
Limit switches

OsiSense XC Standard

Catalogue



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Telemecanique
Sensors

Limit switches

OsiSense XC Standard

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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	XCPR	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			
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	–			
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	CENELEC EN 50047 UL, CSA, CCC, EAC		CE, UL, CSA, CCC, EAC		
30 x 50 x 16	31 x 65 x 30	59 x 51 x 30	31 x 65 x 30	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	

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
Miniature format	Compact format	Compact format	Miniature format	Compact format	Industrial format with or without locking	Rectangular format with solenoid interlocking	Rectangular or cylindrical format
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	Metal, 2 cable entries or plastic, 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	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	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 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
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	XCSP XCSTL	XCSP	XCSP XCSTL	XCSP XCSTL

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

Limit switches

OsiSense XC

Variable composition: simplicity through innovation

Principle

Variable composition principle

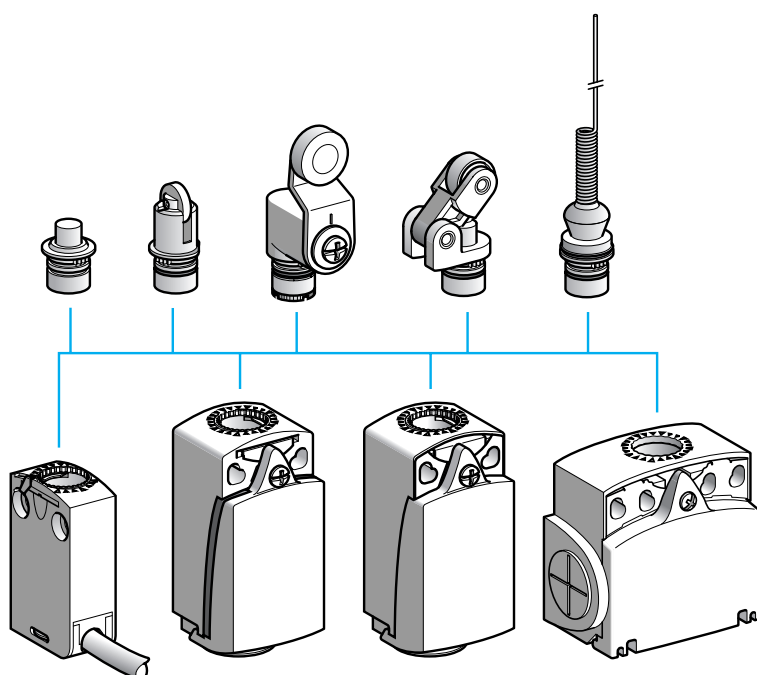
■ The Miniature design XCMD and Compact design XCKD, XCKP and XCKT ranges benefit from the variable composition concept.

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

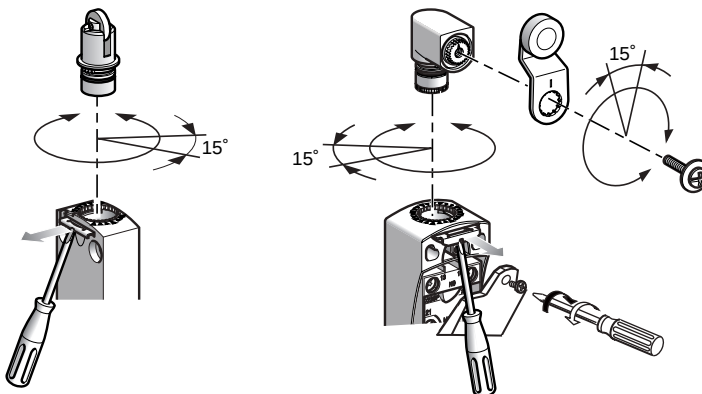
- product selection simplified,
- product availability simplified,
- installation and setting-up simplified,
- maintenance simplified.

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:



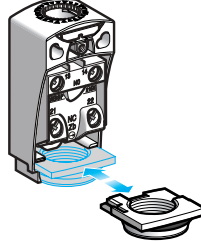
All the heads can be adjusted in 15° steps throughout 360°, in relation to the body.

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

Principle (continued)

Cable entries

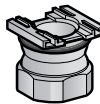
- The cable entries for Compact design XCKD and XCKP switches enable:
 - simple cabling due to unrestricted access to contacts,



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



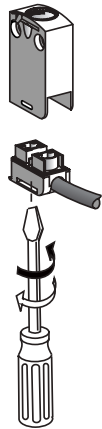
- ISO M16 x 1.5
- Pg 11



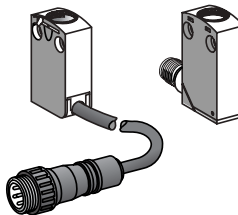
- ISO M20 x 1.5
- Pg 13.5
- 1/2" NPT
- PF 1/2 (G 1/2)

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

Connection components

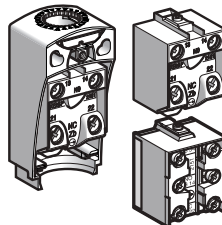


- The miniature XCMD range allows interchanging of these pre-cabled connection components:
 - a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts,
 - 6 alternative cable lengths are available as standard.

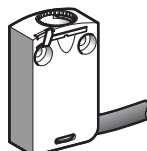


- The miniature XCMD range also includes an integral or remote connector solution.

Contact block or bodies with contact



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



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

Presentation

Electromechanical detection

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

They transmit data to the logic processing system regarding:

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

Simplicity of installation, advantages

■ From an electrical viewpoint

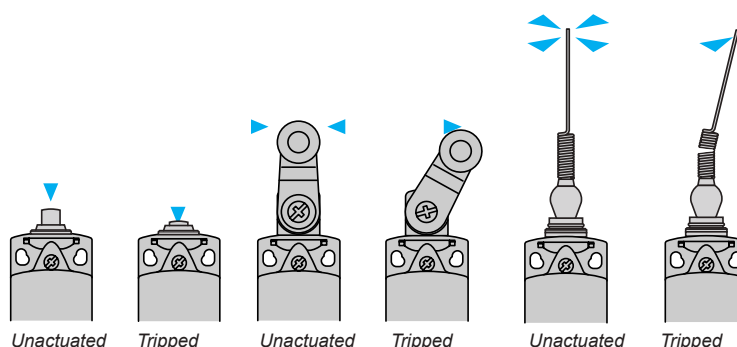
- galvanic separation of circuits,
- models suitable for low power switching combined with good electrical durability,
- very good short-circuit withstand in coordination with appropriate fuses,
- total immunity to electromagnetic interference,
- high rated operational voltage.

■ From a mechanical viewpoint

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

Detection movements

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



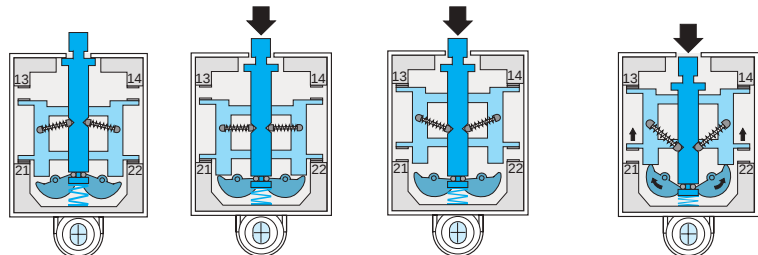
Terminology

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

Contact blocks

Snap action contacts

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



Unactuated state

Approach travel

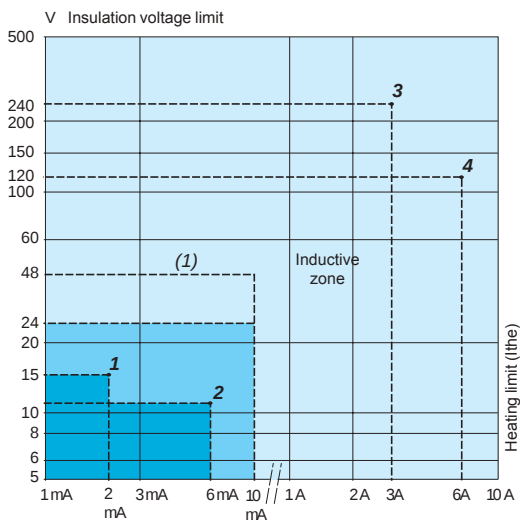
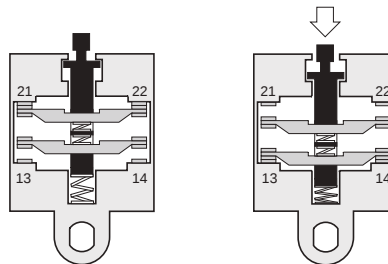
Contact change of state

Positive opening

Slow break contacts

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

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



Electrical durability for normal loads

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

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

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

Electrical durability = 10 million operating cycles.

Switching capacity

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

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

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

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

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

Electrical durability for small loads

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

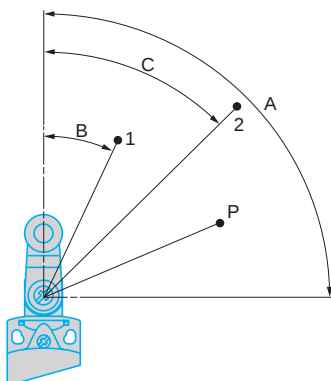
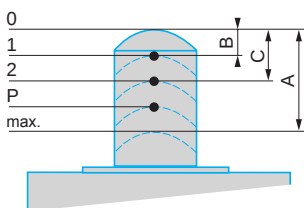
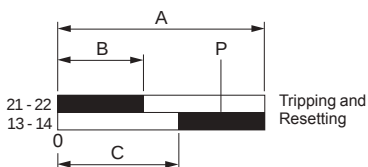
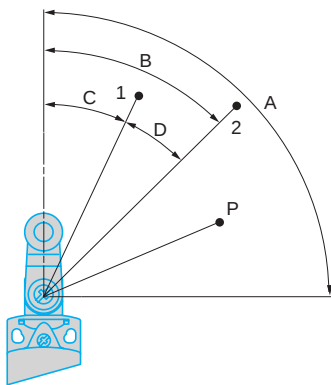
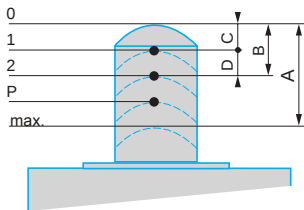
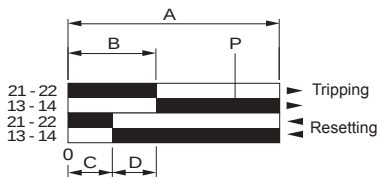
- With small loads, limit switches offer the following levels of reliability:

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

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

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

Contact blocks (continued)



Functional diagrams of snap action contacts

■ Example: NC + NO

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

□ Linear movement (plunger)

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

□ Rotary movement (lever)

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

Functional diagrams of slow break contacts

■ Example: NC + NO break before make

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

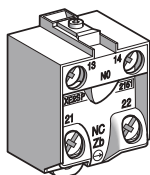
□ Linear movement (plunger)

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

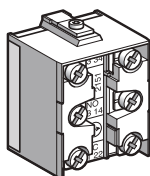
□ Rotary movement (lever)

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

Contact blocks (continued)



XE2•P screw clamp terminal connections

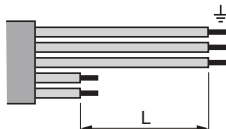


XE3•P screw clamp terminal connections

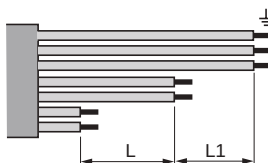
Mounting

Contact connections

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

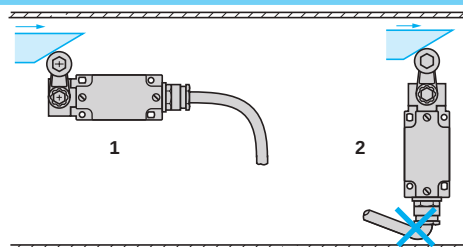


- for XE3•P, L = 14 mm, L1 = 11 mm.



