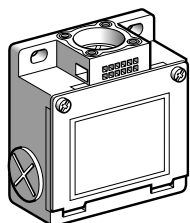
(3) Pg 13.5 cable gland included with switch.

Limit switches

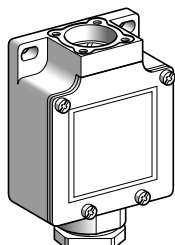
OsiSense XC Standard, Classic format

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 type 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 type 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.

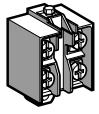
(3) Pg 13.5 cable gland included with switch.

Limit switches

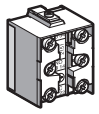
OsiSense XC Standard, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies



XE2SP21•1



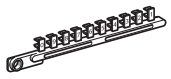
XE2NP21•1



XE3•P21•••



XCKZ09



AB1R11

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.

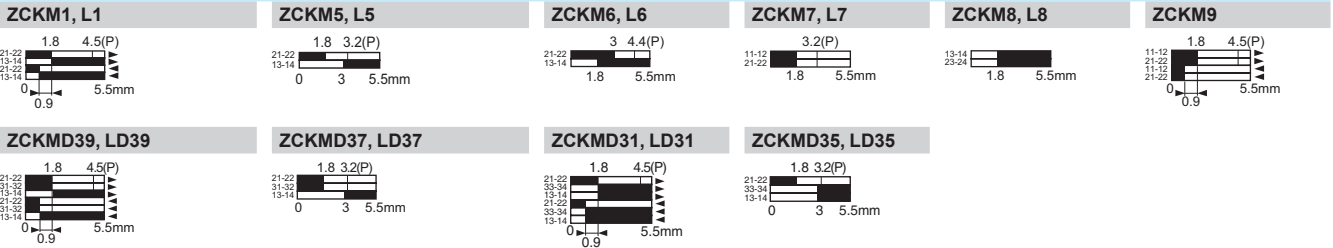
Accessories for limit switches type XCKM			
Description	Sold in lots of	Unit reference	Weight kg
Tap-off terminal for cabling continuity	1	XCKZ09	0.010
Clip-in markers (strips of 10 numbers: 0 to 9) Other markers, please consult our Customer Care Centre.	25	AB1R11	0.002

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

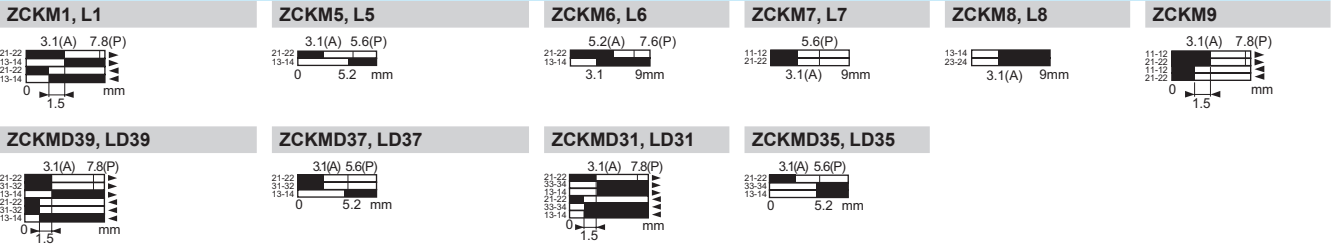
Limit switches

OsiSense XC Standard, Classic format
Metal, XCKM and XCKL
Adaptable sub-assemblies

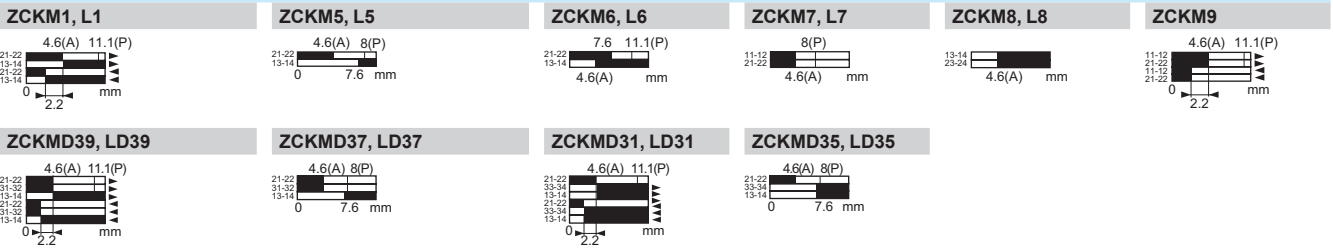
Heads ZCKD10, D109 with body



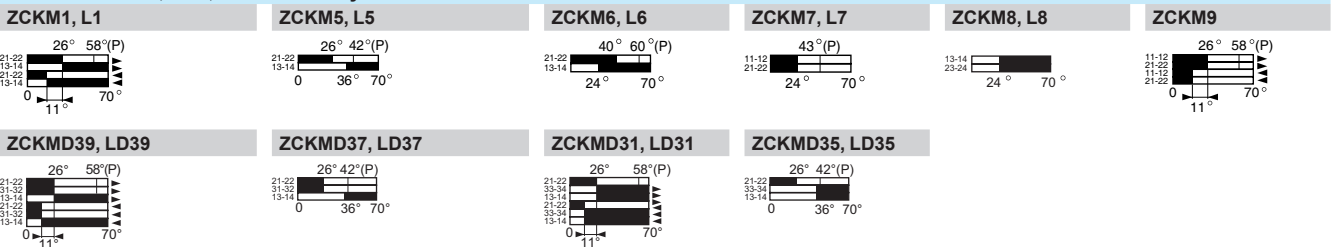
Heads ZCKD02, D029 with body



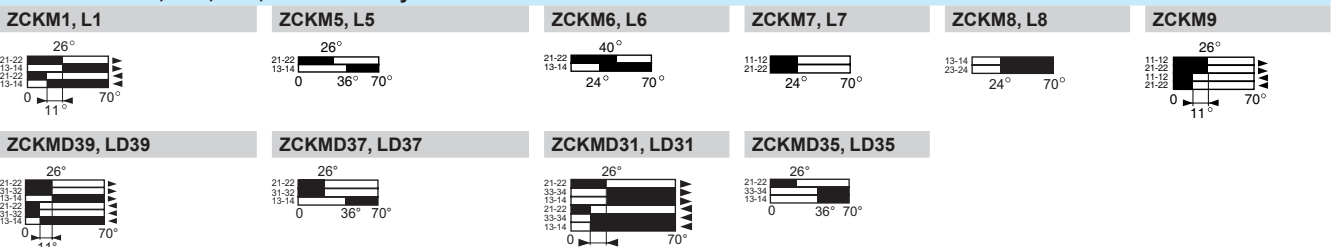
Heads ZCKD21, D23, D219, D239 with body



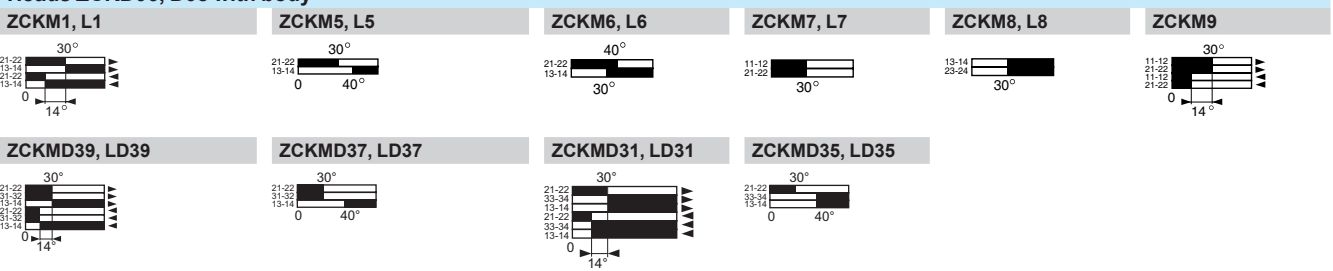
Heads ZCKD15, D16, D17 with body



Heads ZCKD41, D59, D81, D91 with body



Heads ZCKD06, D08 with body



Contact operation

closed
 open

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

Limit switches

OsiSense XC Standard, Classic format

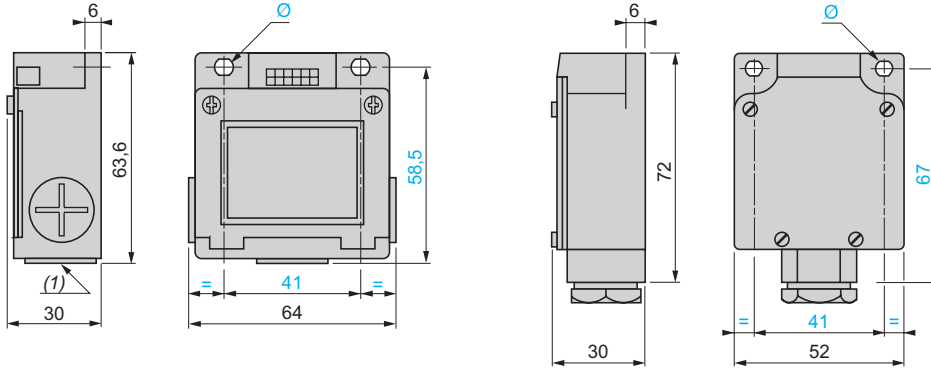
Metal, XCKM and XCKL

Adaptable sub-assemblies

Bodies with contacts

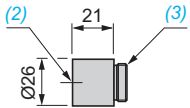
ZCKM1, M5, M6, M7, M8, M9, MD3●, MD3H●29, MD3●H7
ZCKM1H29, M5H29, M6H29, M7H29, M8H29, M9H29
ZCKM1H7, M5H7, M6H7, M7H7, M8H7

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

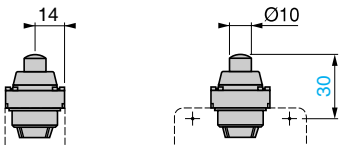
OsiSense XC Standard, Classic format

Metal, XCKM and XCKL

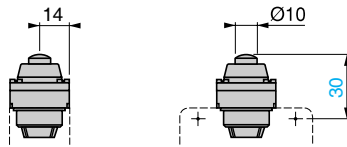
Adaptable sub-assemblies

Plunger heads

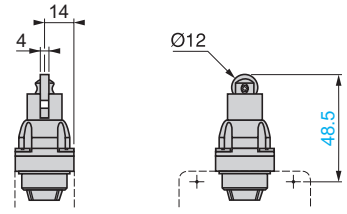
ZCKD10



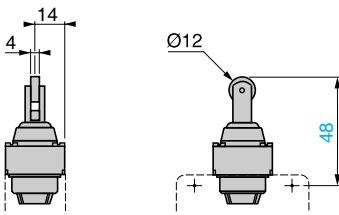
ZCKD109



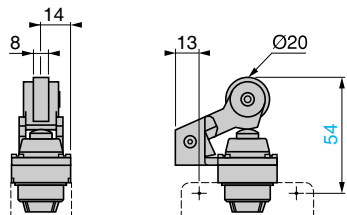
ZCKD02



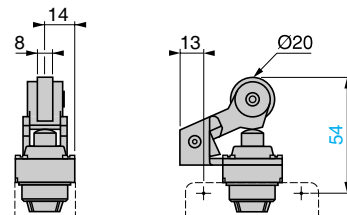
ZCKD029



ZCKD21, D23

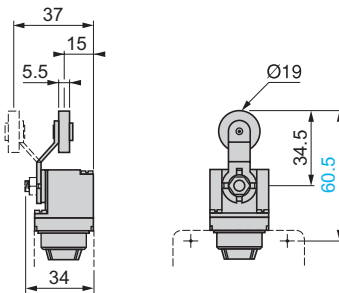


ZCKD219, D239

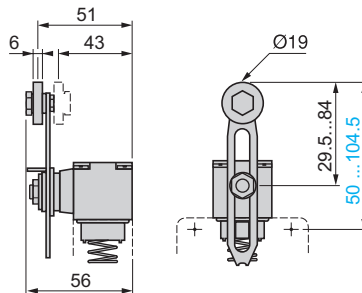


Rotary heads

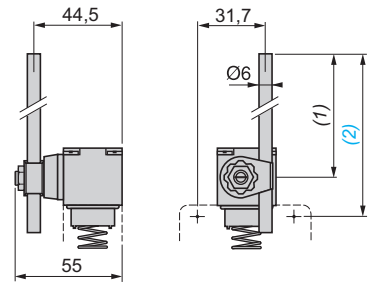
ZCKD15, D16, D17



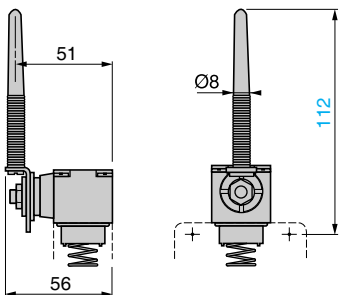
ZCKD41



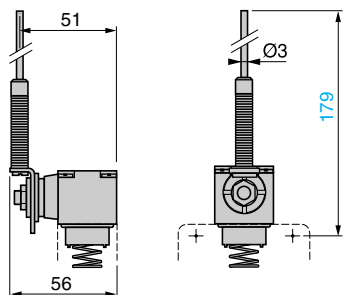
ZCKD59



ZCKD81

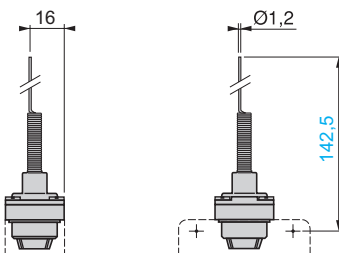


ZCKD91

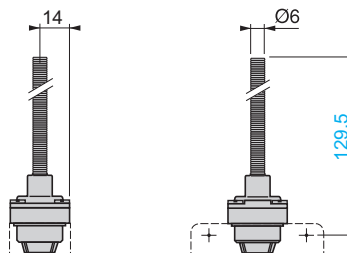


Multi-directional heads

ZCKD06



ZCKD08



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

Note: operating lever spindle threaded M6.

Limit switches

OsiSense XC Standard, format EN 50041
Plastic, double insulated, XCKS

Complete switch

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

■ The OsiSense 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.

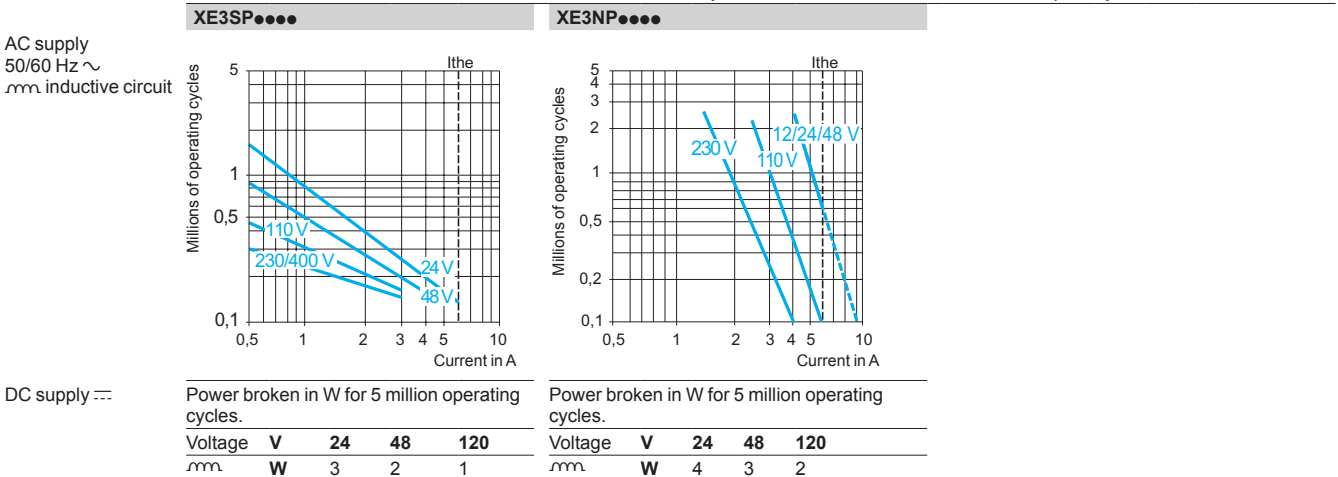
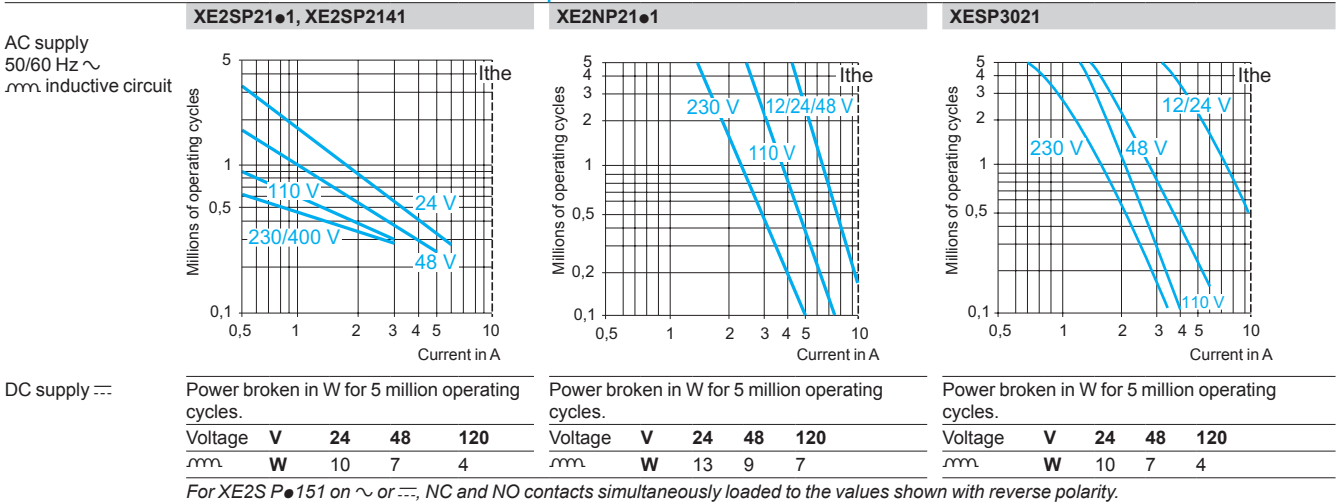
□ ZCKD: complete head with linear or rotary actuator
□ ZCKS: bodies with 2, 3 or 4 contacts