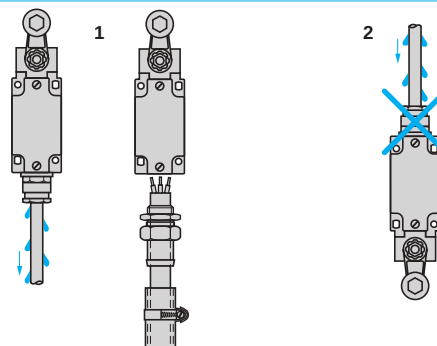
Sweep of connecting cable

- 1 Recommended
- 2 To be avoided



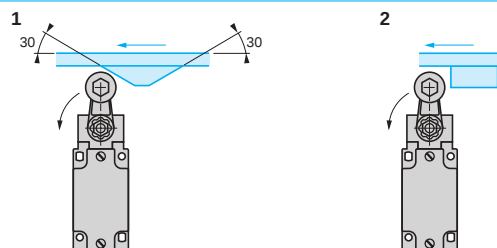
Position of cable gland

- 1 Recommended
- 2 To be avoided



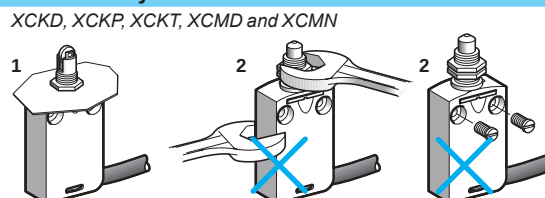
Type of cam

- 1 Recommended
- 2 To be avoided



Mounting and fixing limit switches by the head

- 1 Recommended
- 2 Forbidden



XCKD, XCKP, XCKT, XCMD and XCMN

Setting-up

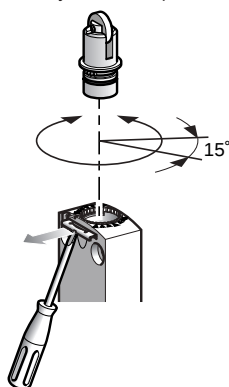
Tightening torque

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

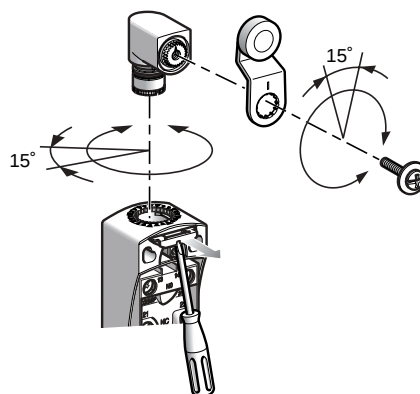
Range	Item	Torque (N.m)	
		Min.	Max.
Compact design XCKD, XCKP, XCKT	Cover	0.8	1.2
	Fixing screw for lever on rotary head	1	1.5
Miniature design XCMD, XCMN	—	—	—
	Fixing screw for lever on rotary head	1	1.5
Compact design XCKN	Cover	0.8	1.2
	Fixing screw for lever on rotary head	1	1.5
Classic design 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.

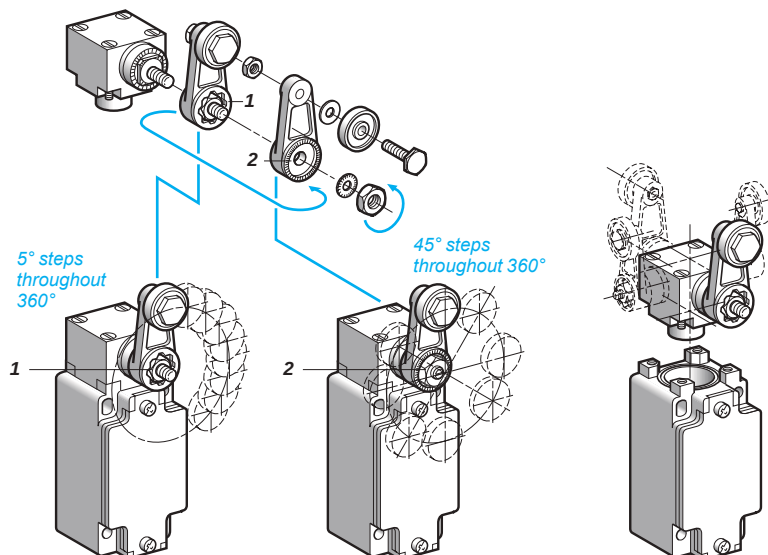


All the levers can be adjusted in 15° steps throughout 360°, in relation to the horizontal axis of the head.

XCKJ

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

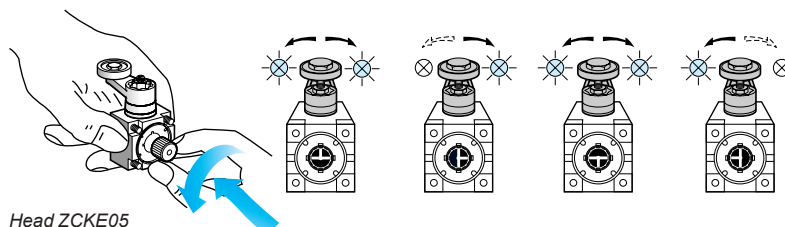
- 1 Reversed $\alpha = 5^\circ$
- 2 Forward $\alpha = 45^\circ$



Setting-up (continued)

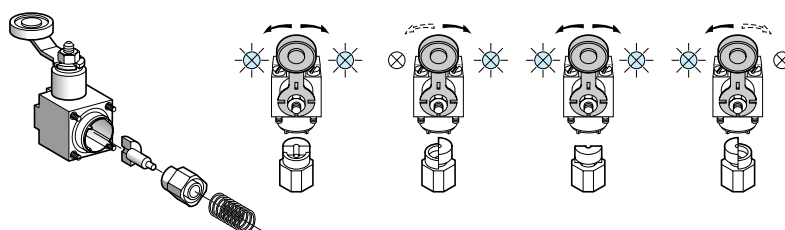
Direction of actuation programming

■ XCKJ



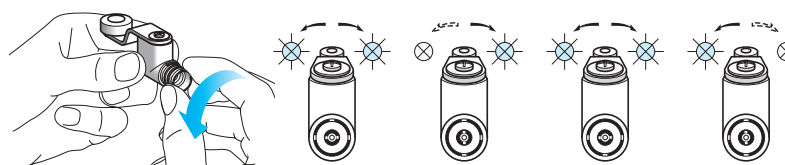
Head ZCKE05

■ XCKS



Head ZCKD05

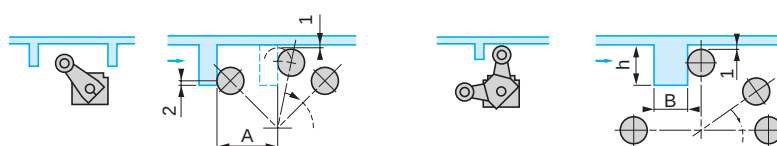
■ XCKD, XCKP, XCKT and XCMD



Head ZCE05

Specific cams for head ZCKE09

- 1 0.5 mm min.
- 2 2 mm min.



$A = \text{length of lever} + 11 \text{ mm}$
ZCKE09: $13 < h < 18 \text{ mm}$ and $B = 12 \text{ mm max.}$

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

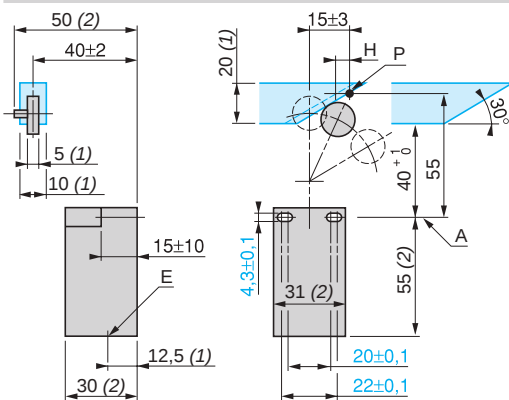
The European standards organisation CENELEC, which has 14 member countries, has defined in this standard the first type of limit switch.

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

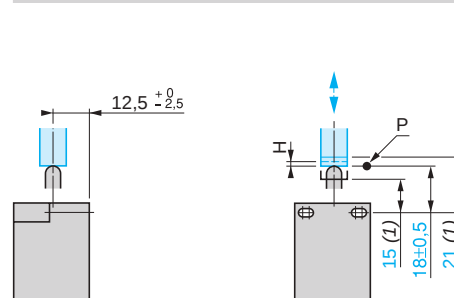
- (1) Minimum value
(2) Maximum value

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

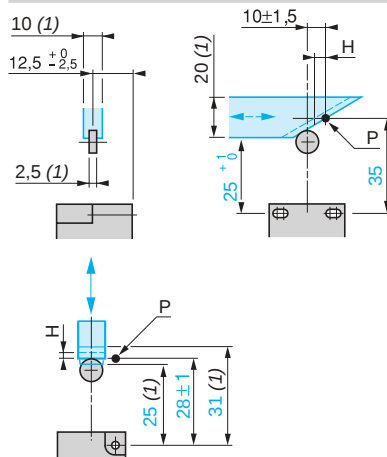
Form A, with roller lever



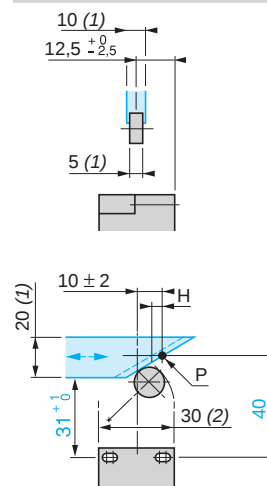
Form B, with end plunger (rounded)



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.

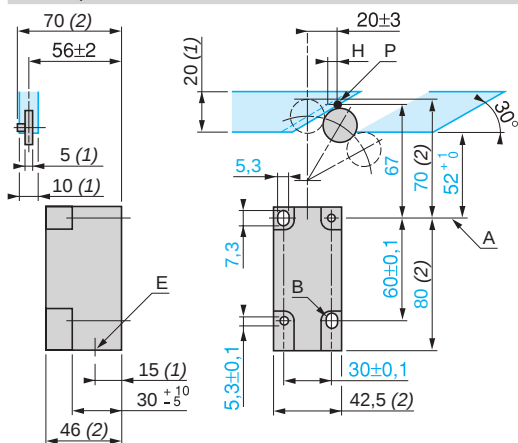
It defines 6 variants of devices (forms A, B, C, D, F, G).
Limit switches XCKJ and XCKS conform to standard EN 50041.

(1) Minimum value
(2) Maximum value

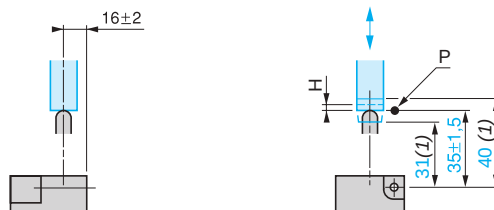
A: reference axis
B: optional elongated holes
H: differential travel
P: tripping point
E: cable entry

Za: tripping zone
Sa: tripping threshold

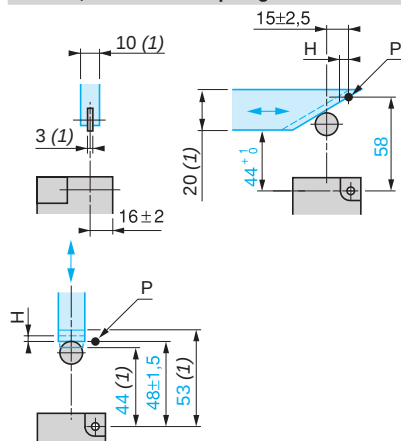
Form A, with roller lever



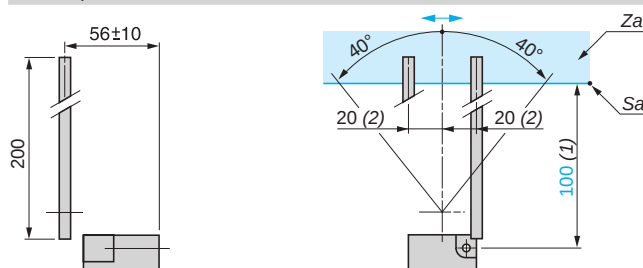
Form B, with end plunger (rounded)



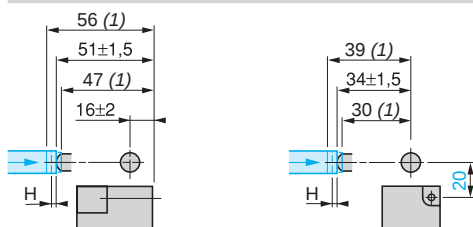
Form C, with end roller plunger



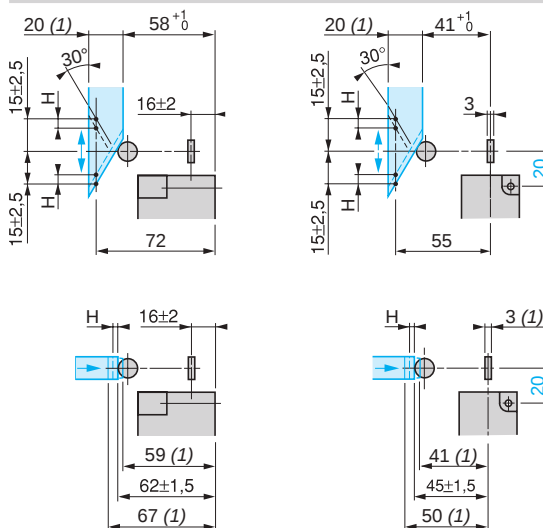
Form D, with rod lever



Form F, with side plunger (rounded)



Form G, with side roller plunger

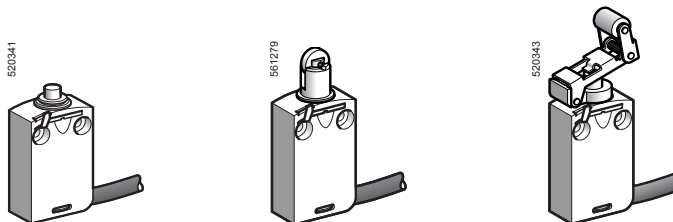


Limit switches

OsiSense XC Standard
Miniature design, metal, XCMD

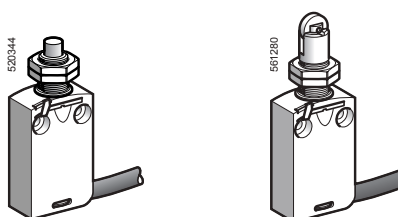
■ XCMD pre-cabled

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



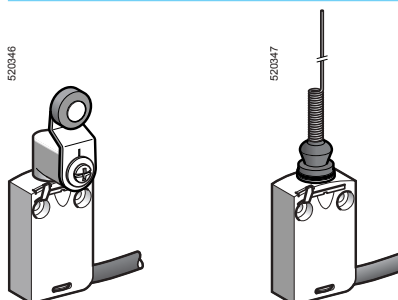
Complete switches: page 20. Variable composition: page 22

□ 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

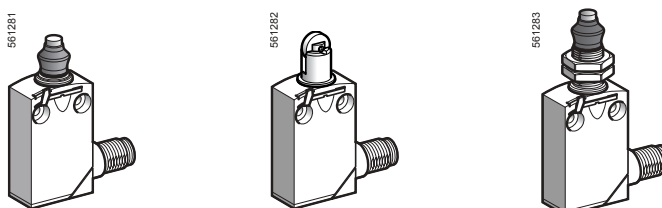


Complete switches: page 21. Variable composition: page 23

■ XCMD with connector

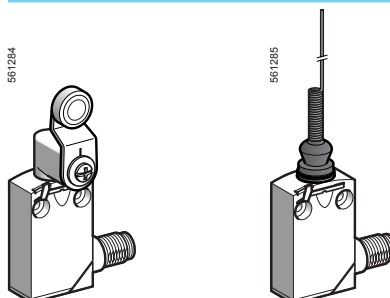
□ With head for linear movement (plunger) Fixing by the body

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

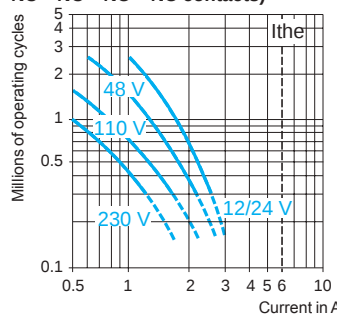
(1) Protection against prolonged immersion: the test conditions are subject to agreement between the manufacturer and the user.

Contact block characteristics

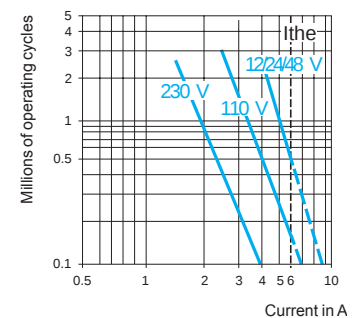
Rated operational characteristics	Switches with 2 contacts	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A) --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	Switches with 3 and 4 contacts	~ AC-15; C300 (Ue = 240 V, Ie = 0.75 A) --- DC-13; R300 (Ue = 250 V, Ie = 0.1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

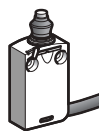
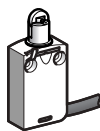
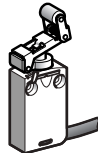
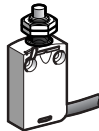
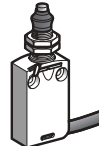
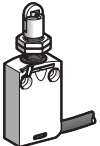
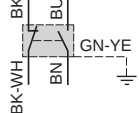
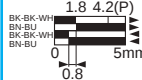
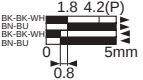
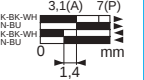
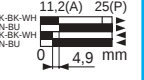
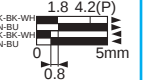
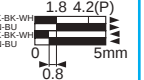
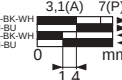
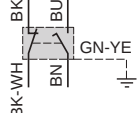
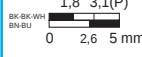
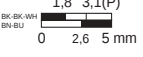
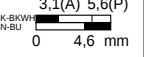
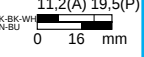
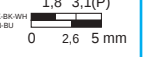
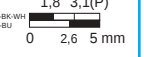
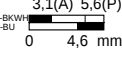
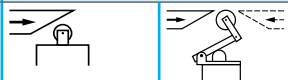
Voltage	V	24	48	120
~m	W	3	2	1

Power broken in W for 5 million operating cycles

Voltage	V	24	48	120
~m	W	4	3	3

Limit switches

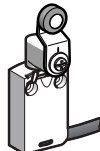
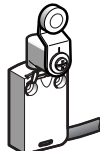
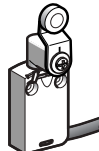
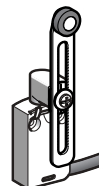
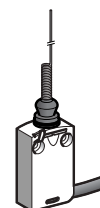
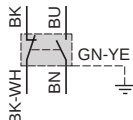
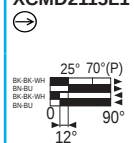
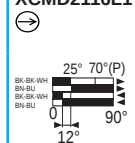
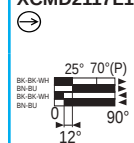
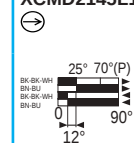
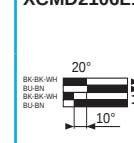
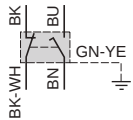
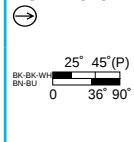
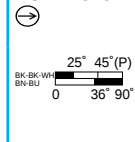
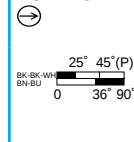
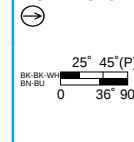
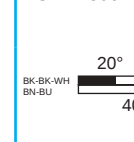
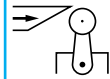
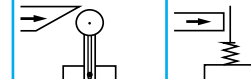
OsiSense XC Standard
Miniature design, metal, XCMD
Complete units
Pre-cabled

Type of head	Plunger (fixing by the body)				Plunger (fixing by the head)			
								
Type of operator	Metal end plunger	Metal end plunger with elastomer boot (1)	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot (1)	M12 with steel roller plunger	
References								
2-pole NC + NO snap action		XCMD2110L1 	XCMD2111L1 	XCMD2102L1 	XCMD2124L1 	XCMD21F0L1 	XCMD21G1L1 	XCMD21F2L1 
		XCMD2510L1 	XCMD2511L1 	XCMD2502L1 	XCMD2524L1 	XCMD25F0L1 	XCMD25G1L1 	XCMD25F2L1 
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205	
Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point		 NC contact with positive opening operation			
Complementary characteristics not shown under general characteristics (see page 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

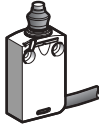
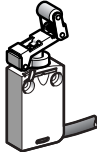
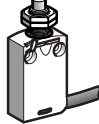
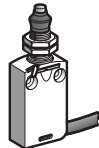
OsiSense XC Standard
Miniature design, metal, XCMD
Complete units
Pre-cabled

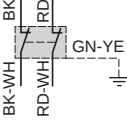
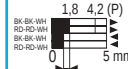
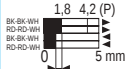
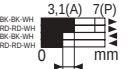
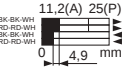
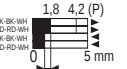
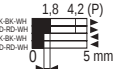
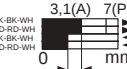
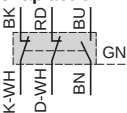
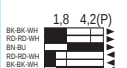
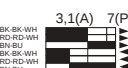
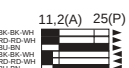
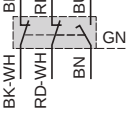
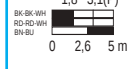
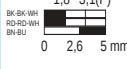
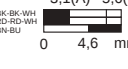
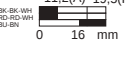
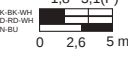
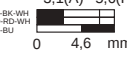
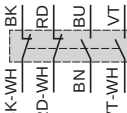
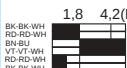
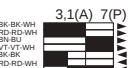
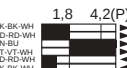
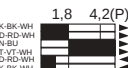
Type of head	Rotary (fixing by the body)				Multi-directional	
						
Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)	
References						
2-pole NC + NO snap action		XCMD2115L1 	XCMD2116L1 	XCMD2117L1 	XCMD2145L1 	XCMD2106L1 
2-pole NC + NO break before make, slow break		XCMD2515L1 	XCMD2516L1 	XCMD2517L1 	XCMD2545L1 	XCMD2506L1 
Weight (kg)	0.220	0.225	0.220	0.230	0.180	
Contact operation	closed open (A) = cam displacement (P) = positive opening point  NC contact with positive opening operation					
Complementary characteristics not shown under general characteristics (see page 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				
Cabling	PvR cable, 5 x 0.75 mm ² , length 1 m					

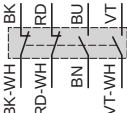
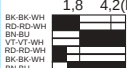
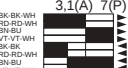
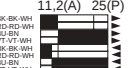
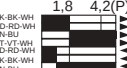
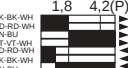
(1) Value taken with actuation by moving part at 100 mm from the fixing.