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●● XE2●P●, XESP● XE3●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 EN/IEC 60947-5-1 Appendix A
		~ AC-15 ; B300 (Ue = 240 V, Ie = 1.5 A) ; Ithe = 6 A --- DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage	XCKS1●●, XCKS5●● XE2●P●, XESP● XE3●P●	Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-5-1
		Ui = 300 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	XCKS1●●, XCKS5●● XE2●P●, XESP● XE3●P●	U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664
		U imp = 4 kV conforming to EN/IEC 60947-1, IEC 60664
Short-circuit protection	XCKS1●●, XCKS5●● XE2●P●, XESP● XE3●P●	10 A cartridge fuse type gG (gl)
		6 A cartridge fuse type gG (gl)
Resistance across terminals		≤ 25 mΩ conforming to EN/IEC 60255-7 category 3
Connection (screw clamp terminals)	XCKS1●●, XCKS5●● XE2SP21●1	Clamping capacity, min: 1 x 0.34 mm ² / AWG 22, max: 2 x 1.5 mm ² / AWG 16
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm ² / AWG 20, max: 2 x 2.5 mm ² / AWG 14
	XESP●	Clamping capacity, min: 1 x 0.75 mm ² / AWG 20, max: 2 x 1.5 mm ² / AWG 16
	XE3●P●	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	<input type="checkbox"/> Conforming to IEC 60947-5-1 Appendix C <input type="checkbox"/> Utilisation categories AC-15 and DC-13 <input type="checkbox"/> Maximum operating rate: 3600 operating cycles/hour <input type="checkbox"/> Load factor: 0.5



Limit switches

OsiSense XC Standard, 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

<p>2-pole NC + NO snap action</p>	XCKS101H29	XCKS102H29	XCKS131H29 (thermoplastic) XCKS133H29 (steel)	XCKS139H29	XCKS141H29 (thermoplastic) XCKS143H29 (steel)	XCKS149H29	XCKS159H29
<p>2-pole NC + NO break before make, slow break</p>	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 17.

(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

OsiSense XC Standard, 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			(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 For positive opening	15 N 45 N	12 N 36 N	0.15 N.m 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 17.

(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

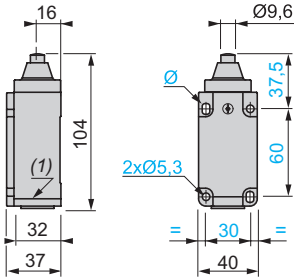
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

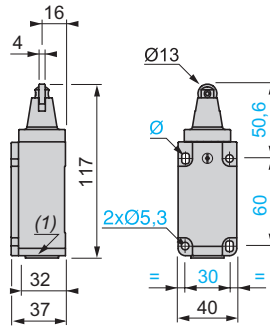
Complete switches with 1 cable entry

Dimensions

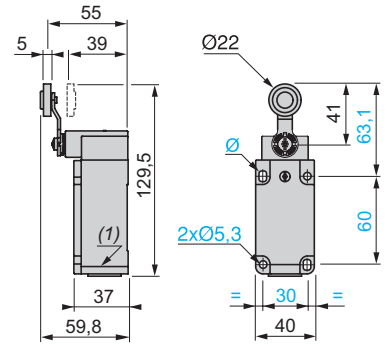
XCKS0100



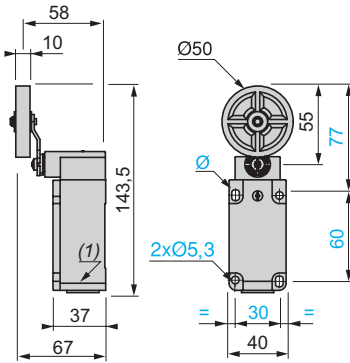
XCKS0200



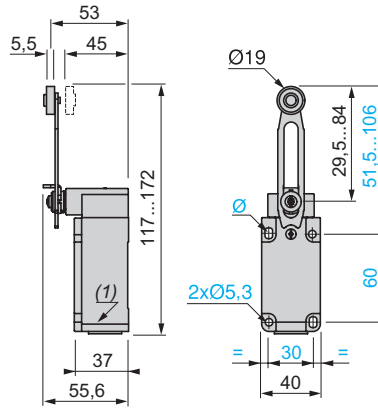
XCKS3100 / XCKS3300



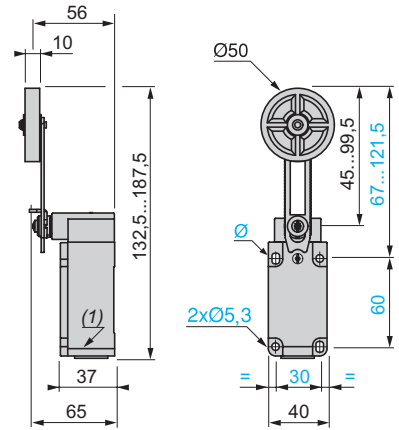
XCKS3900



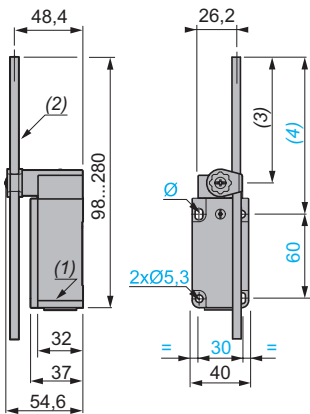
XCKS4100 / XCKS4300



XCKS4900



XCKS5900



(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

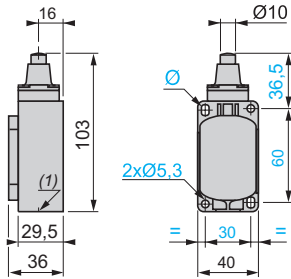
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

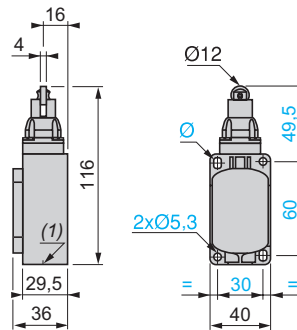
Variable composition switches with 1 cable entry

Dimensions

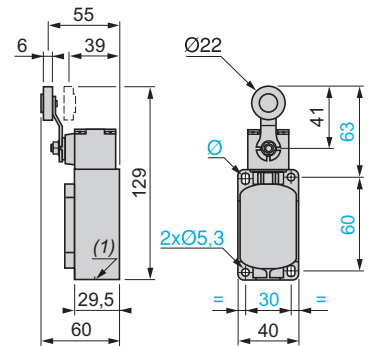
ZCKS● + ZCKD01



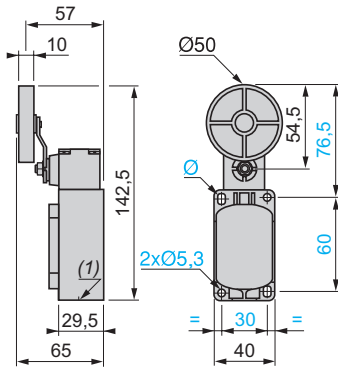
ZCKS● + ZCKD02



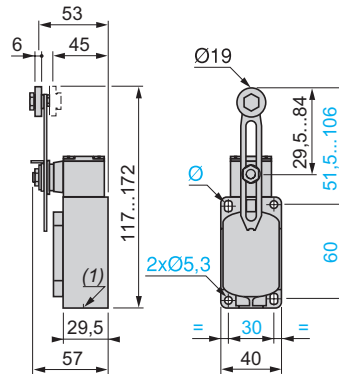
ZCKS● + ZCKD31



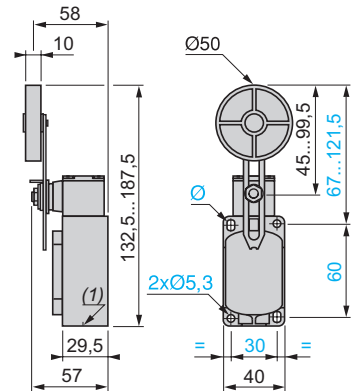
ZCKS● + ZCKD39



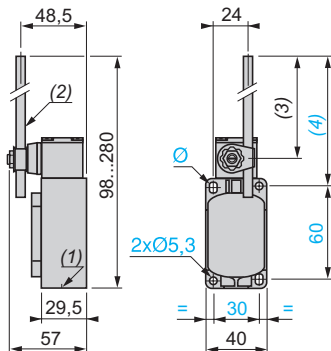
ZCKS● + ZCKD41



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.

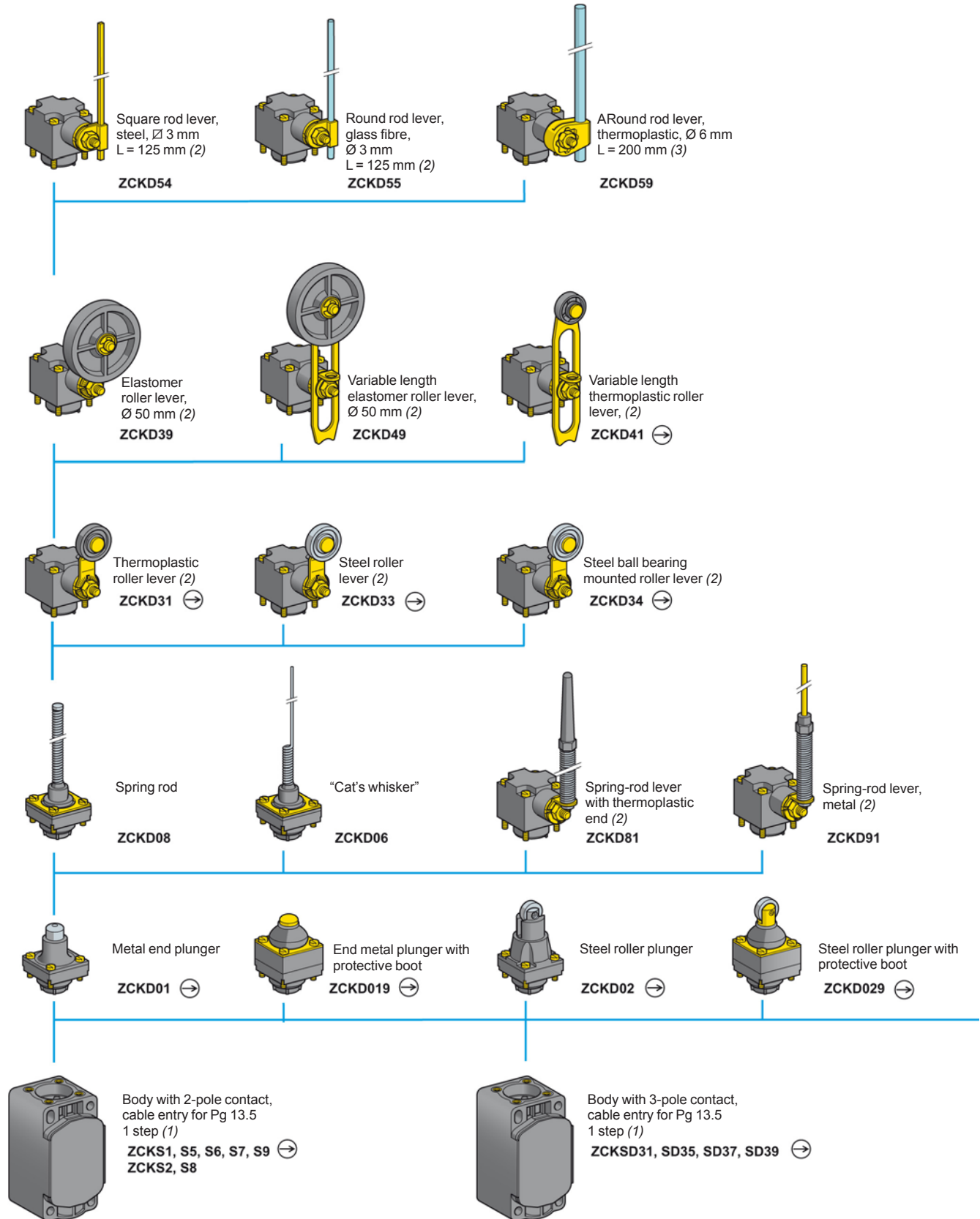
Ø : 2 elongated holes 5.3 x 7.3 mm.

Limit switches

OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

Variable composition

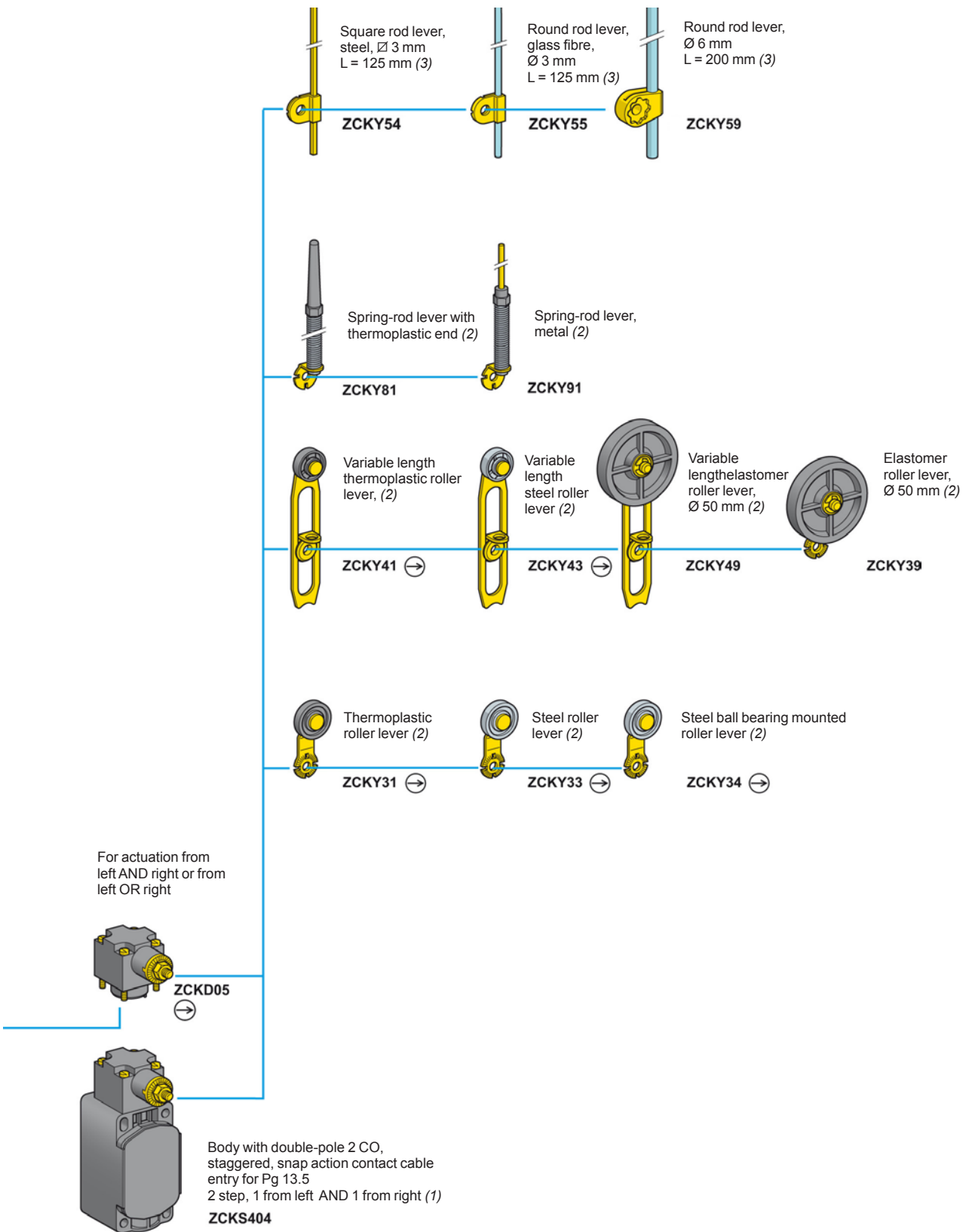


(1) For further details see page 112. For a cable entry tapped ISO M20 x 1.5, add H29 to the reference. Example: ZCKS1 becomes ZCKS1H29.

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

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

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

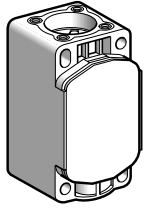


Limit switches

OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKs

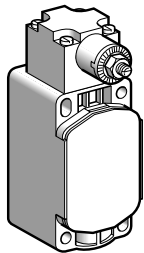
Variable composition switches



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

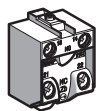
(1) ⊕: NC contact with positive opening operation or head assuring positive opening operation.

Limit switches

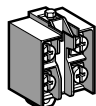
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

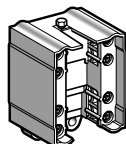
Variable composition switches



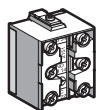
XE2SP21●1



XE2NP21●1



XESP3021



XE3●P21●●



DE9RA●●12

Contact blocks for ZCKS●● bodies

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

Accessories for ZCKS●● and XCKS●●

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

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

Other versions

Gold flashed contacts.
Please consult our Customer Care Centre.

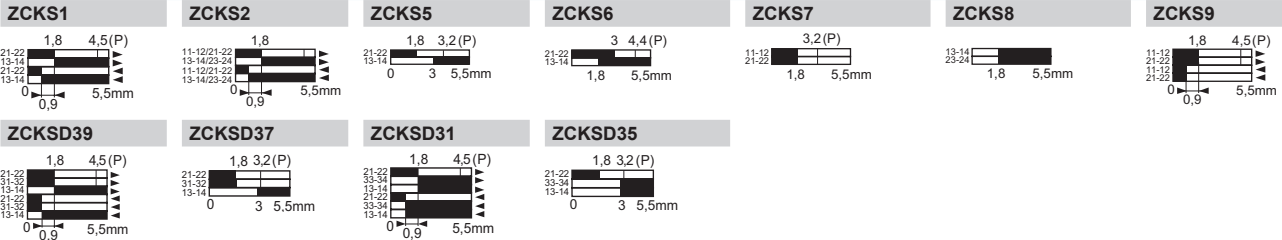
Limit switches

OsiSense XC Standard, format EN 50041

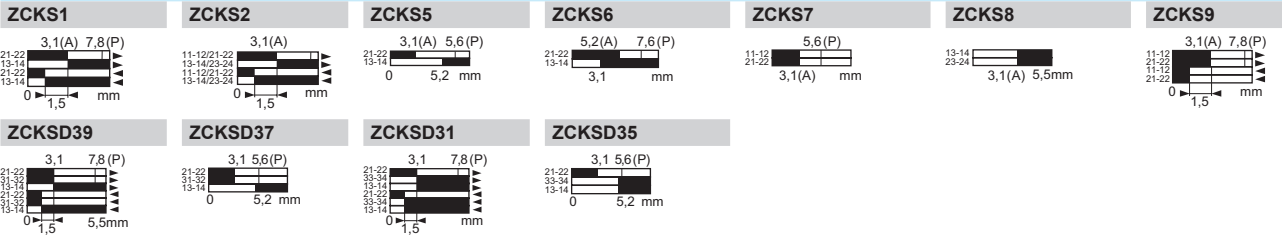
Plastic, double insulated, XCKS

Variable composition switches

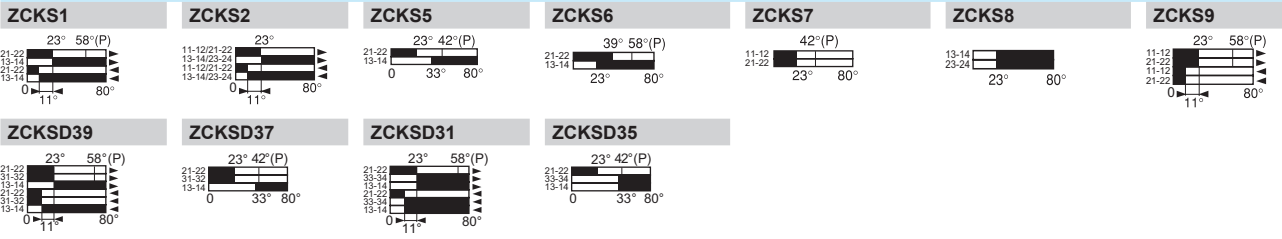
Heads ZCKD01, D109 with body



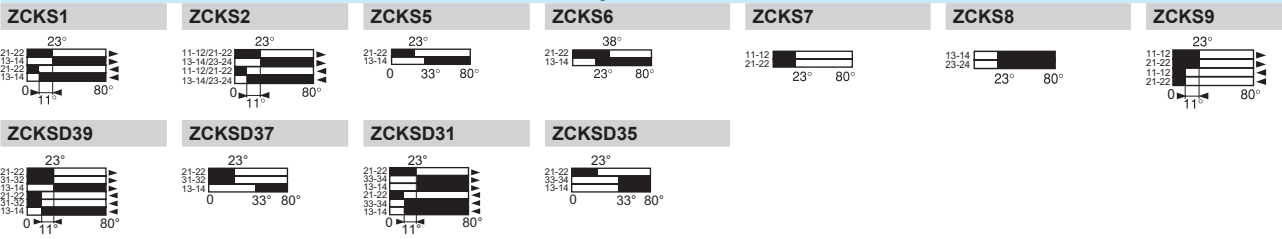
Heads ZCKD02, D029 with body



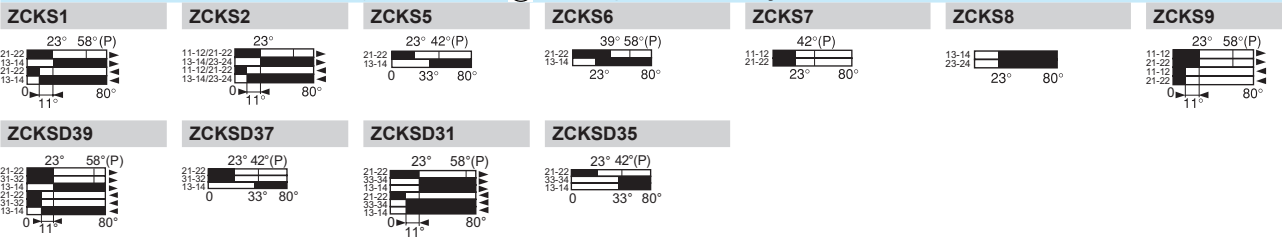
Heads ZCKD31, D33, D34 with body



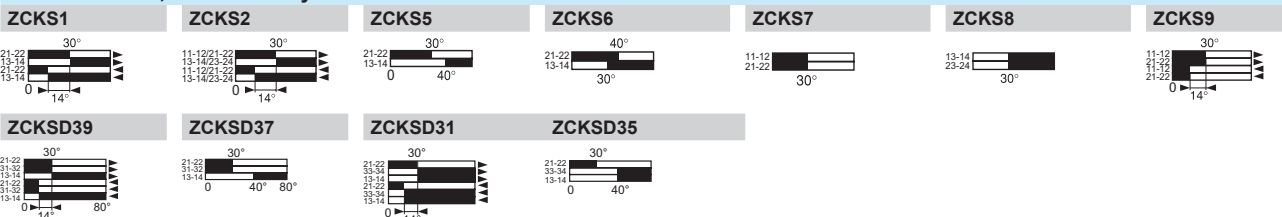
Heads ZCKD39, D41, D49, D54, D55, D59, D81, D91 with body



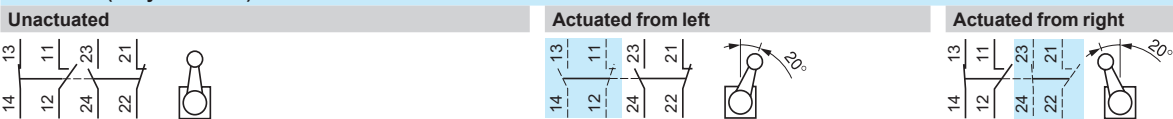
Heads ZCKD05 (positive operation only assured with a ⊖ operating lever) with body



Heads ZCKD06, D08 with body



ZCKS404 (body with head)



Contact operation

■ closed

□ open

(A) = cam displacement

(P) = positive opening point

Limit switches

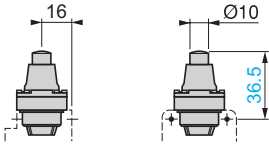
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

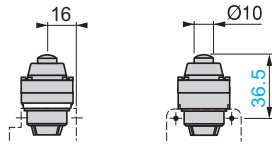
Variable composition switches

Plunger heads

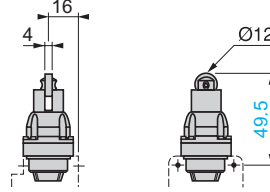
ZCKD01



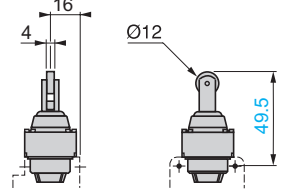
ZCKD019



ZCKD02

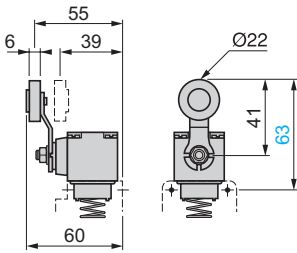


ZCKD029

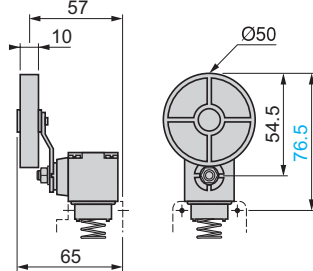


Rotary heads

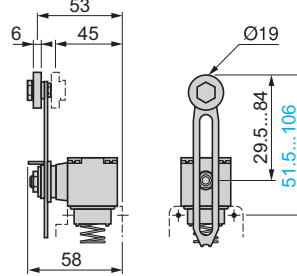
ZCKD31, ZCKD33, ZCKD34



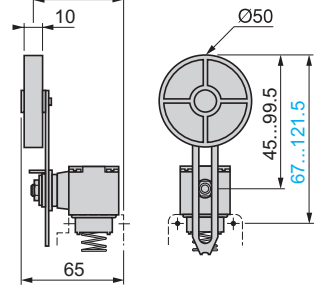
ZCKD39



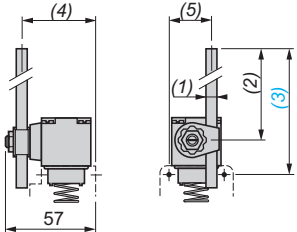
ZCKD41



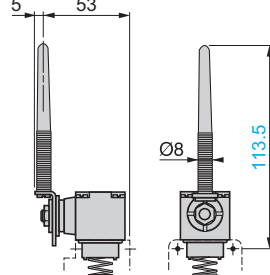
ZCKD49



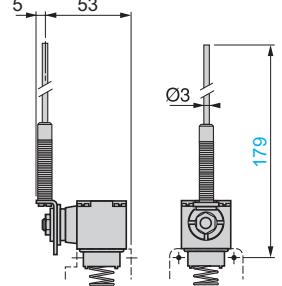
ZCKD54, ZCKD55, ZCKD59



ZCKD81



ZCKD91

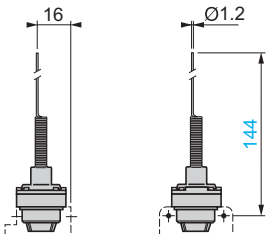


ZCK	(1) rod	(2)	(3)	(4)	(5)
D54	∅ 3, L = 125	115 max.	137 max.	49	24
D55	∅ 3, L = 125	115 max.	137 max.	49	24
D59	∅ 6, L = 200	190 max.	212 max.	46.5	26.2

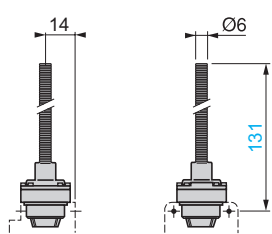
Note: operating lever spindle threaded M6.

Multi-directional heads

ZCKD06



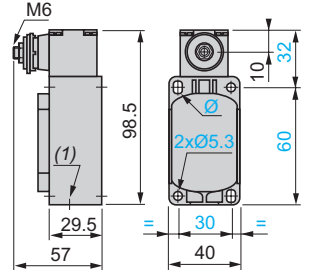
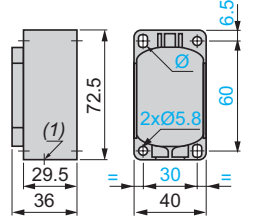
ZCKD08



Bodies with contacts

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

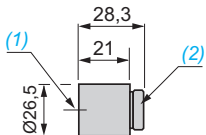
ZCKS404, S404H29



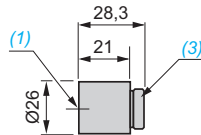
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland.
Ø: 2 elongated holes 5.3 x 7.3.

Adaptors for 1/2" NPT conduit

DE9RA1212 (Pg 13.5)



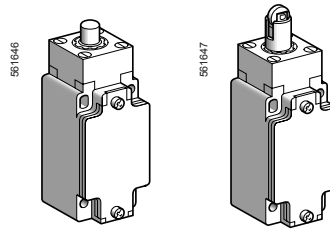
DE9RA2012 (M20)



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

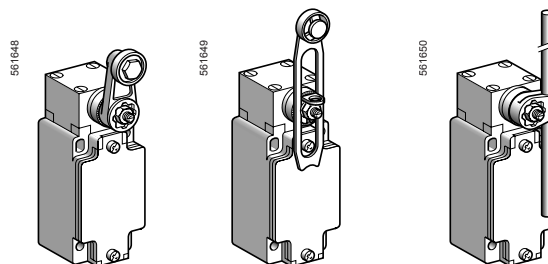
■ XCKJ
fixed body with 1 cable entry

□ With head for linear movement (plunger)



Page 118

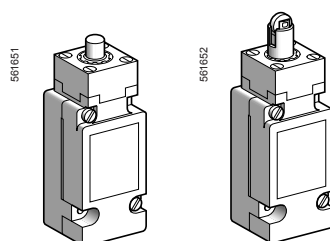
□ With head for rotary movement (lever)



Page 118

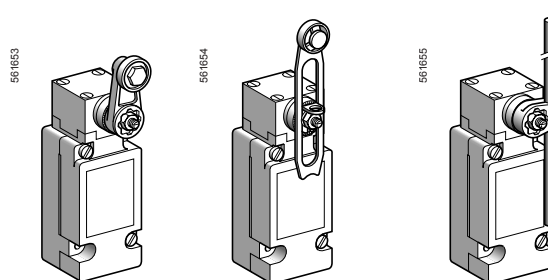
■ XCKJ
plug-in body with 1 cable entry

□ With head for linear movement (plunger)



Page 120

□ With head for rotary movement (lever)



Page 120

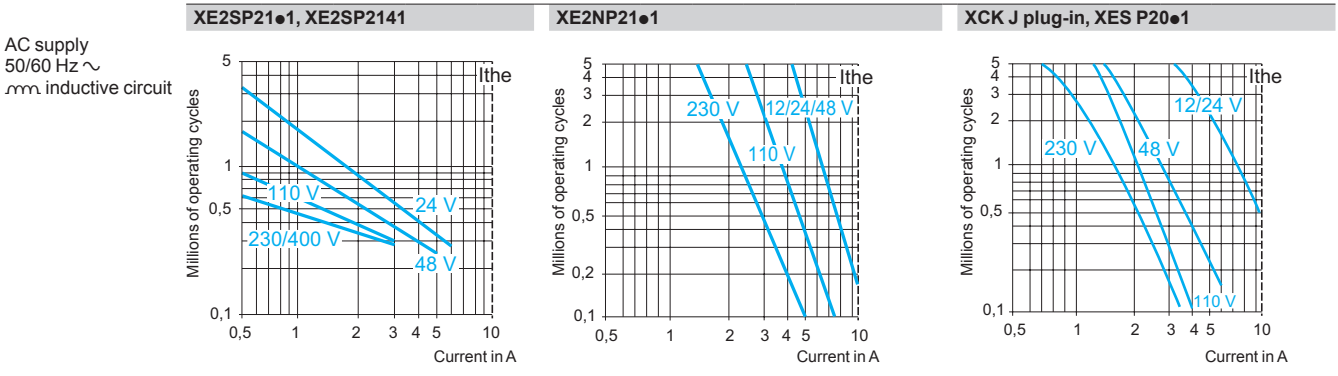
Environment characteristics

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 EN 50102
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		XE2SP21●1 and XE3SP: 0.01 m/minute XE2NP21●1 and XE3NP: 6 m/minute