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 + ZCE00 	ZCMD29L1 + ZCE01 	ZCMD29L1 + ZCE02 
							
3-pole NC + NC + NO snap action 	ZCMD39L1 + ZCE10 	ZCMD39L1 + ZCE11 	ZCMD39L1 + ZCE02 	ZCMD39L1 + ZCE24 	ZCMD39L1 + ZCE00 	ZCMD39L1 + ZCE01 	ZCMD39L1 + ZCE02 
							
3-pole NC + NC + NO break before make, slow break 	ZCMD29L1 + ZCE10 	ZCMD37L1 + ZCE11 	ZCMD37L1 + ZCE02 	ZCMD37L1 + ZCE24 	ZCMD37L1 + ZCE00 	ZCMD37L1 + ZCE01 	ZCMD37L1 + ZCE02 
							
Weight (kg)	0.180	0.180	0.185	0.200	0.195	0.220	0.205
4-pole 2 NC + 2 NO snap action 	ZCMD4DL1 + ZCE10 	ZCMD4DL1 + ZCE11 	ZCMD4DL1 + ZCE02 	ZCMD4DL1 + ZCE24 	ZCMD4DL1 + ZCE00 	ZCMD4DL1 + ZCE01 	ZCMD4DL1 + ZCE02 
							
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185

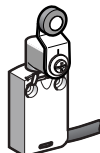
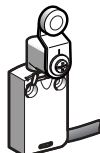
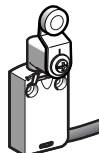
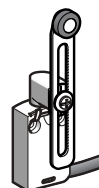
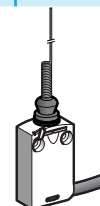
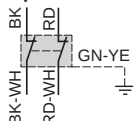
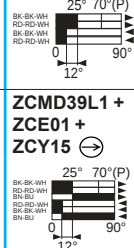
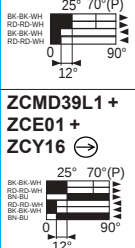
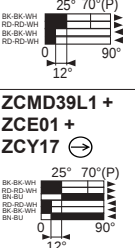
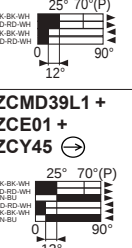
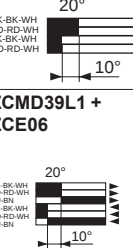
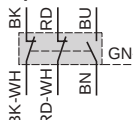
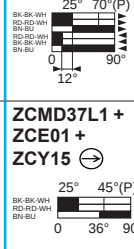
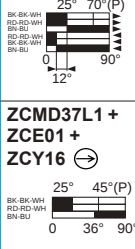
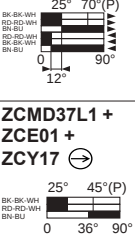
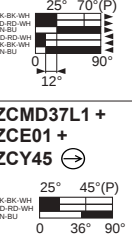
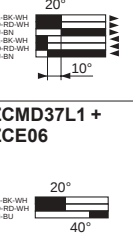
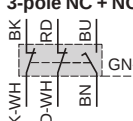
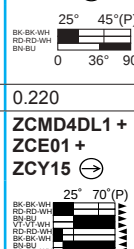
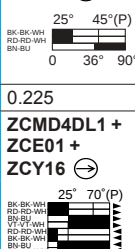
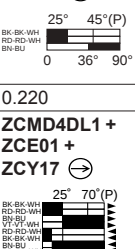
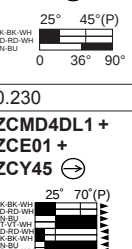
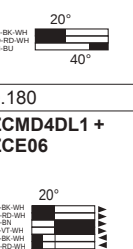
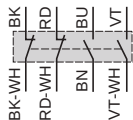
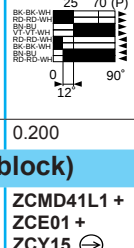
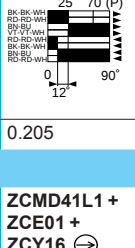
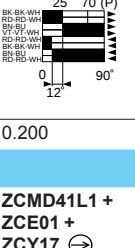
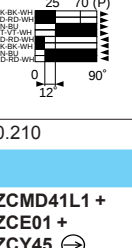
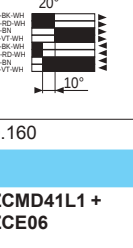
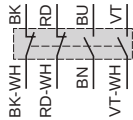
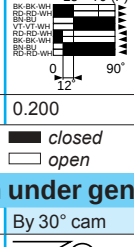
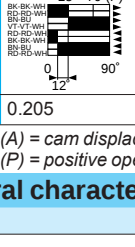
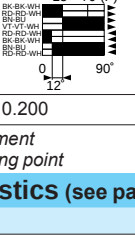
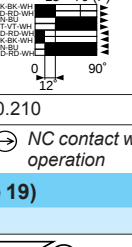
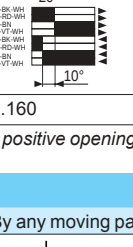
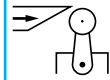
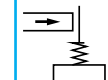
References (combined with fixed terminal block)							
4-pole 2 NC + 2 NO snap action 	ZCMD41L1 + ZCE10 	ZCMD41L1 + ZCE11 	ZCMD41L1 + ZCE02 	ZCMD41L1 + ZCE24 	ZCMD41L1 + ZCE00 	ZCMD41L1 + ZCE01 	ZCMD41L1 + ZCE02 
							
Weight (kg)	0.160	0.160	0.165	0.180	0.175	0.200	0.185
Contact operation	 closed  open			(A) = cam displacement (P) = positive opening point		 NC contact with positive opening operation	

Complementary characteristics not shown under general characteristics (see page 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	7 N	
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N	
Cabling		PvR cable, 5 x 0.75 mm ² length 1 m for 2-pole contact versions, 7 x 0.5 mm ² length 1 m for 3-pole contact versions, 9 x 0.34 mm ² length 1 m for 4-pole contact versions. For other lengths, see page 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	 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				5
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m			
Cabling	PvR cable, 5 x 0.75 mm ² length 1 m for 2-pole contact versions, 7 x 0.5 mm ² length 1 m for 3-pole contact versions, 9 x 0.34 mm ² length 1 m for 4-pole contact versions. For other lengths, see page 38.				

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

Limit switches

OsiSense XC Standard

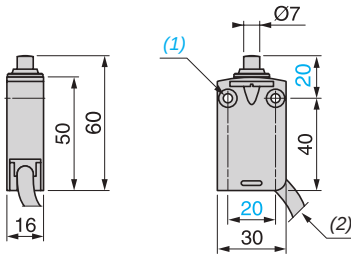
Miniature design, metal, XCMD

Complete units

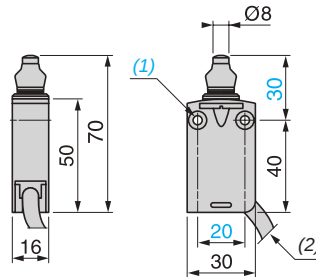
Pre-cabled

Dimensions

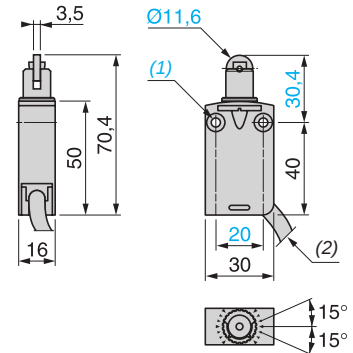
XCMD2•10L1



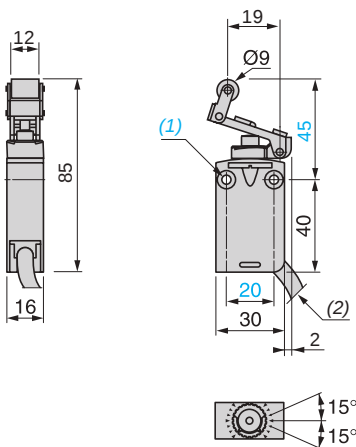
XCMD2•11L1



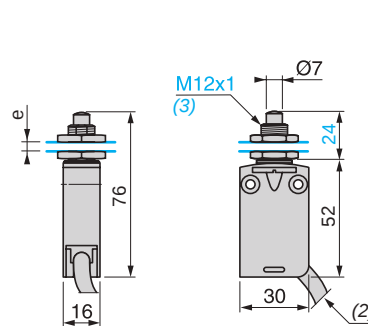
XCMD2•02L1



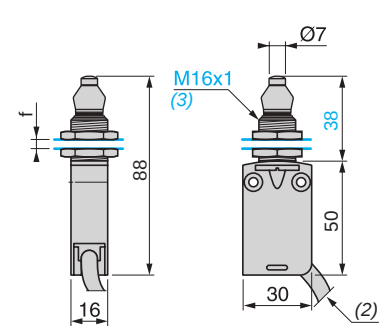
XCMD2•24L1



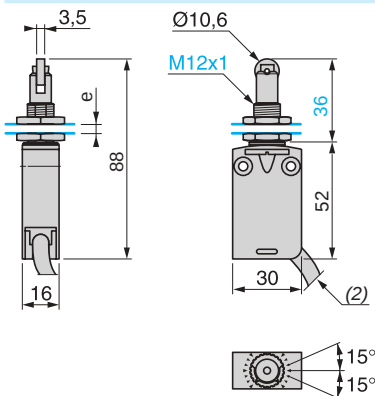
XCMD2•F0L1



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

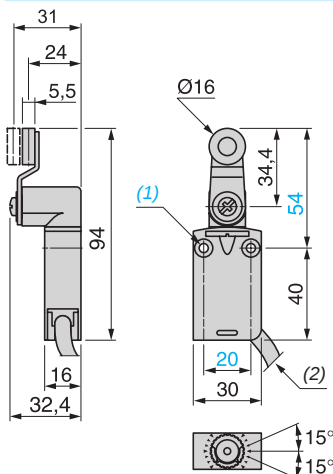
(3) Fixing nut thickness 3.5 mm

e: 8 mm max, panel cut-out Ø 12.5 mm

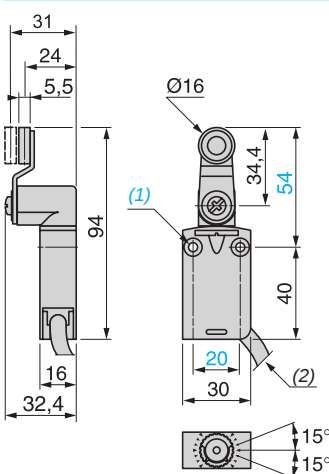
f: 8 mm max, panel cut-out Ø 16.5 mm

Dimensions (continued)