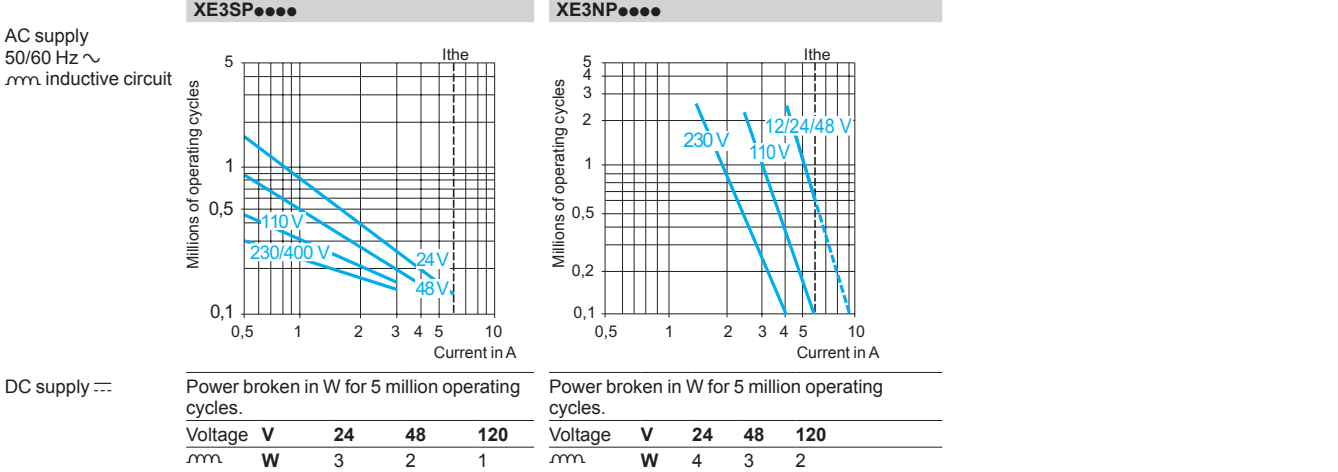
Electrical durability

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



DC supply ---	Power broken in W for 5 million operating cycles.				
	Voltage	24	48	120	
	m	W	10	7	4

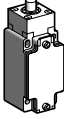




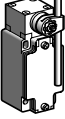

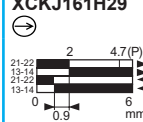
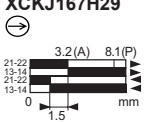
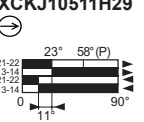
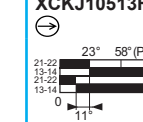
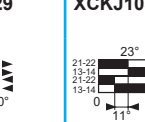
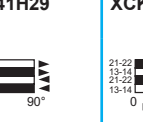

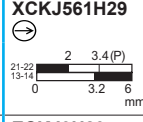
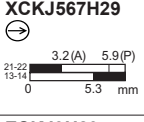
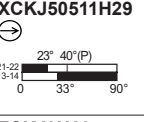
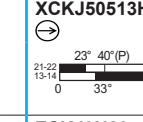
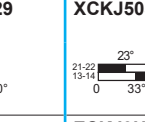
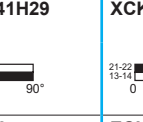

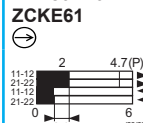
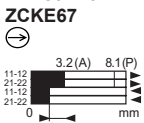
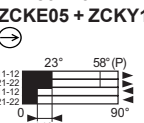
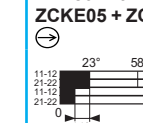

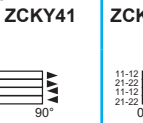

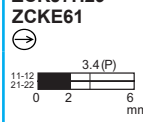
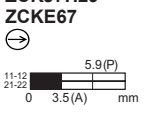
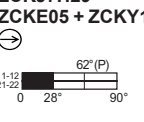
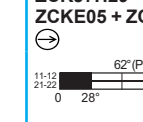
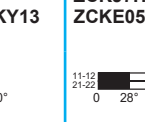
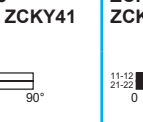

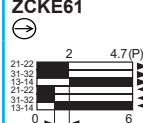
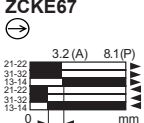
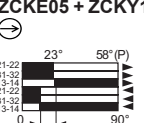
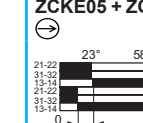
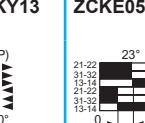
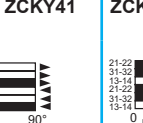

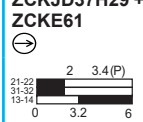

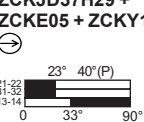
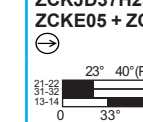
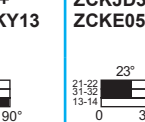
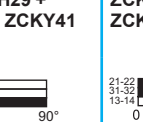



For XE2S P●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.



DC supply ---	Power broken in W for 5 million operating cycles.				
	Voltage	24	48	120	
	m	W	3	2	1

Limit switches

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

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

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

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

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

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

- (1) Form conforming to EN 50041, see page 17.
- (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

OsiSense XC Standard

Industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Complete fixed body switches with 1 cable entry

Characteristics

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

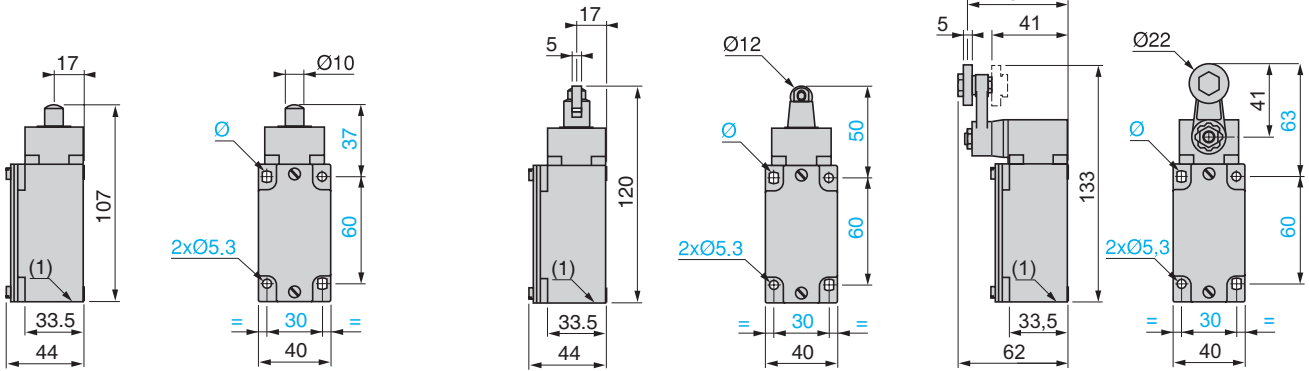
(1) Limited to 15 million operating cycles for switches with contacts XE3●P.

Dimensions

XCKJ●61H29
ZCKJ● + ZCKE61

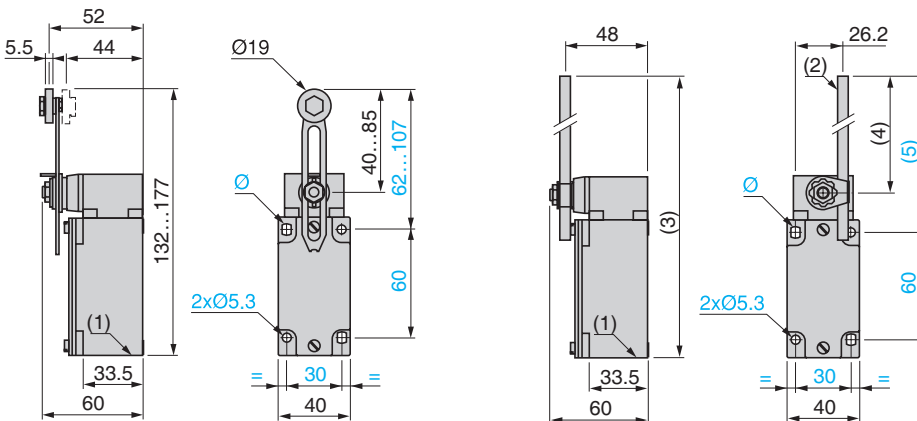
XCKJ●67H29
ZCKJ● + ZCKE67

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



XCKJ●0541H29
ZCKJ● + ZCKE05 + ZCKY41

XCKJ●0559H29
ZCKJ● + ZCKE05 + ZCKY59



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

(2) Ø 6 rod, length 200 mm.

(3) 282 max.

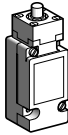
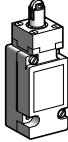

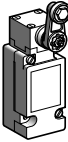

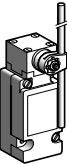

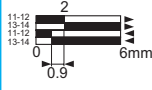
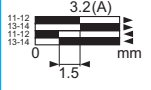
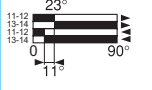
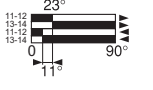
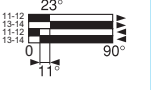
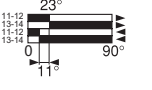


(4) 190 max.

(5) 212 max.

Ø: 2 elongated holes Ø 5.3 x 7.3.

Limit switches

OsiSense XC Standard, 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 17.
(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

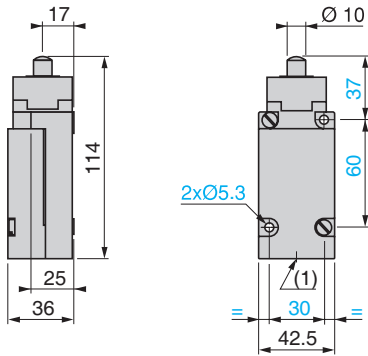
OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

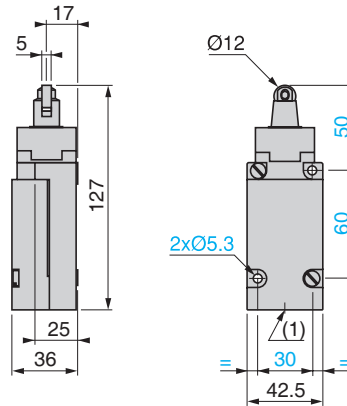
Complete switches, plug-in body

With 1 cable entry

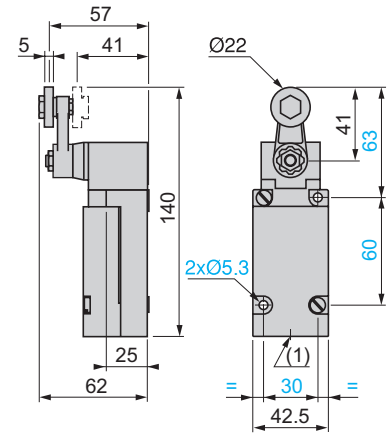
XCKJ1161H29



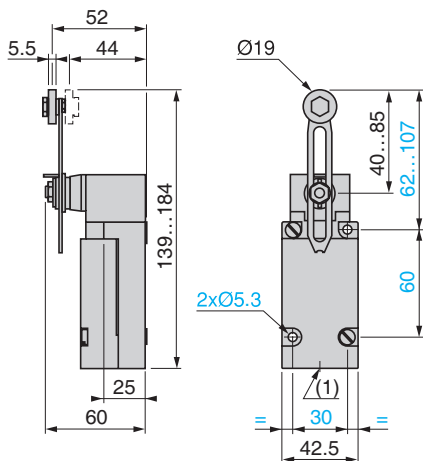
XCKJ1167H29



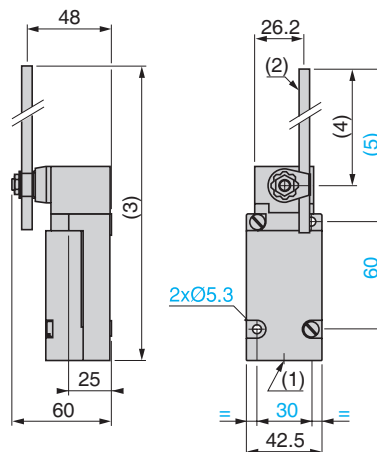
XCKJ110511H29, XCKJ110513H29



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.

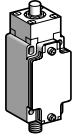
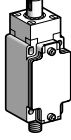
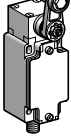
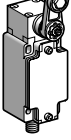

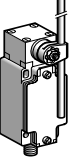
(3) 289 max.


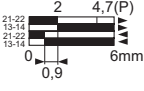
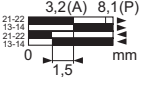
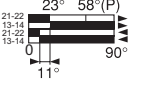
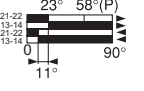
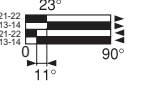
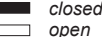
(4) 190 max.





(5) 212 max.

Limit switches

OsiSense XC Standard, 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 (XE2S P2151)					
		XCKJ161D 	XCKJ167D 	XCKJ10511D 	XCKJ10513D 	XCKJ10541D 
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485
Contact operation			(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 17.
- (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.

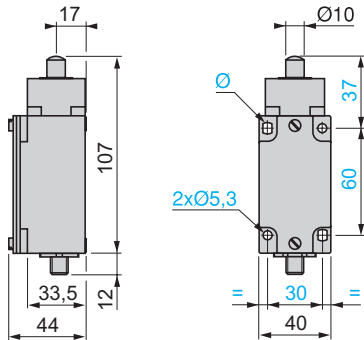
References of suitable pre-wired female connectors		
Type of connector	M12 straight, 5-pin, 4 A/24 V max.	M12 elbowed, 5-pin, 4 A/24 V max.
With cable, Ø 5.8 mm (4 x 0.34 mm ² + 1 x 0.5 mm ²)	L = 2 m	XZCP1164L2
	L = 5 m	XZCP1164L5
	L = 10 m	XZCP1164L10
Weight (kg)	L = 2 m	0.115
	L = 5 m	0.270
	L = 10 m	0.520

Limit switches

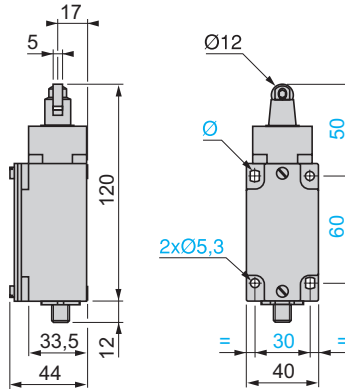
OsiSense XC Standard, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Dimensions

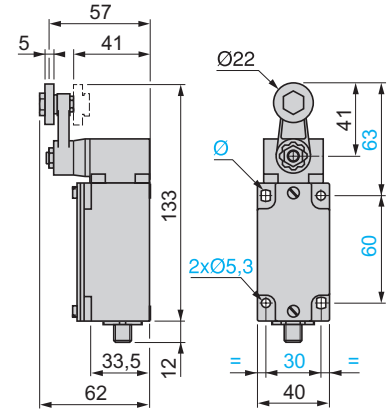
XCKJ161D



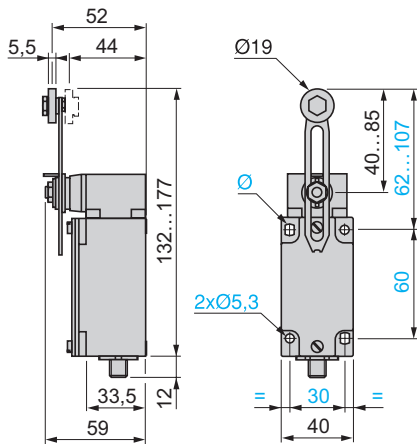
XCKJ167D



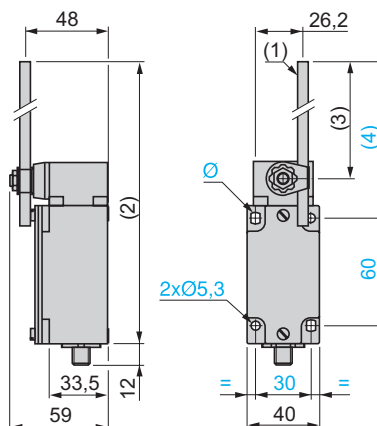
XCKJ1051D



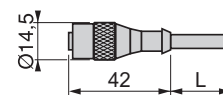
XCKJ10541D



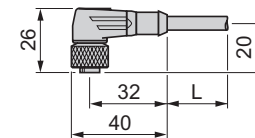
XCKJ10559D



XZCP1164L



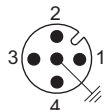
XZCP1264L



- (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.

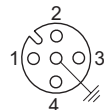
Connections

Limit switch XCKJ●●●●D



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

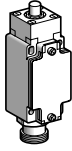
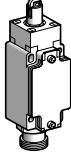
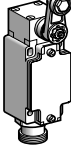
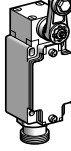

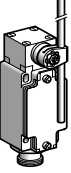
Pre-wired female connector XZCP1●64L


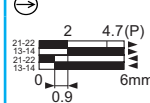
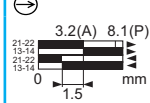
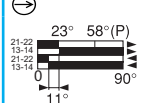
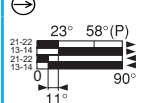
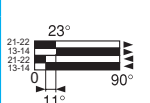










- 1 = brown
- 2 = white
- 3 = blue
- 4 = black
- 5 = ⚬ yellow/green

Limit switches

OsiSense XC Standard, 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 
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 17.
- (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.

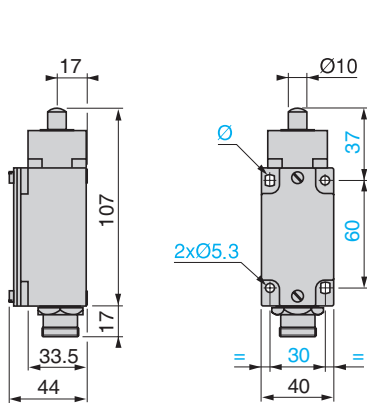
References of suitable pre-wired female connectors		
Type of connector	7/8"-16UN straight, 5-pin, 4 A/250 V max.	
With cable, Ø 5.9 mm (5 x 0.34 mm ²)	L = 2 m	XZCP1764L2
	L = 5 m	XZCP1764L5
	L = 10 m	XZCP1764L10
Weight (kg)	L = 2 m	0.185
	L = 5 m	0.460
	L = 10 m	0.900

Limit switches

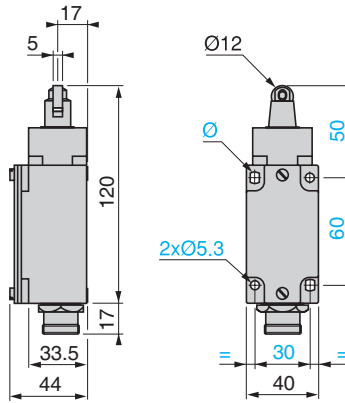
OsiSense XC Standard, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Dimensions

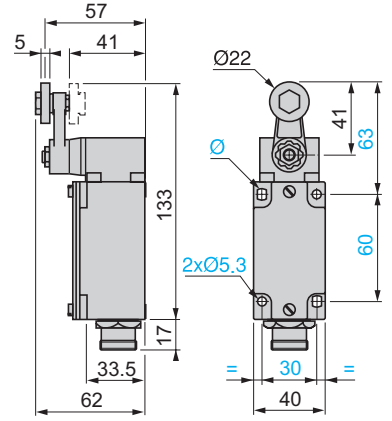
XCKJ161A



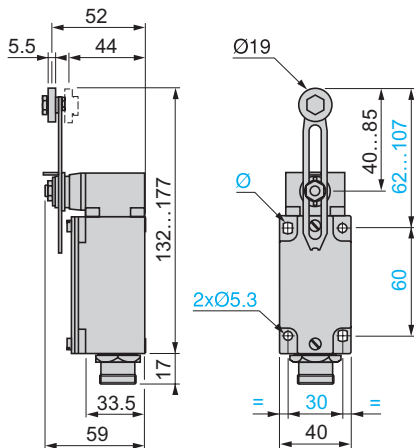
XCKJ167A



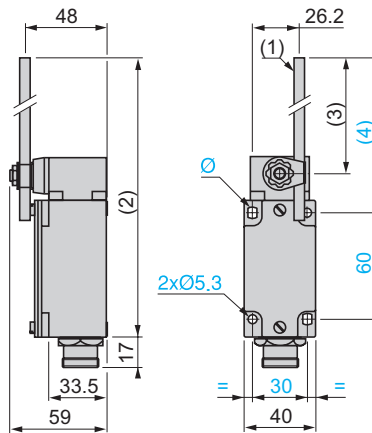
XCKJ1051A



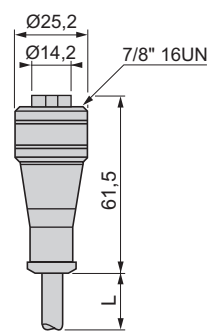
XCKJ10541A



XCKJ10559A



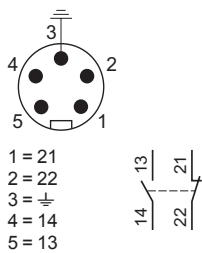
XZCP1764L



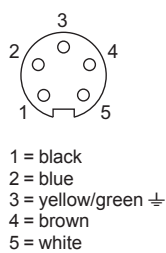
- (1) Ø 6 rod, length 200 mm.
- (2) 282 max.
- (3) 190 max.
- (4) 212 max.
- Ø: 2 elongated holes Ø 5.3 x 7.3.
- L: Cable length 2, 5 or 10 m.

Connections

Limit switch XCKJ●●●●A



Pre-wired female connector XZCP1764L



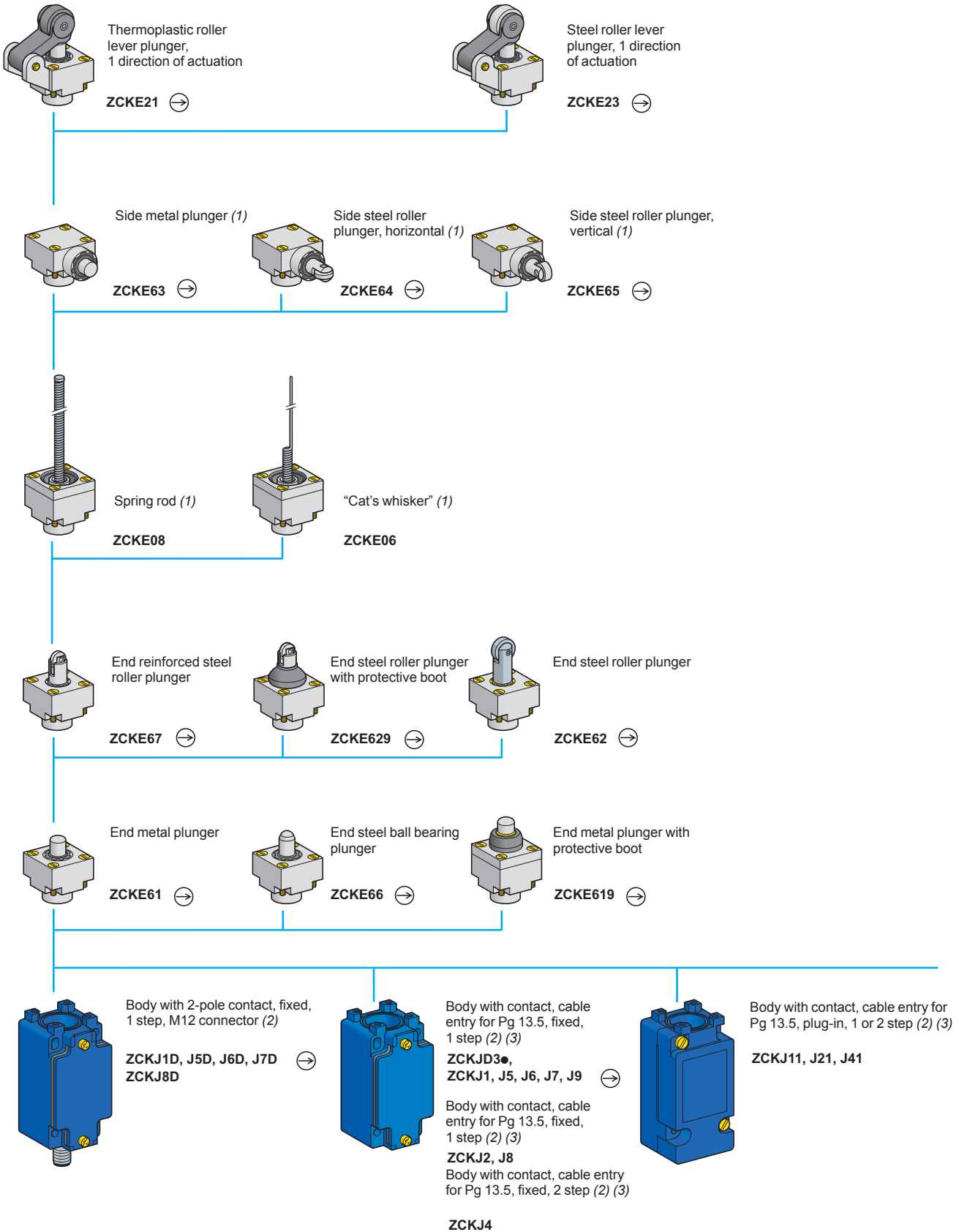
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

Variable composition: standard bodies

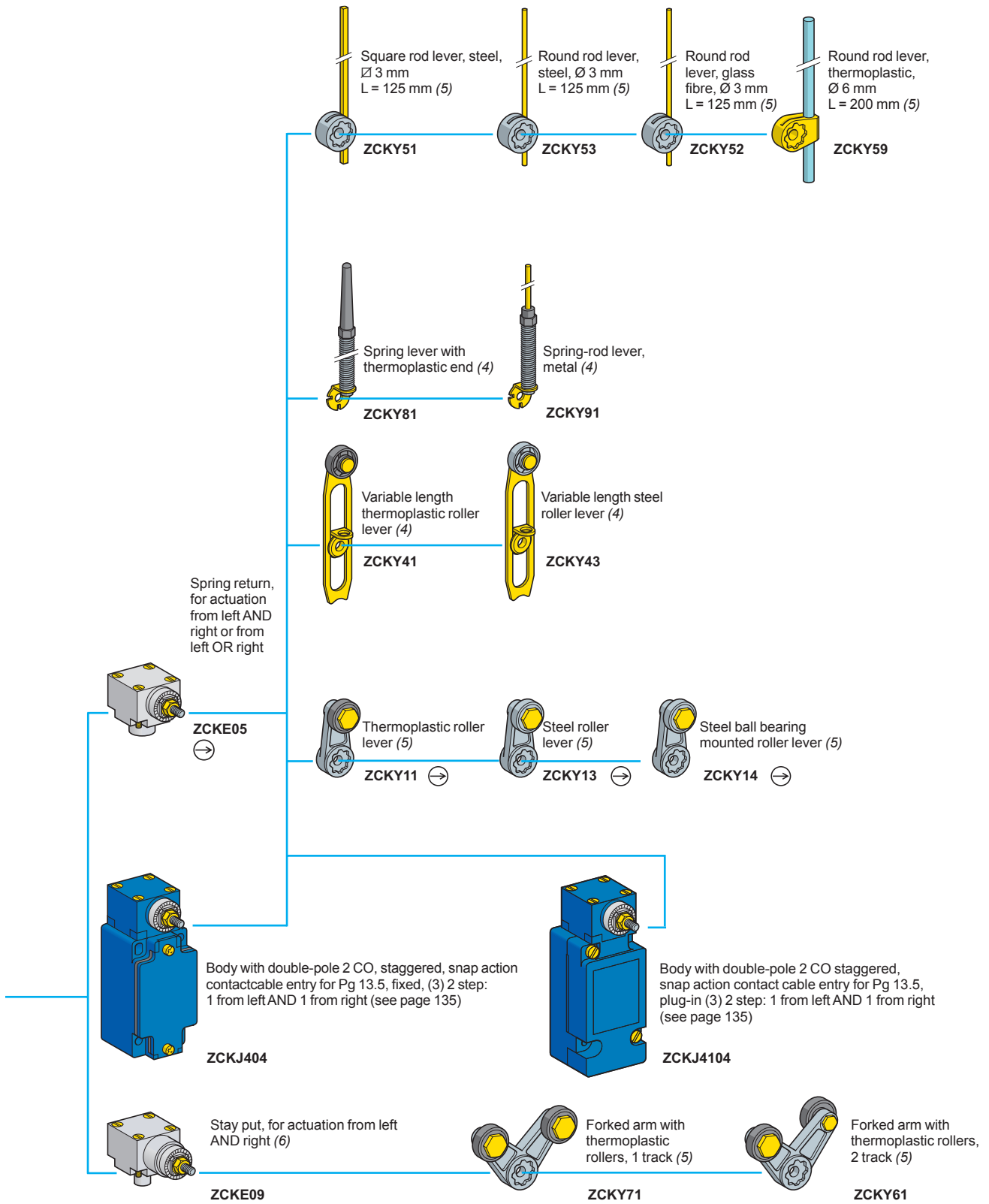


(1) Cannot be used with bodies ZCKJ4 and ZCKJ41.

(2) For further information, see page 131.

(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.

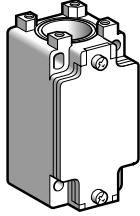
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

Adaptable sub-assemblies: standard bodies



ZCKJ

Fixed bodies with 2-pole contact

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊖	Pg 13.5	ZCKJ1	0.310
				ISO M20 x 1.5	ZCKJ1H29	0.310
				1/2" NPT	ZCKJ1H7	0.310
	2 CO simultaneous, snap action (XE2SP2021)		-	Pg 13.5	ZCKJ2	0.310
				ISO M20 x 1.5	ZCKJ2H29	0.310
				1/2" NPT	ZCKJ2H7	0.310
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊖	Pg 13.5	ZCKJ5	0.310
				ISO M20 x 1.5	ZCKJ5H29	0.310
				1/2" NPT	ZCKJ5H7	0.310
1 NO + 1 NC make before break, slow break (XE2NP2161)		⊖	Pg 13.5	ZCKJ6	0.310	
			ISO M20 x 1.5	ZCKJ6H29	0.310	
			1/2" NPT	ZCKJ6H7	0.310	
2 NC simultaneous, slow break (XE2NP2141)		⊖	Pg 13.5	ZCKJ7	0.310	
			ISO M20 x 1.5	ZCKJ7H29	0.310	
			1/2" NPT	ZCKJ7H7	0.310	
2 NO simultaneous, slow break (XE2NP2131)		-	Pg 13.5	ZCKJ8	0.310	
			ISO M20 x 1.5	ZCKJ8H29	0.310	
			1/2" NPT	ZCKJ8H7	0.310	
2 NC snap action (XE2SP2141)		⊖	Pg 13.5	ZCKJ9	0.310	
			ISO M20 x 1.5	ZCKJ9H29	0.310	
			1/2" NPT	ZCKJ9H7	0.310	
2 step	2 CO staggered snap action (XE2SP2031)		-	Pg 13.5	ZCKJ4	0.310
				ISO M20 x 1.5	ZCKJ4H29	0.310
				1/2" NPT	ZCKJ4H7	0.310

Fixed bodies with 3-pole contact

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

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

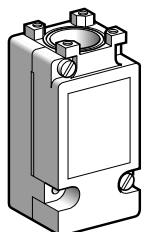
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

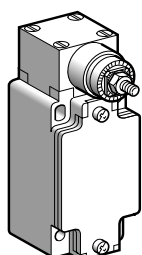
Adaptable sub-assemblies: standard bodies



ZCKJ01

Plug-in bodies with contact

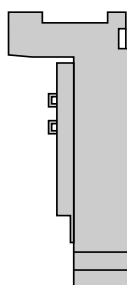
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO snap action		-	Pg 13.5	ZCKJ11	0.300
				ISO M20 x 1.5	ZCKJ11H29	0.300
				1/2" NPT	ZCKJ11H7	0.300
2 step	Double-pole 2 CO simultaneous, snap action		-	Pg 13.5	ZCKJ21	0.300
				ISO M20 x 1.5	ZCKJ21H29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



ZCKJ404

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

Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from left AND 1 from right (see page 135)	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 135)	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



ZCKJ00

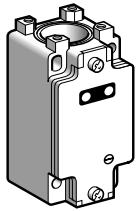
Plug-in housing only

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

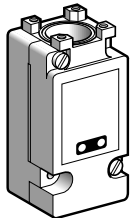
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body. Adaptable sub-assemblies:
 bodies with indicator light module



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 ISO M20 x 1.5	ZCKJ121 ZCKJ121H29	0.320 0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊕	Pg 13.5 ISO M20 x 1.5	ZCKJ521 ZCKJ521H29	0.320 0.320
With module comprising 2 LEDs, 110/240 V ~						
1 step	1 NC + 1 NO snap action (XE2SP2151)		⊕	Pg 13.5 ISO M20 x 1.5	ZCKJ134 ZCKJ134H29	0.320 0.320
	1 NC + 1 NO break before make, slow break (XE2NP2151)		⊕	Pg 13.5 ISO M20 x 1.5	ZCKJ534 ZCKJ534H29	0.320 0.320



ZCKJ1●●●

Plug-in bodies with single-pole contact

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

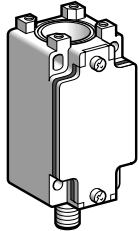
(1) ⊕: NC contact with positive opening operation.

Indicator light module characteristics

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

Limit switches

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



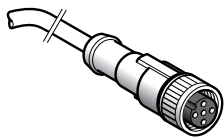
ZCKJ•D

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•

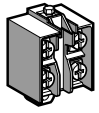
(1) NC contact with positive opening operation.

Limit switches

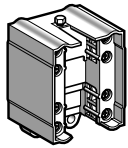
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies: contact blocks



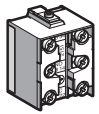
XE2SP21●1



XE2NP21●1



XESP20●1



XE3●P21●1

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

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

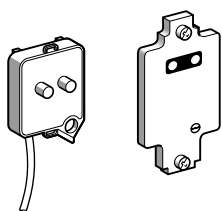
Limit switches

OsiSense XC Standard, industrial format EN 50041

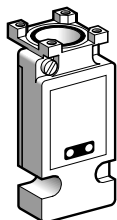
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

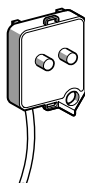
Adaptable sub-assemblies: add-ons



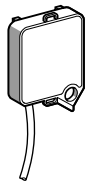
ZCKZ0●●



ZCKJ01●●



ZCKJ90●



ZCKJ82A

Covers + indicator light module

For use with	Number and type of indicators	Voltage	Reference	Weight kg
Fixed body	1 LED	24 V $\overline{\text{---}}$	ZCKZ020	0.060
	2 LEDs	24 V $\overline{\text{---}}$	ZCKZ021	0.060
	2 LEDs	110/240 V \sim	ZCKZ034	0.060
Plug-in body	2 LEDs	24 V $\overline{\text{---}}$	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 $\overline{\text{---}}$	ZCKJ902	0.030
	2 LEDs	24 V $\overline{\text{---}}$	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

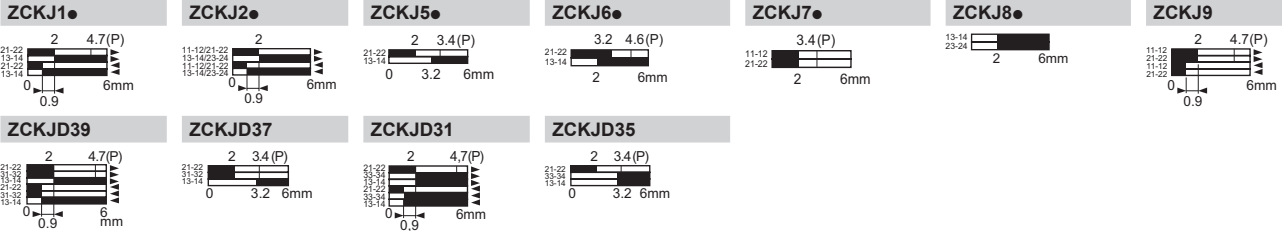
Covers + indicator light module for other supply voltages.
Please consult our Customer Care Centre.