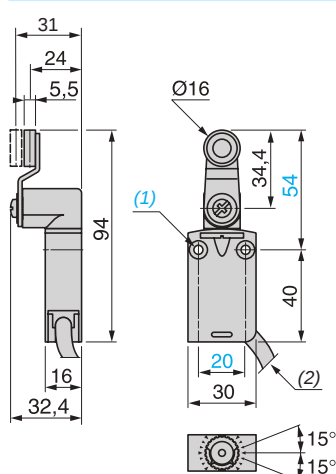
XCMD2●15L1



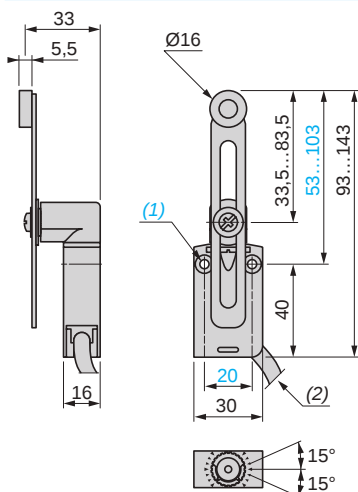
XCMD2●16L1



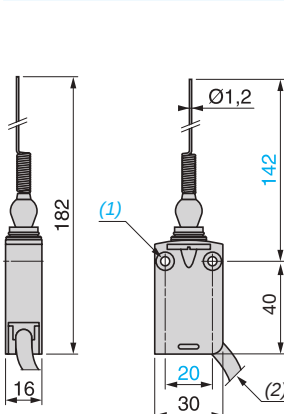
XCMD2●17L1



XCMD2●45L1

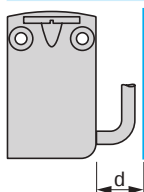


XCMD2●06L1



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

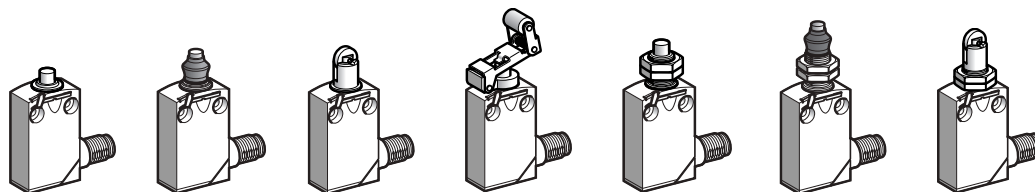
e: 8 mm max, panel cut-out Ø 12.5 mm

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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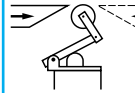


Type of operator	Metal end plunger	Metal end plunger with elastomer boot (1)	Steel roller plunger	Retractable steel roller lever plunger	M12 with metal end plunger	M16 with metal end plunger with elastomer boot (1)	M12 with steel roller plunger
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References

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

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

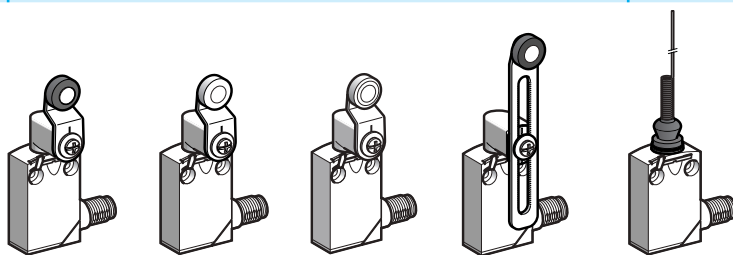
Complementary characteristics under general characteristics (see page 15)							
Switch actuation		On end	By 30° cam		On end	By 30° cam	
Type of actuation							
Maximum actuation speed		0.5 m/s					0.1 m/s
Mechanical durability		10 million operating cycles					
Minimum force or torque	For tripping	8.5 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
Complete units
Connector

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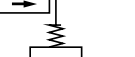


Type of operator	Thermoplastic roller lever	Steel roller lever	Roller lever with ball bearing mounted roller	Variable length thermoplastic roller lever	"Cat's whisker" (1)
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References

 Single-pole CO snap action With integral M12 4-pin connector	XCMD2115M12	XCMD2116M12	XCMD2117M12	XCMD2145M12	XCMD2106M12
 2-pole NC + NO snap action With integral M12 5-pin connector	XCMD2115C12	XCMD2116C12	XCMD2117C12	XCMD2145C12	XCMD2106C12
Weight (kg)	0.125	0.130	0.125	0.135	0.085
Contact operation	closed open (A) = cam displacement (P) = positive opening point NC contact with positive opening operation				

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

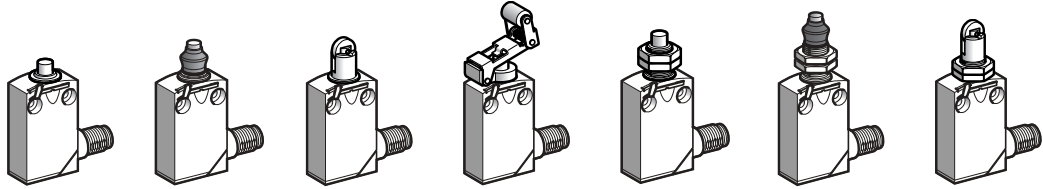
Switch actuation		By 30° cam		By any moving part	
Type of actuation					
Maximum actuation speed		1.5 m/s		1 m/s	
Mechanical durability		10 million operating cycles		5	
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m		—	
Positive operation		Although their design is identical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

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

Single-pole CO snap action + integral M12 4-pin connector	ZCMD21M12 + ZCE10 ⊕	ZCMD21M12 + ZCE11 ⊕	ZCMD21M12 + ZCE02 ⊕	ZCMD21M12 + ZCE24 ⊕	ZCMD21M12 + ZCEF0 ⊕	ZCMD21M12 + ZCEG1 ⊕	ZCMD21M12 + ZCEF2 ⊕
2-pole NC + NO snap action + integral M12 5-pin connector	ZCMD21C12 + ZCE10 ⊕	ZCMD21C12 + ZCE11 ⊕	ZCMD21C12 + ZCE02 ⊕	ZCMD21C12 + ZCE24 ⊕	ZCMD21C12 + ZCEF0 ⊕	ZCMD21C12 + ZCEG1 ⊕	ZCMD21C12 + ZCEF2 ⊕
2-pole NC + NC snap action + integral M12 5-pin connector	ZCMD29C12 + ZCE10 ⊕	ZCMD29C12 + ZCE11 ⊕	ZCMD29C12 + ZCE02 ⊕	ZCMD29C12 + ZCE24 ⊕	ZCMD29C12 + ZCEF0 ⊕	ZCMD29C12 + ZCEG1 ⊕	ZCMD29C12 + ZCEF2 ⊕
Weight (kg)	0.085	0.085	0.090	0.105	0.100	0.125	0.110
2-pole NC + NO snap action + M12 5-pin connector on 0.8 m flying lead	ZCMD21L08R12 + ZCE10 ⊕	ZCMD21L08R12 + ZCE11 ⊕	ZCMD21L08R12 + ZCE02 ⊕	ZCMD21L08R12 + ZCE24 ⊕	ZCMD21L08R12 + ZCEF0 ⊕	ZCMD21L08R12 + ZCEG1 ⊕	ZCMD21L08R12 + ZCEF2 ⊕
2-pole NC + NO snap action + 7/8"-16 UN 5-pin connector on 0.8 m flying lead	ZCMD21L08U78 + ZCE10 ⊕	ZCMD21L08U78 + ZCE11 ⊕	ZCMD21L08U78 + ZCE02 ⊕	ZCMD21L08U78 + ZCE24 ⊕	ZCMD21L08U78 + ZCEF0 ⊕	ZCMD21L08U78 + ZCEG1 ⊕	ZCMD21L08U78 + ZCEF2 ⊕
Weight (kg)	0.150	0.150	0.155	0.170	0.165	0.190	0.175
Contact operation	closed open		(A) = cam displacement (P) = positive opening point		⊕ NC contact with positive opening operation		

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

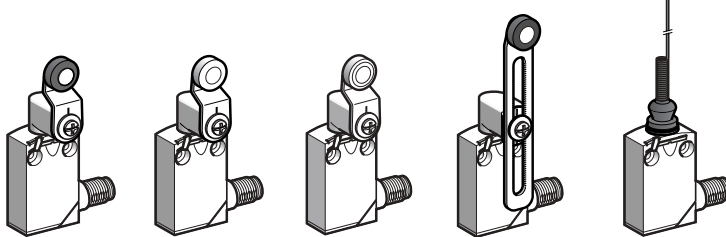
Switch actuation		On end	By 30° cam		On end	By 30° cam	
Type of actuation							
Maximum actuation speed		0.5 m/s					0.1 m/s
Mechanical durability		10 million operating cycles					
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N	
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N	
Positive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

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

Complementary characteristics not shown under general characteristics (see page 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.		

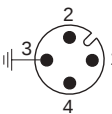
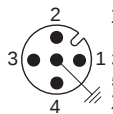
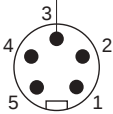
(1) Value taken with actuation by moving part at 100 mm from the fixing

References of suitable pre-wired female connectors

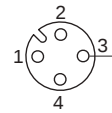
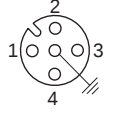
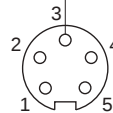
Type of connector		M12 straight, 4-pin 4 A, 250 V	M12 straight, 5-pin 4 A, 24 V	M12 elbowed, 5-pin 4 A, 24 V	7/8"-16 UN straight, 5-pin 6 A, 250 V
With cable	L = 2 m	XZCP1169L2	XZCP1164L2	XZCP1264L2	XZCP1771L2
	L = 5 m	XZCP1169L5	XZCP1164L5	XZCP1264L5	XZCP1771L5
	L = 10 m	XZCP1169L10	XZCP1164L10	XZCP1264L10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

Connections

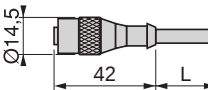
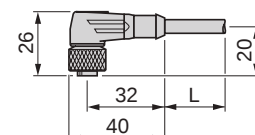
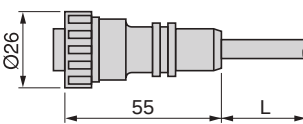
XCMD with connector

4-pin, M12	5-pin, M12	5-pin, 7/8"-16 UN
 3 A - 250 V 1 = common 2 = NC 3 = $\perp$ 4 = NO	 4 A - 60 V XCMD21●● or ZCMD21●● 1 - 2 = NC 3 - 4 = NO 5 = $\perp$ XCMD29●● or ZCMD29●● 1 - 2 = NC 3 - 4 = NC 5 = $\perp$	 6 A - 250 V 1 - 2 = NC 4 - 5 = NO 3 = $\perp$

XZCP pre-wired female connectors

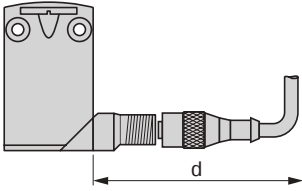
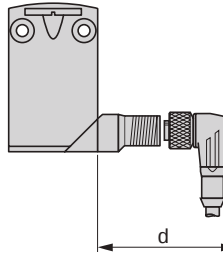
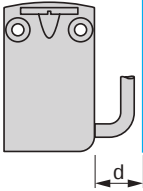
4-pin, M12	5-pin, M12	5-pin, 7/8"-16 UN
 1 = brown 2 = blue 3 = yellow/green $\perp$ 4 = black	 1 = brown 2 = white 3 = blue 4 = black $\perp$ = yellow/green	 1 = black 2 = blue 3 = yellow/green $\perp$ 4 = brown 5 = white

Dimensions

XZCP116●L●	XZCP1264L●	XZCP1771L●
 Dimensions: $\varnothing 14.5$, 42, L	 Dimensions: 26, 32, 40, 20, L	 Dimensions: $\varnothing 26$, 55, L

L: cable length 2, 5 or 10 m.