Limit switches

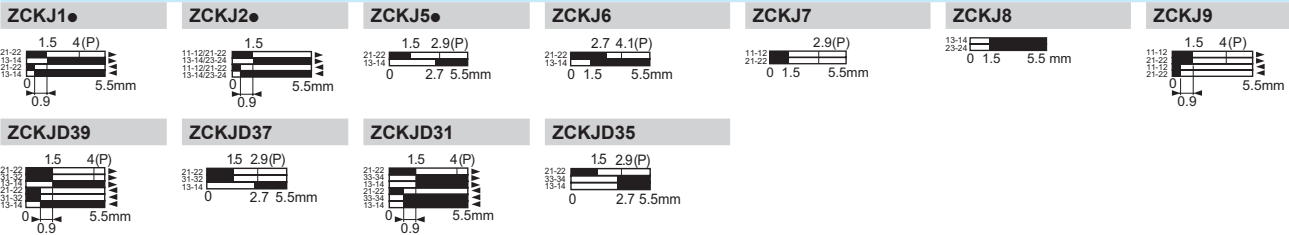
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies

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

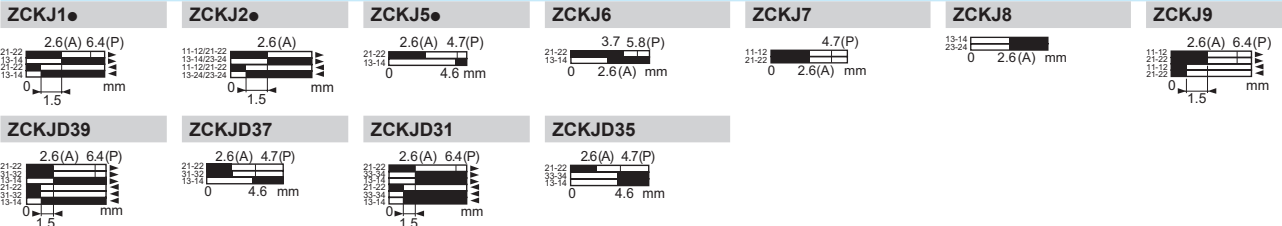
Heads ZCKE61, ZCKE619, ZCKE66 with body



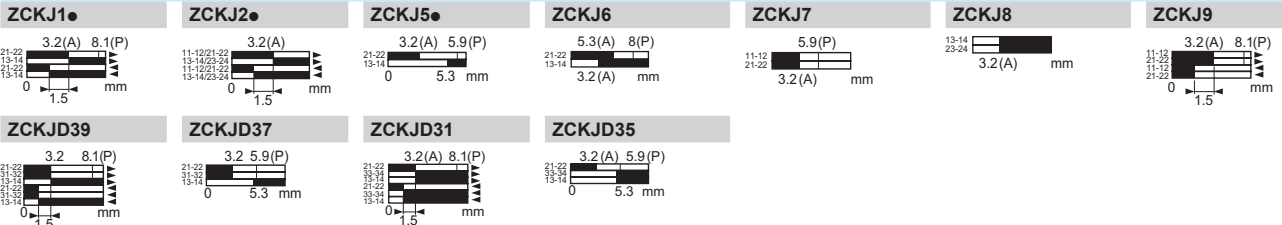
Head ZCKE63 with body



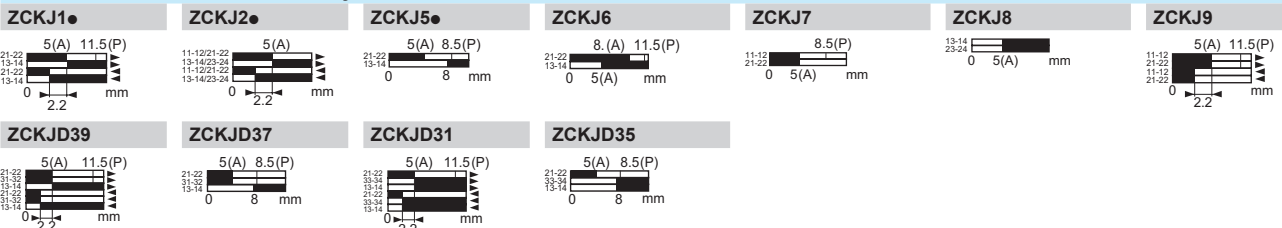
Heads ZCKE64, ZCKE65 with body



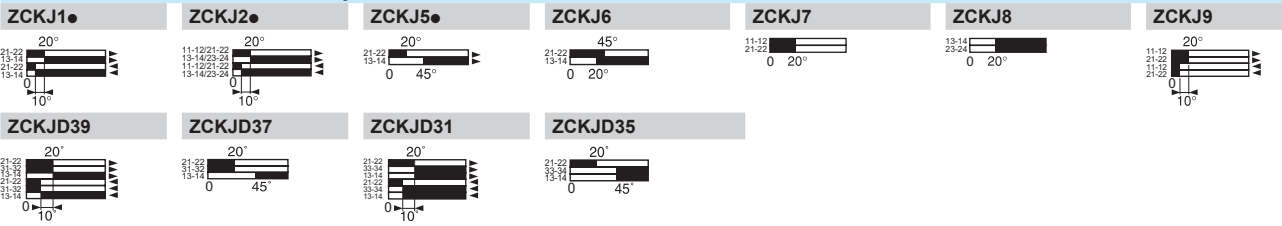
Heads ZCKE67, ZCKE629 with body



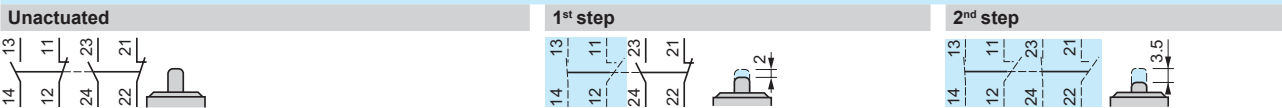
Heads ZCKE21, ZCKE23 with body



Heads ZCKE06, ZCKE08 with body



ZCKJ4



Contact operation

■ closed
 □ open

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

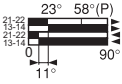
Limit switches

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

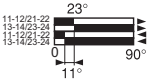
Function diagrams (positive operation assured only if the associated sub-assemblies are)

Head ZCKE05 with body

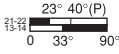
ZCKJ1●



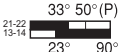
ZCKJ2●



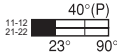
ZCKJ5●



ZCKJ6



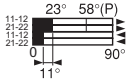
ZCKJ7



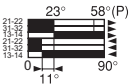
ZCKJ8



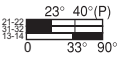
ZCKJ9



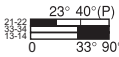
ZCKJD39



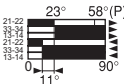
ZCKJD37



ZCKJD39

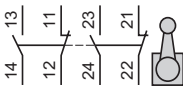


ZCKJD31

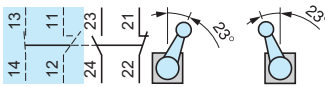


ZCKJ4●

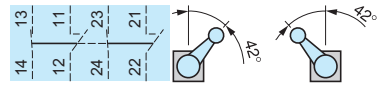
Unactuated



1st step, actuated from left or right

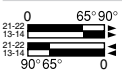


2nd step, actuated from left or right

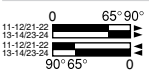


Head ZCKE09 with body

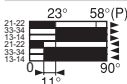
ZCKJ1●



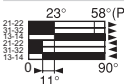
ZCKJ2●



ZCKJD31

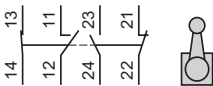


ZCKJD39

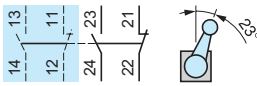


ZCKJ404, J4104 (body with head)

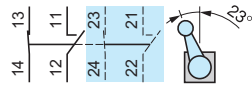
Unactuated



Actuated from left



Actuated from right



Contact operation

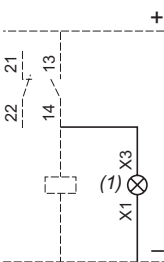
 closed
 open

(P) = positive opening point

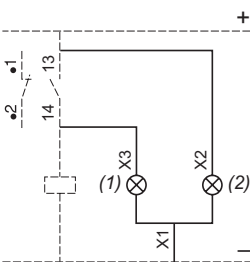
Wiring schemes

Indicator light modules

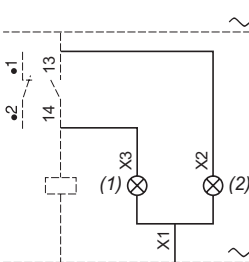
1 LED, 24 V $\overline{\text{DC}}$



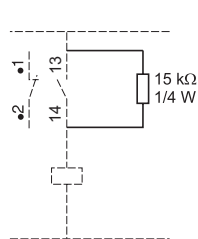
2 LEDs, 24 V $\overline{\text{DC}}$



2 LEDs, 110/240 V \sim

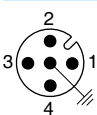


Module with resistor



(1) Orange indicator
(2) Green indicator

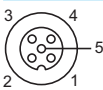
ZCKJ●D



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

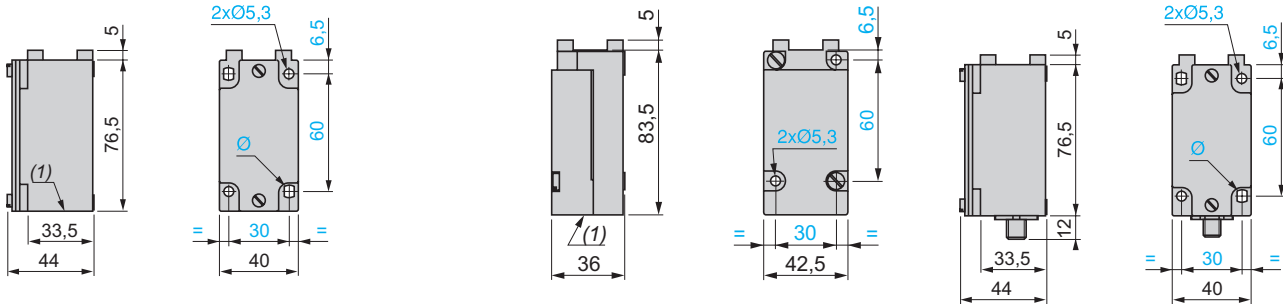
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies

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

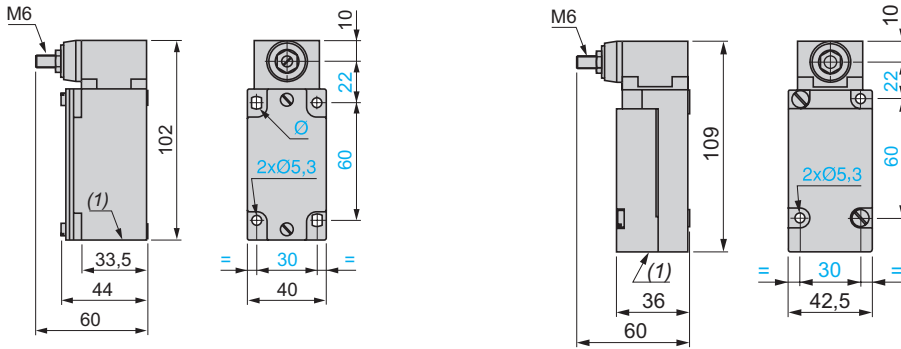
ZCKJ1D, J5D, J6D, J7D, J8D



Bodies with rotary head mounted

ZCKJ404, ZCKJ404H29, ZCKJ404H7

ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

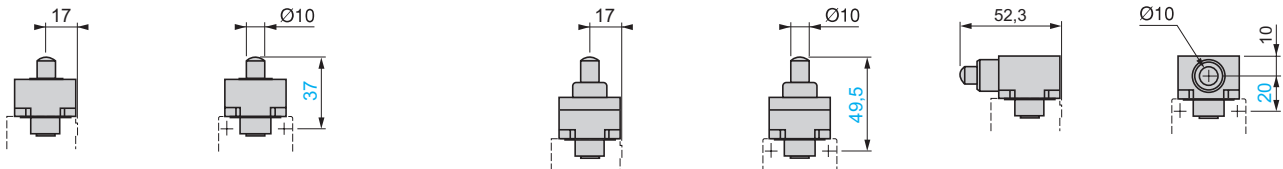


Plunger heads

ZCKE61

ZCKE619

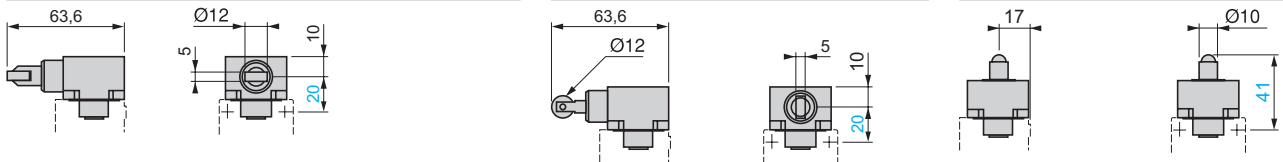
ZCKE63



ZCKE64

ZCKE65

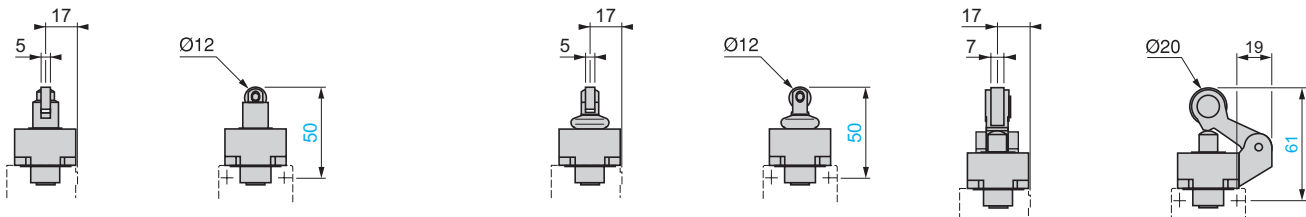
ZCKE66



ZCKE62, ZCKE67

ZCKE629

ZCKE21, ZCKE23



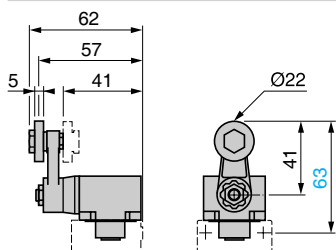
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.
 Ø: 2 elongated holes Ø 5.3 x 7.3.

Limit switches

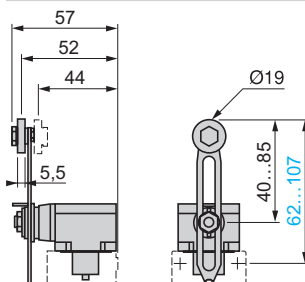
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies

Rotary head ZCKE05 with operating lever

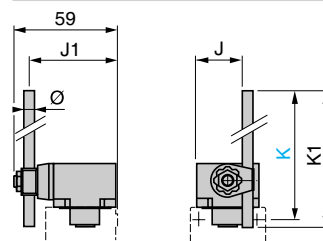
ZCKY11, ZCKY13, ZCKY14



ZCKY41, ZCKY43

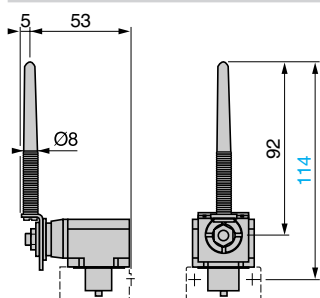


ZCKY51, ZCKY52, ZCKY53, ZCKY59

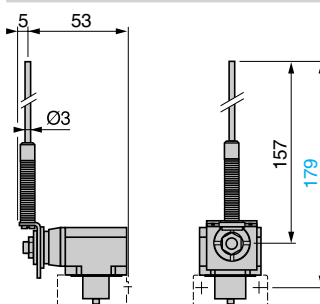


	J	J1	K max.	K1	Ø
ZCKY51	20	49	137	123	∅ 3
ZCKY52	20	49	137	125	∅ 3
ZCKY53	20	49	137	125	∅ 3
ZCKY59	26.2	48	212	200	∅ 6

ZCKY81

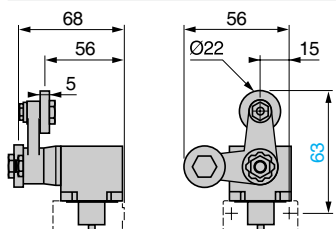


ZCKY91

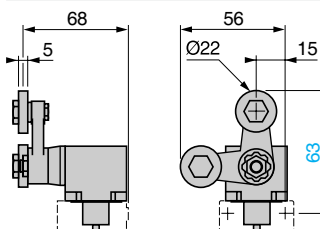


Rotary head ZCKE09 with operating lever

ZCKY61

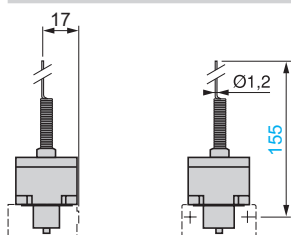


ZCKY71

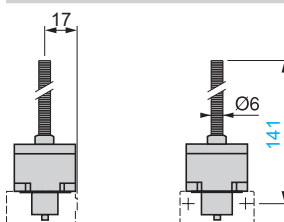


Multi-directional heads

ZCKE06

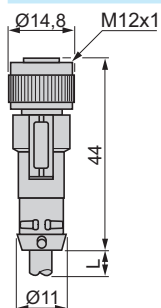


ZCKE08



Note: operating lever spindle threaded M6.