Distances required for plug-in connectors

M12 straight connector	M12 elbowed connector	Connector on flying lead
 d: min. 65 mm, recommended 69 mm	 d: min. 42 mm, recommended 45 mm	 d: min. 20 mm

Limit switches

OsiSense XC Standard

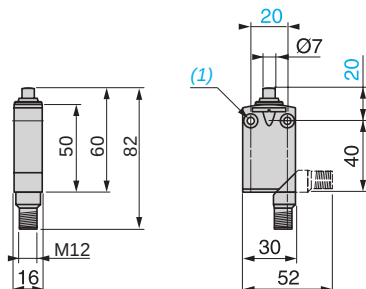
Miniature design, metal, XCMD

Complete units

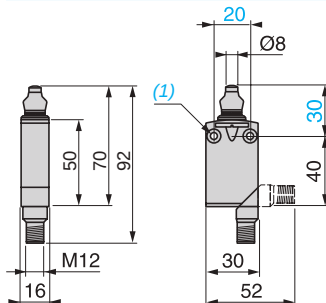
Connector

Dimensions

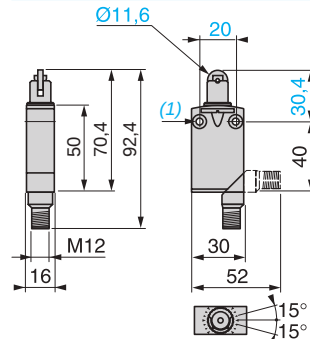
XCMD2•10M12



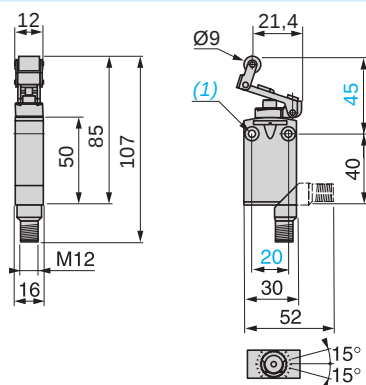
XCMD2•11M12



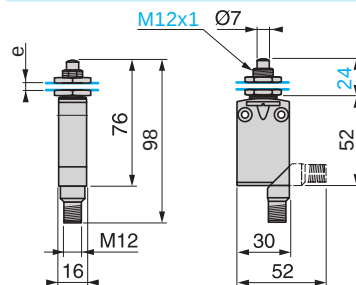
XCMD2•02M12



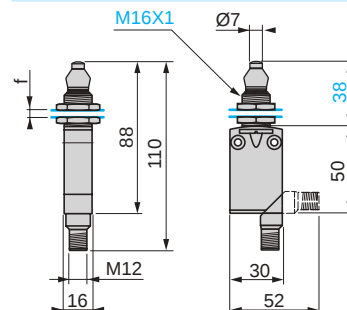
XCMD2•24M12



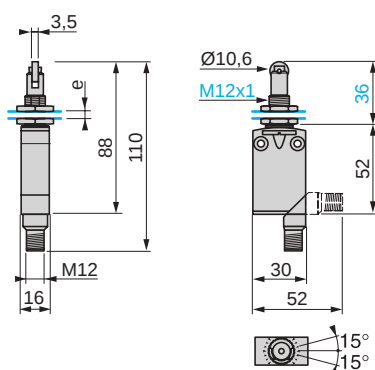
XCMD2•F0M12



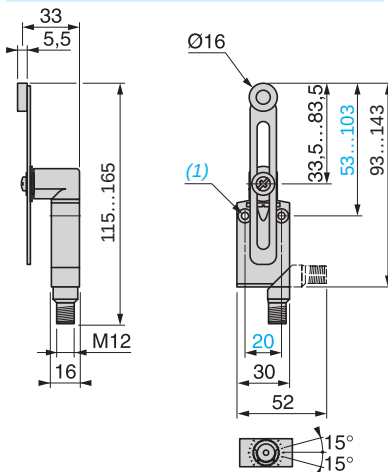
XCMD2•G1M12



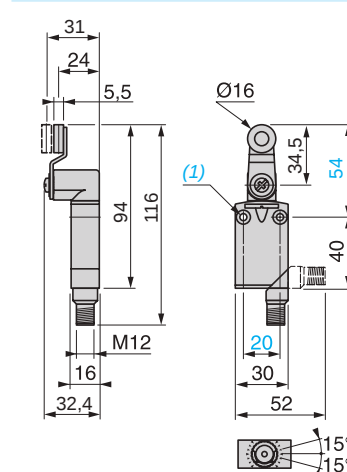
XCMD2•F2M12



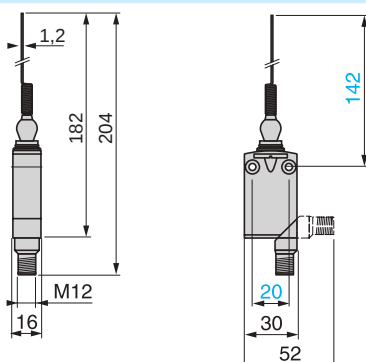
XCMD2•45M12



XCMD2•15M12/•16M12/•17M12



XCMD2•06M12



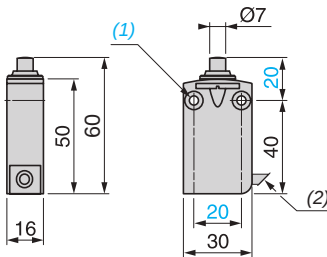
(1) 2 fixing holes $\varnothing 4.2$ mm, counterbored $\varnothing 8$ mm by 4 mm deep
e: 8 mm max., panel cut-out $\varnothing 12.5$ mm, fixing nut thickness 3.5 mm
f: 8 mm max., panel cut-out $\varnothing 16.5$ mm, fixing nut thickness 3.5 mm

Limit switches

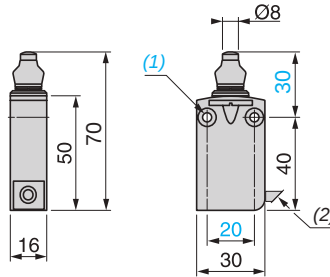
OsiSense XC Standard
Miniature design, metal, XCMD
Modular units
Connector

Dimensions (continued)

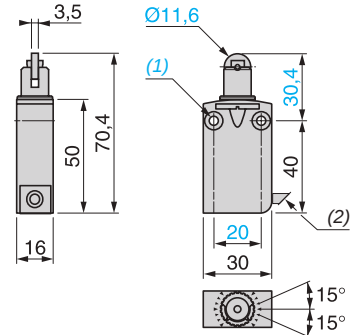
ZCMD21L08... + ZCE10



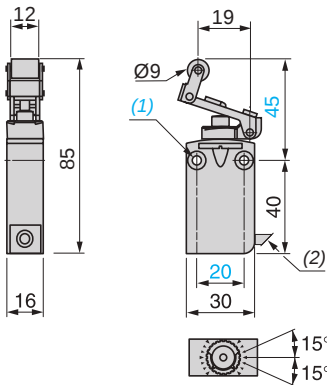
ZCMD21L08... + ZCE11



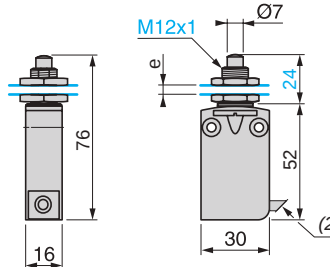
ZCMD21L08... + ZCE02



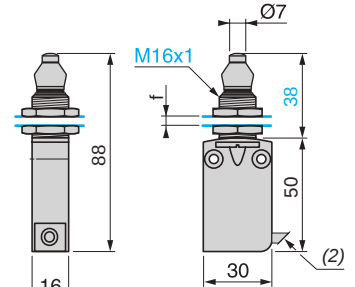
ZCMD21L08... + ZCE24



ZCMD21L08... + ZCEF0



ZCMD21L08... + ZCEG1



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

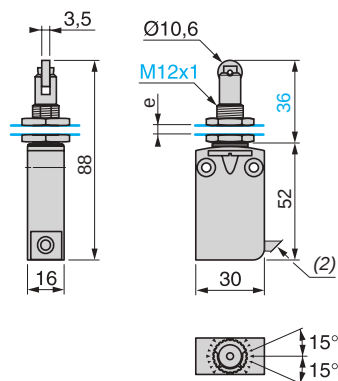
(2) External diameter 7.5 mm.

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

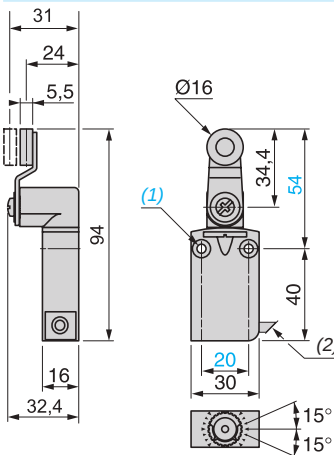
f: 8 mm max., panel cut-out $\varnothing 16.5$ mm, fixing nut thickness 3.5 mm

Dimensions (continued)

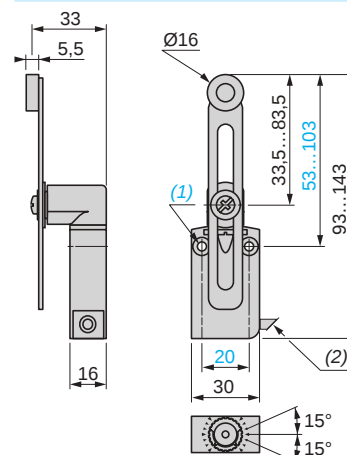
ZCMD21L08... + ZCEF2



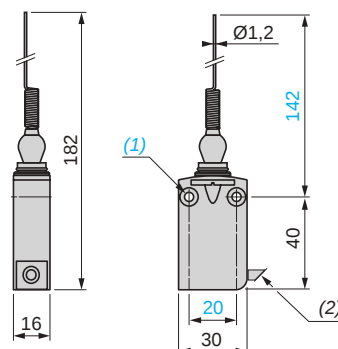
ZCMD21L08... + ZCE01 + ZCY15/16/17



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

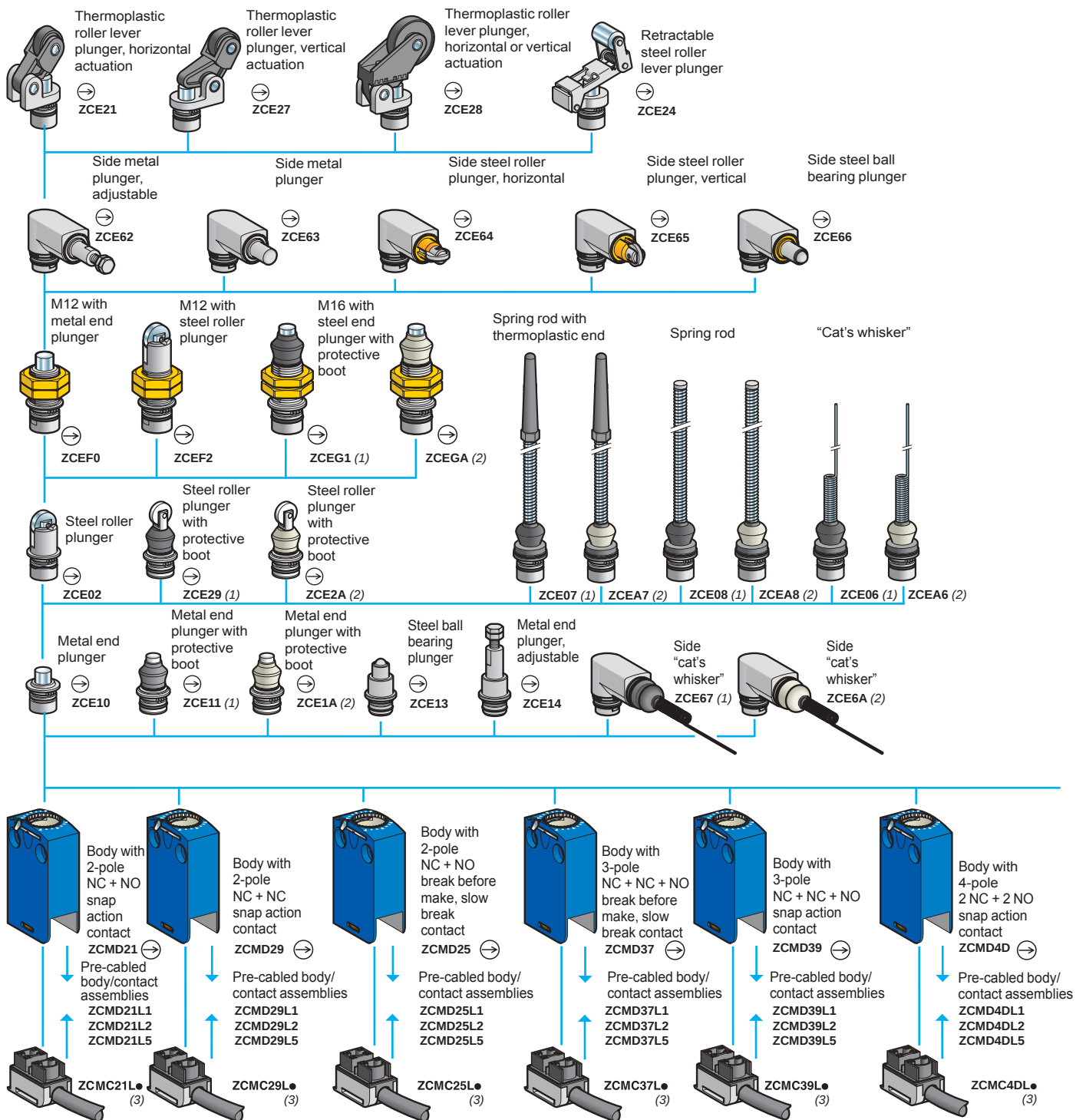
f: 8 mm max., panel cut-out Ø 16.5 mm, fixing nut thickness 3.5 mm

Limit switches

OsiSense XC Standard

Miniature design, metal, XCMD

Variable composition



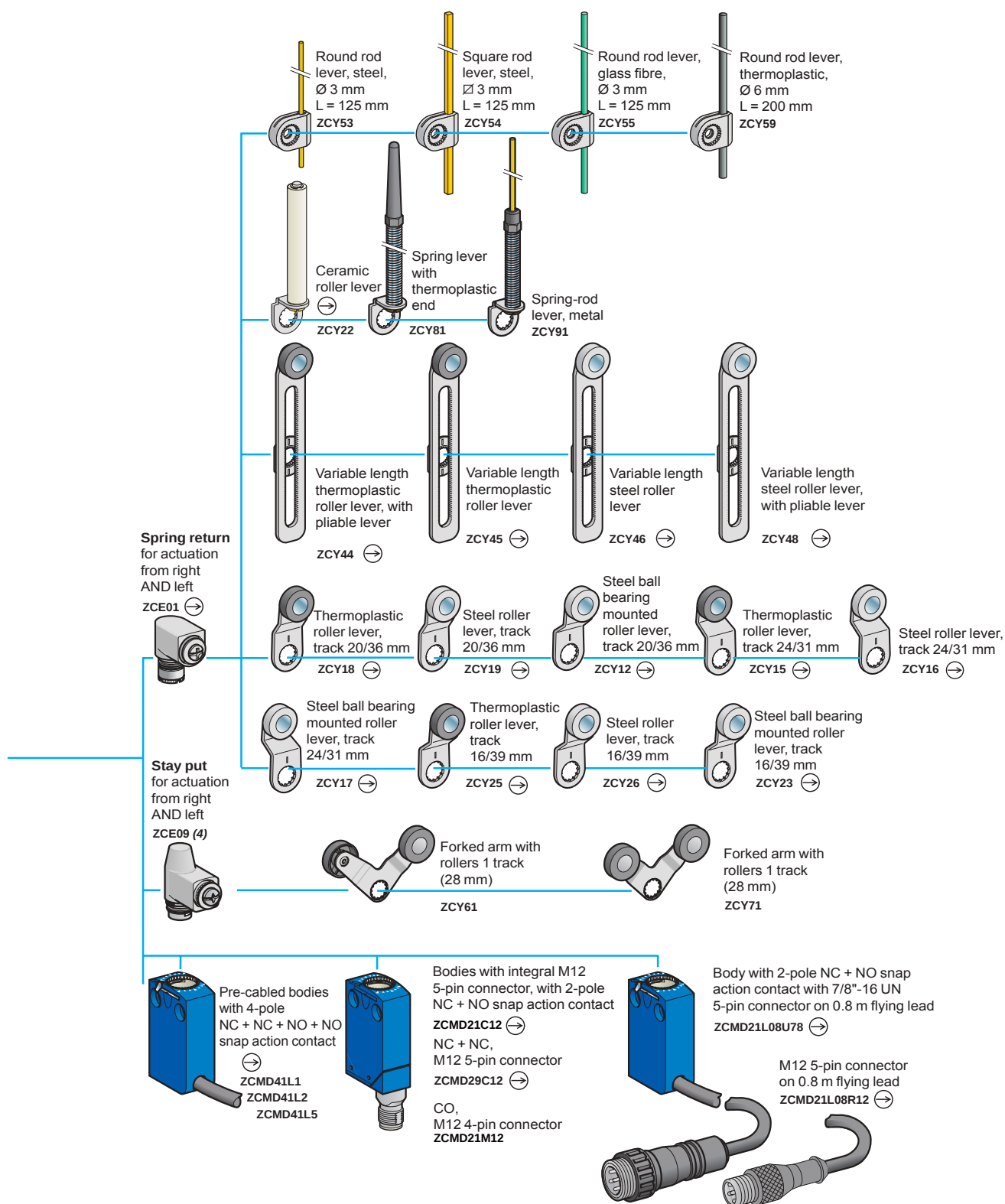
(1) Nitrile boot for indoor use.

(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●.



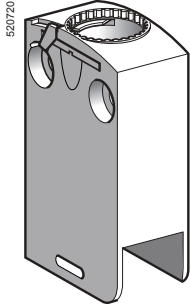
(4) Cannot be used on bodies ZCMD21, ZCMD29, ZCMD39, ZCMD41, ZCMD21C12, ZCMD21M12, ZCMD29C12 or ZCMD21L08●●●.

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

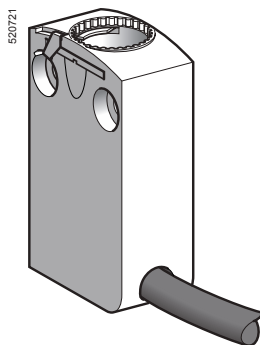
(1) ⊙ bodies with contacts assuring positive opening operation.

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

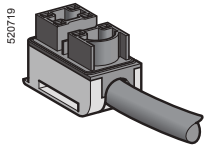
(1) ⊕ bodies with contacts assuring positive opening operation.

Limit switches

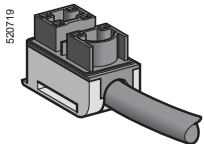
OsiSense XC Standard

Miniature design, metal, XCMD

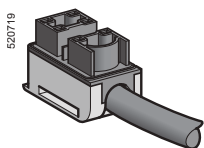
Connection components



ZCMC2●L●●
ZCMC3●L●●
ZCMC4DL●



ZCMC21E●



ZCMC25T06
ZCMC21T●

Pre-cabled connection components with PVC cable

2-pole

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

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

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

3-pole

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

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

4-pole

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

Pre-cabled connection components with CEI cable

(Connitato Elettrotecnico Italiano) (1)

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

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

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

(1) Cable not UL or CSA certified.

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

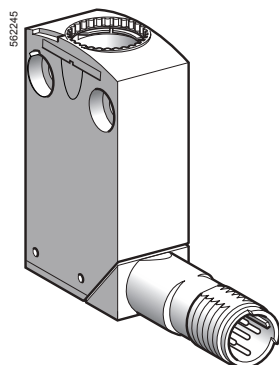
(3) ⊕ bodies with contacts assuring positive opening operation.

Limit switches

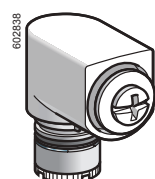
OsiSense XC Standard

Miniature design, metal, XCMD

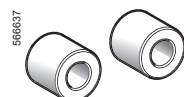
Separate parts



ZCMD61●●●



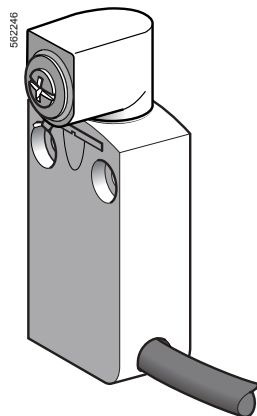
ZCE05



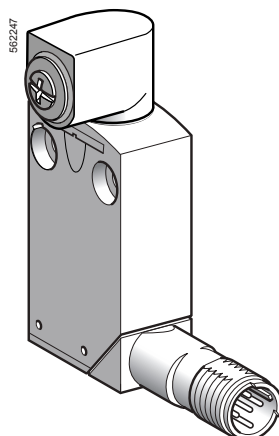
XCMZ06



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.