Pre-wired connectors XZCP1164L●



L = 2, 5 or 10 m.

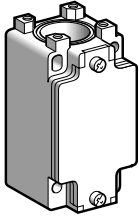
Limit switches

OsiSense XC Standard, industrial format EN 50041

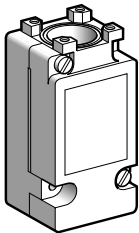
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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



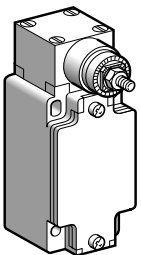
ZCKJ1



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	
2-pole NO + NC make before break, slow break (XE2NP2161)		⊕	Pg 13.5	ZCKJ6	0.310	
			ISO M20 x 1.5	ZCKJ6H29	0.310	
2-pole NC + NC simultaneous, slow break (XE2NP2141)		⊕	Pg 13.5	ZCKJ7	0.310	
			ISO M20 x 1.5	ZCKJ7H29	0.310	
2-pole NO + NO simultaneous, slow break (XE2NP2131)		-	Pg 13.5	ZCKJ8	0.310	
			ISO M20 x 1.5	ZCKJ8H29	0.310	
2-pole NC + NC snap action (XE2SP2141)		⊕	Pg 13.5	ZCKJ9	0.310	
			ISO M20 x 1.5	ZCKJ9H29	0.310	
2 step	Double-pole 2 CO staggered, snap action (XESP2031)		-	Pg 13.5	ZCKJ4	0.310
				ISO M20 x 1.5	ZCKJ4H29	0.310
				1/2" NPT	ZCKJ4H7	0.310
Plug-in bodies						
1 step	Single-pole CO snap action		-	Pg 13.5	ZCKJ11	0.300
				ISO M20 x 1.5	ZCKJ11H29	0.300
				1/2" NPT	ZCKJ11H7	0.300
Double-pole 2 CO simultaneous snap action		-	Pg 13.5	ZCKJ21	0.300	
			ISO M20 x 1.5	ZCKJ21H29	0.300	
			1/2" NPT	ZCKJ21H7	0.300	
2 step	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ41	0.300
				ISO M20 x 1.5	ZCKJ41H29	0.300
				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

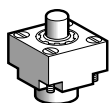
Limit switches

OsiSense XC Standard, industrial format EN 50041

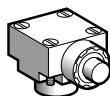
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

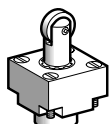
Adaptable sub-assemblies for low temperature applications (- 40°C)



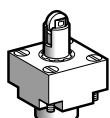
ZCKE616



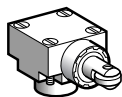
ZCKE636



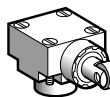
ZCKE626



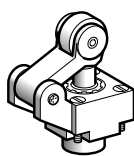
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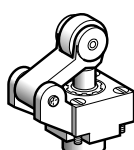
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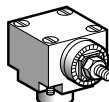
ZCKE656



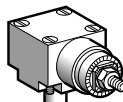
ZCKE216



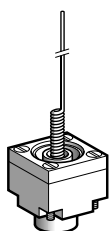
ZCKE236



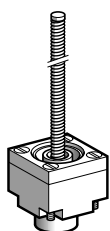
ZCKE056



ZCKE096



ZCKE066



ZCKE086

Plunger heads

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

Rotary heads (without operating lever)

Type	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
Spring return, for actuation from left AND right or from left OR right (see page 17)	ZCKJ●, ZCKJ●●	1.5 m/s by 30° cam	⊕	ZCKE056	0.165
Stay put, for actuation from left AND right (see page 17)	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

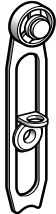
(1) ⊕: head assuring positive opening operation.

Limit switches

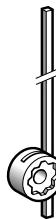
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies for low temperature applications (- 40°C)



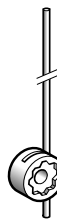
ZCKY1●



ZCKY4●



ZCKY51



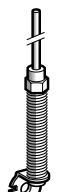
ZCKY5●



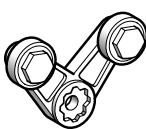
ZCKY59



ZCKY81



ZCKY91



ZCKY71



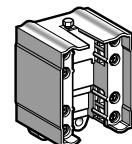
ZCKY61



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	-	XESP2021	0.045
2 CO staggered, snap action		ZCKJ4	-	XESP2031	0.045
NC + NO make before break, slow break		ZCKJ6	⊕	XE2NP2161	0.020
NC + NC simultaneous, slow break		ZCKJ7	⊕	XE2NP2141	0.020
NO + NO simultaneous, slow break		ZCKJ8	-	XE2NP2131	0.020
NC + NC snap action		ZCKJ9	⊕	XE2SP2141	0.020

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

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

(3) Adjustable throughout 360° in 5° steps.

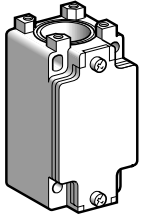
Limit switches

OsiSense XC Standard, industrial format EN 50041

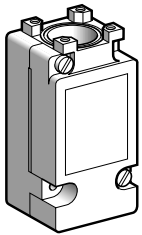
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

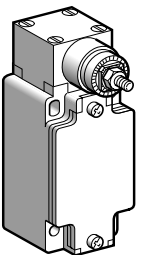
Adaptable sub-assemblies for high temperature applications (+ 120°C)



ZCKJ●



ZCKJ●15



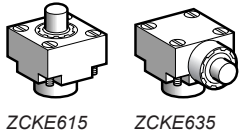
ZCKJ4045

Bodies with contacts		For plunger or rotary head				
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed bodies						
1 step	2-pole NC + NO snap action (XE2SP2151)		⊕	Pg 13.5	ZCKJ1	0.310
				ISO M20 x 1.5	ZCKJ1H29	0.310
				1/2" NPT	ZCKJ1H7	0.310
	Double-pole 2 CO simultaneous, snap action (XESP20215)		-	Pg 13.5	ZCKJ25	0.310
				ISO M20 x 1.5	ZCKJ25H29	0.310
				1/2" NPT	ZCKJ25H7	0.310
	2-pole NC + NO break before make, slow break (XE2NP2151)		⊕	Pg 13.5	ZCKJ5	0.310
				ISO M20 x 1.5	ZCKJ5H29	0.310
				1/2" NPT	ZCKJ5H7	0.310
	2-pole NO + NC make before break, slow break (XE2NP2161)		⊕	Pg 13.5	ZCKJ6	0.310
ISO M20 x 1.5				ZCKJ6H29	0.310	
1/2" NPT				ZCKJ6H7	0.310	
2-pole NC + NC simultaneous, slow break (XE2NP2141)		⊕	Pg 13.5	ZCKJ7	0.310	
			ISO M20 x 1.5	ZCKJ7H29	0.310	
			1/2" NPT	ZCKJ7H7	0.310	
2-pole NO + NO simultaneous, slow break (XE2NP2131)		-	Pg 13.5	ZCKJ8	0.310	
			ISO M20 x 1.5	ZCKJ8H29	0.310	
			1/2" NPT	ZCKJ8H7	0.310	
2-pole NC + NC snap action (XE2SP2141)		⊕	Pg 13.5	ZCKJ9	0.310	
			ISO M20 x 1.5	ZCKJ9H29	0.310	
			1/2" NPT	ZCKJ9H7	0.310	
2 step	Double-pole 2 CO staggered, snap action (XESP20315)		-	Pg 13.5	ZCKJ45	0.310
				ISO M20 x 1.5	ZCKJ45H29	0.310
				1/2" NPT	ZCKJ45H7	0.310
Plug-in bodies						
1 step	Single-pole CO snap action		-	Pg 13.5	ZCKJ115	0.300
				ISO M20 x 1.5	ZCKJ115H29	0.300
				1/2" NPT	ZCKJ115H7	0.300
	Double-pole 2 CO simultaneous, snap action		-	Pg 13.5	ZCKJ215	0.300
				ISO M20 x 1.5	ZCKJ215H29	0.300
				1/2" NPT	ZCKJ215H7	0.300
2 step	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ415	0.300
				ISO M20 x 1.5	ZCKJ415H29	0.300
				1/2" NPT	ZCKJ415H7	0.300
Bodies with contacts		With spring return rotary head (without operating lever)				
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
Fixed body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ4045	0.455
				ISO M20 x 1.5	ZCKJ4045H29	0.455
				1/2" NPT	ZCKJ4045H7	0.455
Plug-in body						
2 step 1 from the left AND 1 from the right	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ41045	0.465
				ISO M20 x 1.5	ZCKJ41045H29	0.465
				1/2" NPT	ZCKJ41045H7	0.465

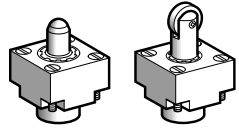
(1) ⊕: head assuring positive opening operation.

Limit switches

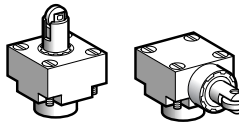
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies for high temperature applications (+ 120°C)



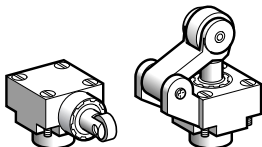
ZCKE615 ZCKE635



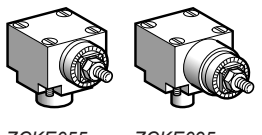
ZCKE665 ZCKE625



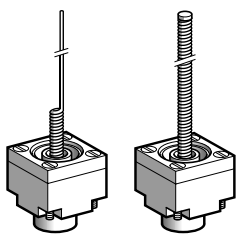
ZCKE675 ZCKE645



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 17)		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 17)		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

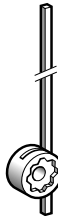
OsiSense XC Standard, industrial format EN 50041
 Metal, conforming to CENELEC EN 50041, XCKJ
 Fixed or plug-in body
 Adaptable sub-assemblies for high temperature applications (+ 120°C)



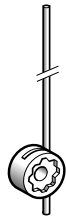
ZCKY1●



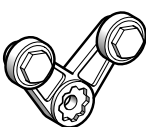
ZCKY43



ZCKY51



ZCKY5●



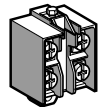
ZCKY715



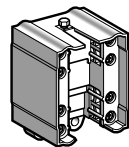
ZCKY615



XE2SP21●1



XE2NP21●1



XESP20●15

Operating levers for rotary heads

Description		Positive operation (1)	Reference	Weight kg
For actuation by 30° cam				
Roller lever (2)	Thermoplastic	⊕	ZCKY115	0.025
	Steel	⊕	ZCKY13	0.035
	Steel, ball bearing mounted	⊕	ZCKY14	0.030
Variable length roller lever (3)	Thermoplastic	–	ZCKY415	0.030
	Steel	–	ZCKY43	0.040
For actuation by any moving part				
Square rod (2)	∅ 3 mm steel, L = 125 mm	–	ZCKY51	0.025
Round rod (2)	∅ 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
thermoplastic	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.

A							
AB1R11	100	XCKD2549P16	53	XCKML510	94	XCKP2121M12	50
D		XCKD25H0P16	53	XCKML510H29	94	XCKP2121P16	46
DE9RA1012	64	XCKD25H2P16	53	XCKML515	94	XCKP2127M12	50
	78	XCKJ10511A	124	XCKML515H29	94	XCKP2127P16	46
	79	XCKJ10511D	122	XCKML521	94	XCKP2128M12	50
	85	XCKJ10511H29	118	XCKML521H29	94	XCKP2128P16	46
DE9RA1212	113	XCKJ10513A	124	XCKN2102P20	76	XCKP2139M12	51
DE9RA2012	113	XCKJ10513D	122	XCKN2103P20	76	XCKP2139P16	47
X		XCKJ10513H29	118	XCKN2106P20	77	XCKP2145M12	51
XALZ09	64	XCKJ10541A	124	XCKN2108P20	77	XCKP2145P16	47
XCDR2102P20	70	XCKJ10541D	122	XCKN2110P20	76	XCKP2149M12	51
XCDR2110P20	70	XCKJ10541H29	118	XCKN2118P20	77	XCKP2149P16	47
XCDR2118P20	70	XCKJ10559A	124	XCKN2121P20	76	XCKP21H0M12	51
XCDR2119P20	70	XCKJ10559D	122	XCKN2127P20	76	XCKP21H0P16	47
XCDR2121P20	70	XCKJ10559H29	118	XCKN2139P20	77	XCKP21H2M12	51
XCDR2127P20	70	XCKJ110511H29	120	XCKN2145P20	77	XCKP21H2P16	47
XCDR2502P20	70	XCKJ110513H29	120	XCKN2149P20	77	XCKP2501G11	64
XCDR2510P20	70	XCKJ110541H29	120	XCKN2502P20	76	XCKP2501P16	64
XCDR2518P20	70	XCKJ110559H29	120	XCKN2503P20	76	XCKP2502P16	46
XCDR2519P20	70	XCKJ1161H29	120	XCKN2506P20	77	XCKP2506P16	47
XCDR2521P20	70	XCKJ1167H29	120	XCKN2508P20	77	XCKP2510P16	46
XCDR2527P20	70	XCKJ161A	124	XCKN2510P20	76	XCKP2511P16	46
XCKD2101G11	64	XCKJ161D	122	XCKN2518P20	77	XCKP2518P16	47
XCKD2101M12	64	XCKJ161H29	118	XCKN2521P20	76	XCKP2521P16	46
XCKD2101P16	64	XCKJ167A	124	XCKN2527P20	76	XCKP2527P16	46
XCKD2102M12	56	XCKJ167D	122	XCKN2539P20	77	XCKP2528P16	46
XCKD2102P16	52	XCKJ167H29	118	XCKN2545P20	77	XCKP2539P16	47
XCKD2106M12	57	XCKJ50511H29	118	XCKN2549P20	77	XCKP2545P16	47
XCKD2106P16	53	XCKJ50513H29	118	XCKN2702P20	76	XCKP2549P16	47
XCKD2110M12	56	XCKJ50541H29	118	XCKN2703P20	76	XCKP25H0P16	47
XCKD2110P16	52	XCKJ50559H29	118	XCKN2706P20	77	XCKP25H2P16	47
XCKD2111M12	56	XCKJ561H29	118	XCKN2708P20	77	XCKS101H29	106
XCKD2111P16	52	XCKJ567H29	118	XCKN2710P20	76	XCKS102H29	106
XCKD2118M12	57	XCKL102	92	XCKN2718P20	77	XCKS131H29	106
XCKD2118P16	53	XCKL106	92	XCKN2721P20	76	XCKS133H29	106
XCKD2121M12	56	XCKL110	92	XCKN2727P20	76	XCKS139H29	106
XCKD2121P16	52	XCKL115	92	XCKN2739P20	77	XCKS141H29	106
XCKD2127M12	56	XCKL121	92	XCKN2745P20	77	XCKS143H29	106
XCKD2127P16	52	XCKL502	92	XCKN2749P20	77	XCKS149H29	106
XCKD2128M12	56	XCKL506	92	XCKN2902P20	76	XCKS159H29	106
XCKD2128P16	52	XCKL510	92	XCKN2903P20	76	XCKS501H29	106
XCKD2139M12	57	XCKL515	92	XCKN2906P20	77	XCKS502H29	106
XCKD2139P16	53	XCKL521	92	XCKN2908P20	77	XCKS531H29	106
XCKD2145M12	57	XCKM102H29	90	XCKN2910P20	76	XCKS533H29	106
XCKD2145P16	53	XCKM106H29	90	XCKN2918P20	77	XCKS539H29	106
XCKD2149M12	57	XCKM110H29	90	XCKN2921P20	76	XCKS541H29	106
XCKD2149P16	53	XCKM115H29	90	XCKN2927P20	76	XCKS543H29	106
XCKD21H0M12	57	XCKM121H29	90	XCKN2939P20	77	XCKS549H29	106
XCKD21H0P16	53	XCKM502H29	90	XCKN2945P20	77	XCKS559H29	106
XCKD21H2M12	57	XCKM506H29	90	XCKN2949P20	77	XCKT2101G11	64
XCKD21H2P16	53	XCKM510H29	90	XCKP2101G11	64	XCKT2101P16	64
XCKD2501G11	64	XCKM515H29	90	XCKP2101M12	64	XCKT2102P16	58
XCKD2501P16	64	XCKM521H29	90	XCKP2101P16	64	XCKT2106P16	58
XCKD2502P16	52	XCKML102	94	XCKP2102M12	50	XCKT2110P16	58
XCKD2506P16	53	XCKML102H29	94	XCKP2102P16	46	XCKT2111P16	58
XCKD2510P16	52	XCKML110	94	XCKP2106M12	51	XCKT2118P16	59
XCKD2511P16	52	XCKML110H29	94	XCKP2106P16	47	XCKT2121P16	58
XCKD2518P16	53	XCKML115	94	XCKP2110M12	50	XCKT2139P16	59
XCKD2521P16	52	XCKML115H29	94	XCKP2110P16	46	XCKT2145P16	59
XCKD2527P16	52	XCKML121	94	XCKP2111M12	50	XCKT21H0P16	59
XCKD2528P16	52	XCKML121H29	94	XCKP2111P16	46	XCKT21H2P16	59
XCKD2539P16	53	XCKML502	94	XCKP2118M12	51	XCKT2501G11	64
XCKD2545P16	53	XCKML502H29	94	XCKP2118P16	47	XCKT2501P16	64
						XCKZ09	100
						XCMD2101C12	39
						XCMD2101L1	39
						XCMD2101M12	39
						XCMD2102C12	26
						XCMD2102L1	20
						XCMD2102M12	26
						XCMD2106C12	27
						XCMD2106L1	21
						XCMD2106M12	27
						XCMD2110C12	26
						XCMD2110L1	20
						XCMD2110M12	26
						XCMD2111C12	26
						XCMD2111L1	20
						XCMD2111M12	26
						XCMD2115C12	27
						XCMD2115L1	21
						XCMD2115M12	27
						XCMD2116C12	27
						XCMD2116L1	21
						XCMD2116M12	27
						XCMD2117C12	27
						XCMD2117L1	21
						XCMD2117M12	27
						XCMD2124C12	26
						XCMD2124L1	20
						XCMD2124M12	26
						XCMD2145C12	27
						XCMD2145L1	21
						XCMD2145M12	27
						XCMD21F0C12	26
						XCMD21F0L1	20
						XCMD21F0M12	26
						XCMD21F2C12	26
						XCMD21F2L1	20
						XCMD21F2M12	26
						XCMD21G1C12	26
						XCMD21G1L1	20
						XCMD21G1M12	26
						XCMD2501L1	39
						XCMD2502L1	20
						XCMD2506L1	21
						XCMD2510L1	20
						XCMD2511L1	20
						XCMD2515L1	21
						XCMD2516L1	21
						XCMD2517L1	21
						XCMD2524L1	20
						XCMD2545L1	21
						XCMD25F0L1	20
						XCMD25F2L1	20
						XCMD25G1L1	20
						XC MN2102L1	42
						XC MN2103L1	42
						XC MN2106L1	43
						XC MN2107L1	43
						XC MN2110L1	42
						XC MN2115L1	43
						XC MN2121L1	42
						XC MN2145L1	43
						XC MN2159L1	43
						XC MN21F0L1	42

XCMN21F2L1	42	XCNTR2702P16	85	XE3NP2141	65	ZCE01	23	ZCKD06	90
XCMN21F3L1	42	XCNTR2710P16	85		100		29		92
XCMZ06	39	XCNTR2718P16	85		113		47	ZCKD10	90
XCMZ07	39	XCNTR2721P16	85		132		51		92
	64	XCPR2102P20	68	XE3NP2151	65		53	ZCKD15	90
XCNR2102P20	84	XCPR2110P20	68		100		57		92
XCNR2110P20	84	XCPR2118P20	68		113	ZCE02	59	ZCKD21	90
XCNR2118P20	84	XCPR2119P20	68	XE3SP2141	65		22		92
XCNR2121P20	84	XCPR2121P20	68		100		23	ZCKD31	107
XCNR2127P20	84	XCPR2127P20	68		113		28	ZCKD39	107
XCNR2502P20	84	XCPR2127P20	68	XE3SP2151	65		46	ZCKD41	107
XCNR2510P20	84	XCPR2502P20	68		132		50	ZCKD49	107
XCNR2518P20	84	XCPR2510P20	68		100	ZCE05	52	ZCKD59	107
XCNR2521P20	84	XCPR2518P20	68		113		56	ZCKE05	118
XCNR2527P20	84	XCPR2519P20	68		132		58	ZCKE055	142
XCNR2702P20	84	XCPR2521P20	68	XESP2021	132	ZCE06	39	ZCKE065	142
XCNR2710P20	84	XCPR2527P20	68		140		22	ZCKE066	139
XCNR2718P20	84	XCPR2902P20	68	XESP20215	143		23	ZCKE085	142
XCNR2721P20	84	XCPR2902P20	68	XESP2031	132		28	ZCKE086	139
XCNR2727P20	84	XCPR2910P20	68		140		29	ZCKE095	142
XCNR2902P20	84	XCPR2918P20	68	XESP20315	143		47	ZCKE096	139
XCNR2910P20	84	XCPR2921P20	68	XESP3021	113		51	ZCKE11	139
XCNR2918P20	84	XCPR2927P20	68	XZCP1164L10	30		53	ZCKE16	139
XCNR2921P20	84	XCTR2102P16	72		122	ZCE10	57	ZCKE215	142
XCNR2927P20	84	XCTR2110P16	72		131		58	ZCKE216	139
XCNR2927P20	84	XCTR2118P16	72	XZCP1164L2	30		28	ZCKE235	142
XCNT2102P16	78	XCTR2121P16	72		122		46	ZCKE236	139
XCNT2103P16	78	XCTR2502P16	72	XZCP1164L5	30		50	ZCKE236	139
XCNT2106P16	79	XCTR2510P16	72		122		52	ZCKE61	118
XCNT2108P16	79	XCTR2518P16	72		131		56	ZCKE615	142
XCNT2110P16	78	XCTR2521P16	72	XZCP1169L10	30	ZCE11	58	ZCKE616	139
XCNT2118P16	79	XE2NP2131	65	XZCP1169L2	30		22	ZCKE625	142
XCNT2121P16	78		100	XZCP1169L5	30		28	ZCKE626	139
XCNT2139P16	79		113	XZCP1264L10	30		46	ZCKE635	142
XCNT2145P16	79		132	XZCP1264L2	30		50	ZCKE636	139
XCNT2149P16	79		140		122	ZCE21	58	ZCKE645	142
XCNT2502P16	78	XE2NP2141	65	XZCP1264L5	30		46	ZCKE646	139
XCNT2503P16	78		100		122		50	ZCKE655	142
XCNT2506P16	79		113	XZCP1764L10	124		52	ZCKE656	139
XCNT2508P16	79		132	XZCP1764L2	124	ZCE24	58	ZCKE665	142
XCNT2510P16	78	XE2NP2151	65	XZCP1764L5	124		22	ZCKE67	118
XCNT2518P16	79		100	XZCP1771L10	30	ZCE27	28	ZCKE675	142
XCNT2521P16	78		113	XZCP1771L2	30		46	ZCKE676	139
XCNT2539P16	79		132	XZCP1771L5	30		50	ZCKJ01	129
XCNT2545P16	79		140				52	ZCKJ0121	133
XCNT2549P16	79	XE2NP2161	65	Z		ZCE28	56	ZCKJ0134	133
XCNT2702P16	78		100	ZCD21	62		46	ZCKJ02	129
XCNT2703P16	78		113	ZCD25	62		50	ZCKJ04	129
XCNT2706P16	79		132	ZCD26	62		52	ZCKJ1	128
XCNT2706P16	79		140	ZCD27	52	ZCEF0	56		138
XCNT2708P16	79		143		52		22		141
XCNT2710P16	78	XE2NP3131	65		53	ZCEF2	28	ZCKJ11	129
XCNT2718P16	79	XE2NP3141	65	ZCD28	62		22		138
XCNT2721P16	78	XE2NP3151	65	ZCD29	52	ZCEG1	28	ZCKJ1121	130
XCNT2739P16	79	XE2NP3161	65		53		22	ZCKJ1121H29	130
XCNT2745P16	79	XE2SP2141	65		62	ZCEH0	47	ZCKJ1134	130
XCNT2749P16	79		100	ZCD29M12	56		51	ZCKJ1134H29	130
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XCNR2110P16	85		132	ZCD31	62		57	ZCKJ115H29	141
XCNR2118P16	85	XE2SP2151	65	ZCD35	62	ZCEH2	59	ZCKJ115H7	141
XCNR2121P16	85		140	ZCD37	52		47	ZCKJ115H7	141
XCNR2502P16	85		143		52		51	ZCKJ11H29	129
XCNR2510P16	85				53		53		138
XCNR2518P16	85			ZCD39	52		57	ZCKJ11H7	129
XCNR2521P16	85	XE2SP3151	65		53	ZCKD01	59		138
			100		62		107	ZCKJ120	130
			132	ZCDEP16	52	ZCKD02	90	ZCKJ121	130
			140		53		92	ZCKJ121H29	130
			143		53		107		

ZCKJ134	130	ZCKJ521	130	ZCKL1	98	ZCKS7H29	107	ZCMC25L7	38
ZCKJ134H29	130	ZCKJ521H29	130	ZCKL1H7	98		112	ZCMC25L10	38
ZCKJ1D	131	ZCKJ534	130	ZCKL5	98	ZCKS8	112	ZCMC25T06	38
ZCKJ1H29	128	ZCKJ534H29	130	ZCKL5H7	98	ZCKS8H29	112	ZCMC29L1	38
	138	ZCKJ5D	131	ZCKL6	98	ZCKS9	112	ZCMC29L2	38
	141	ZCKJ5H29	128	ZCKL6H7	98	ZCKS9H29	107	ZCMC29L3	38
ZCKJ1H7	128		138	ZCKL7	98		112	ZCMC29L5	38
	138	ZCKJ5H7	141	ZCKL7H7	98	ZCKSD31	112	ZCMC29L7	38
	141		128	ZCKL8	98	ZCKSD31H29	112	ZCMC29L10	38
ZCKJ2	128		138	ZCKL8H7	98	ZCKSD35	112	ZCMC37L1	38
	138		141	ZCKLD31	99	ZCKSD35H29	112	ZCMC37L2	38
ZCKJ21	129	ZCKJ6	128	ZCKLD31H7	99	ZCKSD37	112	ZCMC37L5	38
	138		138	ZCKLD35	99	ZCKSD37H29	107	ZCMC39L1	38
ZCKJ215	141		141	ZCKLD35H7	99		112	ZCMC39L2	38
ZCKJ215H29	141	ZCKJ6D	131	ZCKLD37	92	ZCKSD39	112	ZCMC39L5	38
ZCKJ215H7	141	ZCKJ6H29	128		99	ZCKSD39H29	107	ZCMC4DL1	38
ZCKJ21H29	129		138	ZCKLD37H7	99		112	ZCMC4DL2	38
	138	ZCKJ6H7	128	ZCKLD39	92	ZCKY11	118	ZCMC4DL5	38
			138		99		140	ZCMD21	36
ZCKJ25	141		141	ZCKLD39H7	99	ZCKY115	143	ZCMD21C12	28
ZCKJ25H29	141	ZCKJ7	128	ZCKM1	98	ZCKY13	118	ZCMD21L08R12	28
ZCKJ25H7	141		138	ZCKM1H29	98		143		29
ZCKJ2H29	128		141	ZCKM1H7	98	ZCKY14	140	ZCMD21L08U78	28
	138	ZCKJ7D	131	ZCKM5	98		143		29
ZCKJ2H7	128	ZCKJ7H29	118	ZCKM5H29	98	ZCKY41	118	ZCMD21L08U78	28
	138		128	ZCKM5H7	98		140		29
ZCKJ4	128		138	ZCKM6	98	ZCKY415	143	ZCMD21L1	37
	138	ZCKJ7H7	128	ZCKM6H29	98	ZCKY43	140	ZCMD21L10	38
ZCKJ404	129		138	ZCKM6H7	98		143	ZCMD21L2	37
ZCKJ4045	141		141	ZCKM7	98	ZCKY51	140	ZCMD21L5	37
ZCKJ4045H29	141	ZCKJ8	128	ZCKM7H29	90		143	ZCMD21M12	28
ZCKJ4045H7	141		138		98	ZCKY52	140		29
ZCKJ4046	138		141	ZCKM7H7	98		143	ZCMD25	36
ZCKJ4046H29	138	ZCKJ82A	133	ZCKM8	98	ZCKY53	140	ZCMD25L1	37
ZCKJ4046H7	138	ZCKJ8D	131	ZCKM8H29	98		143	ZCMD25L2	37
ZCKJ404H29	129	ZCKJ8H29	128	ZCKM8H7	98	ZCKY59	118	ZCMD25L5	37
ZCKJ404H7	129		138	ZCKM9	98		140	ZCMD29	36
ZCKJ41	129	ZCKJ8H7	128	ZCKM9H29	90	ZCKY61	140	ZCMD29C12	28
	138		138		98	ZCKY615	143		29
ZCKJ4104	129		141	ZCKMD31	99	ZCKY71	140	ZCMD29L1	22
ZCKJ41045	141	ZCKJ9	128	ZCKMD31H29	99	ZCKY715	143		23
ZCKJ41045H29	141		138	ZCKMD31H7	99	ZCKY81	140		37
ZCKJ41045H7	141		141	ZCKMD35	99	ZCKY91	140	ZCMD29L2	37
ZCKJ41046	138	ZCKJ902	133	ZCKMD35H29	99	ZCKZ020	133	ZCMD37	36
ZCKJ41046H29	138	ZCKJ904	133	ZCKMD35H7	99	ZCKZ021	133	ZCMD37L1	22
ZCKJ41046H7	138	ZCKJ906	133	ZCKMD37	99	ZCKZ034	133		23
ZCKJ4104H29	129	ZCKJ9H29	118	ZCKMD37H29	90	ZCMC21E1	38		37
ZCKJ4104H7	129		128		99	ZCMC21E10	38	ZCMD37L2	37
ZCKJ415	141		138	ZCKMD37H7	99	ZCMC21E2	38	ZCMD37L5	37
ZCKJ415H29	141	ZCKJ9H7	128	ZCKMD39	99	ZCMC21E3	38	ZCMD39	36
ZCKJ415H7	141		138	ZCKMD39H29	90	ZCMC21E5	38	ZCMD39L1	22
ZCKJ41H29	129		141		99	ZCMC21E7	38		23
	138	ZCKJD31	128	ZCKMD39H7	99	ZCMC21L1	38		37
ZCKJ41H7	129	ZCKJD31H29	128	ZCKMD39H7	99	ZCMC21L2	38	ZCMD39L2	37
	138	ZCKJD31H7	128	ZCKS1	112	ZCMC21L3	38	ZCMD39L5	37
ZCKJ45	141	ZCKJD35	128	ZCKS1H29	112	ZCMC21L5	38	ZCMD41L1	22
ZCKJ45H29	141	ZCKJD35H29	128	ZCKS2	112	ZCMC21L7	38		23
ZCKJ45H7	141	ZCKJD35H7	128	ZCKS2H29	112	ZCMC21L10	38		37
ZCKJ4H29	128	ZCKJD37	128	ZCKS404	112	ZCMC21T1	38	ZCMD41L2	37
	138	ZCKJD37H29	118	ZCKS404H29	112	ZCMC21T2	38	ZCMD41L5	37
ZCKJ4H7	128		128	ZCKS5	112	ZCMC21T5	38	ZCMD4D	36
	138	ZCKJD37H7	128	ZCKS5H29	112	ZCMC21T5	38	ZCMD4DL1	22
ZCKJ5	128	ZCKJD39	128	ZCKS6	112	ZCMC25L1	38		23
	138	ZCKJD39H29	118	ZCKS6H29	112	ZCMC25L2	38	ZCMD4DL2	37
	141		128	ZCKS7	112	ZCMC25L3	38		37
ZCKJ520	130	ZCKJD39H7	128			ZCMC25L5	38	ZCMD4DL5	37

ZCMD61	36	ZCY39	47
ZCMD61C12	39		51
ZCMD61M12	39		53
ZCMD65	36		57
ZCMD69	36		59
ZCMD69C12	39	ZCY45	23
ZCMD77	36		29
ZCMD79	36		47
ZCMD81L1	37		51
ZCMD81L2	37		53
ZCMD81L5	37		57
ZCP21	62		59
ZCP21D44	62	ZCY49	47
ZCP25	62		51
ZCP26	62		53
ZCP27	46		57
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	62		
ZCP28	62		
ZCP29	46		
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ZCP29M12	50		
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ZCP31	62		
ZCP35	62		
ZCP37	46		
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	62		
ZCP39	46		
	47		
	62		
ZCPED44	62		
ZCPEP16	46		
	47		
ZCT21G11	63		
ZCT21N12	63		
ZCT21P16	63		
ZCT25G11	63		
ZCT25N12	63		
ZCT25P16	58		
	59		
	63		
ZCT26G11	63		
ZCT26N12	63		
ZCT26P16	58		
	59		
	63		
ZCT27G11	63		
ZCT27N12	63		
ZCT27P16	58		
	59		
	63		
ZCT28G11	63		
ZCT28N12	63		
ZCT28P16	58		
	59		
	63		
ZCY15	23		
	29		
ZCY16	23		
	29		
ZCY17	23		
	29		
ZCY18	47		
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	53		
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