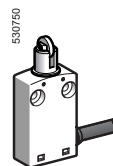
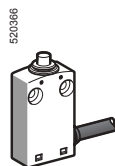
Limit switches

OsiSense XC Basic

Miniature design, plastic, XCMN

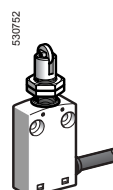
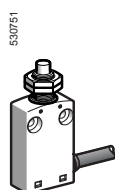
■ XCMN
pre-cabled

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



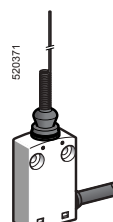
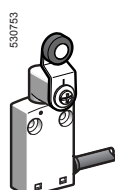
Page 42

□ 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

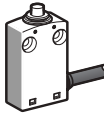
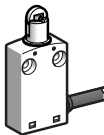
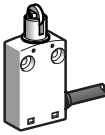
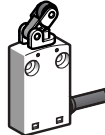
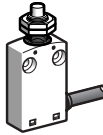
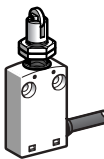
Rated operational characteristics	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A
	⋯ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 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)

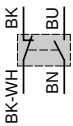
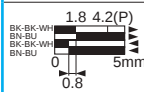
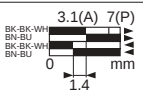
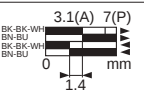
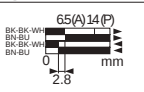
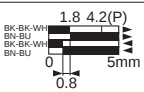
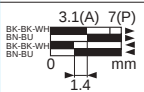
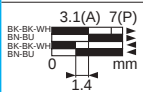
Limit switches

OsiSense XC Basic

Miniature design, plastic, XCMN

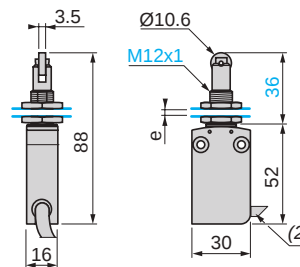
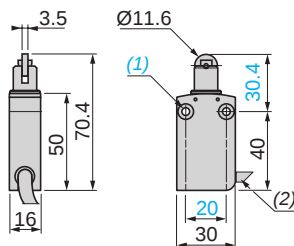
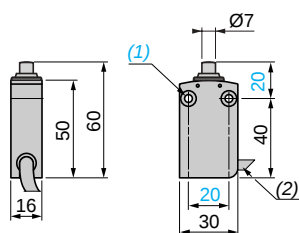
Pre-cabled

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							
 2-pole NC + NO snap action	XCMN2110L1	XCMN2102L1	XCMN2103L1	XCMN2121L1	XCMN21F0L1	XCMN21F2L1	XCMN21F3L1
	 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						
Switch actuation		On end	By 30° cam		On end	By 30° cam
Type of actuation						
Maximum actuation speed		0.5 m/s	0.1 m/s	0.5 m/s	0.1 m/s	
Mechanical durability		5 million operating cycles				
Minimum force or torque	For tripping	8.5 N	7 N	2.5 N	8.5 N	7 N
	For positive opening	42.5 N	35 N	12.5 N	42.5 N	35 N
Cabling		PvR cable, 4 x 0.75 mm², length 1 metre				

Dimensions			
XCMN2110L1	XCMN2102L1, XCMN2103L1		XCMN21F2L1, XCMN21F3L1



XCMN2121L1	XCMN21F0L1	(1) 2 fixing holes Ø 4.2 mm, counterbored Ø 8 mm by 4 mm deep. (2) External diameter 7.5 mm. e: 8 mm max, panel cut-out Ø 12.5 mm. Fixing nut thickness 3.5 mm.

Limit switches

OsiSense XC Basic

Miniature design, plastic, XCMN

Pre-cabled

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

References

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

Characteristics

Switch actuation		By 30° cam		By any moving part	
Type of actuation					
Maximum actuation speed		1.5 m/s		1 m/s	1 m/s (any direction)
Mechanical durability		5 million operating cycles			
Minimum force or torque	For tripping	0.1 N.m			
	For positive opening	0.5 N.m		–	–
Cabling		PvR cable, 4 x 0.75 mm², length 1 metre			

Dimensions

XCMN2115L1	XCMN2159L1	XCMN2107L1
XCMN2145L1	XCMN2106L1	

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

Limit switches

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



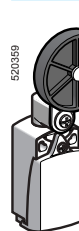
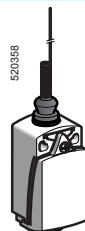
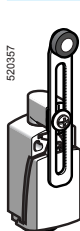
Pages 52 and 56

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

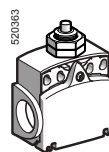
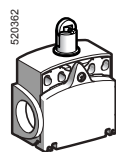
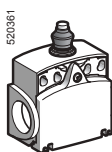
■ XCKT

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

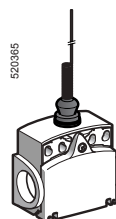
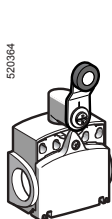
XCKT



Page 58

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

XCKT



Page 58

Environment characteristics

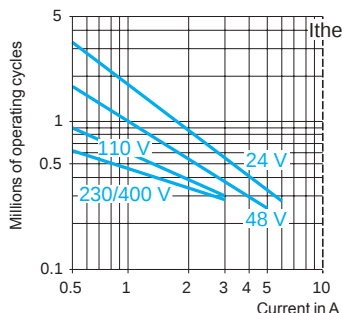
Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
Protective treatment	Standard version	"TC"
Ambient air temperature	For operation	- 25...+ 70°C
	For storage	- 40...+ 70°C
Vibration resistance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

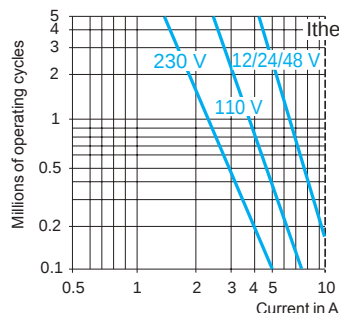
Rated operational characteristics	XE2●P	$\sim$ AC-15; A300 ($U_e = 240$ V, $I_e = 3$ A); $I_{the} = 10$ A --- DC-13; Q300 ($U_e = 250$ V, $I_e = 0.27$ A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	$\sim$ AC-15; B300 ($U_e = 240$ V, $I_e = 1.5$ A); $I_{the} = 6$ A --- DC-13; R300 ($U_e = 250$ V, $I_e = 0.1$ A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation withstand voltage	XE2●P	$U_i = 500$ V degree of pollution 3 conforming to IEC 60947-1 $U_i = 300$ V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	$U_i = 400$ 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	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 m Ω 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: 1×0.34 mm ² , max: 2×1.5 mm ²
	XE2NP21●1 and XE2NP31●1	Clamping capacity, min: 1×0.5 mm ² , max: 2×2.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1×0.34 mm ² , max: 1×1 mm ² or 2×0.75 mm ²
Minimum actuation speed (for head with end plunger)		XE2SP●151, XE2SP2141 and XE3SP: 0.01 m/minute XE2NP21●1, XE2NP31●1 and XE3NP: 6 m/minute
Electrical durability		■ Conforming to IEC 60947-5-1 Appendix C ■ Utilisation categories AC-15 and DC-13 ■ Maximum operating rate: 3600 operating cycles/hour ■ Load factor: 0.5

AC supply
50/60 Hz $\sim$
 --- inductive circuit

XE2SP●151, XE2SP2141



XE2NP21●1, XE2NP31●1



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
---	W	10	7	4

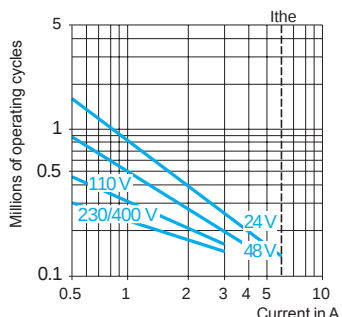
For XE2SP●151 on $\sim$ or --- , NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
---	W	13	9	7

AC supply
50/60 Hz $\sim$
 --- inductive circuit

XE3SP●●●●

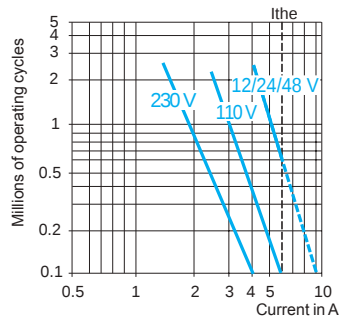


DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
---	W	3	2	1

XE3NP●●●●

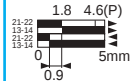
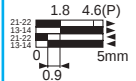
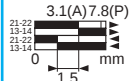
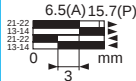
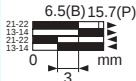
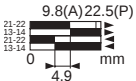
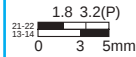
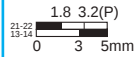
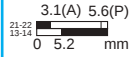
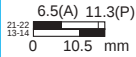
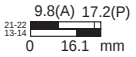
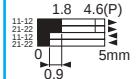
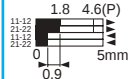
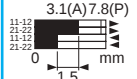
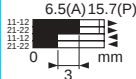
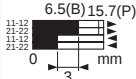
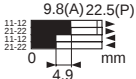
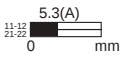
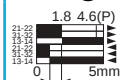
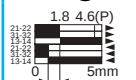
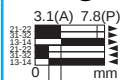
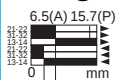
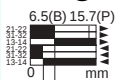
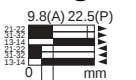
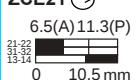
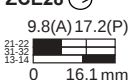


Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
---	W	4	3	2

Limit switches

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 ZCPEG11.

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 15 N For positive opening 45 N	12 N 36 N	6 N 18 N		
Cable entry (3)	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

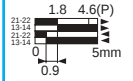
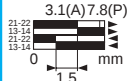
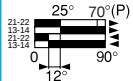
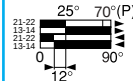
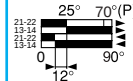
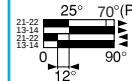
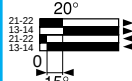
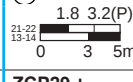
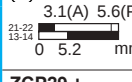
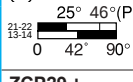
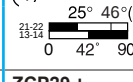
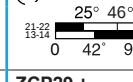
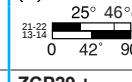
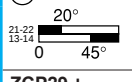
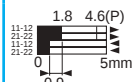
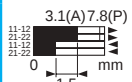
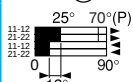
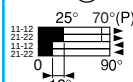
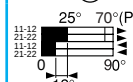
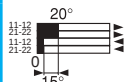
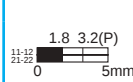
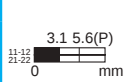
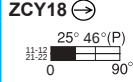
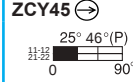
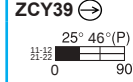
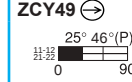
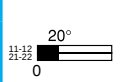
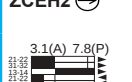
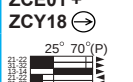
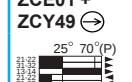
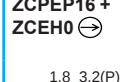
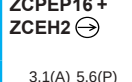
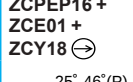
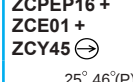
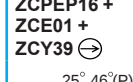
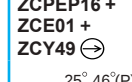
(1) Form conforming to EN 50047, see page 16.

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

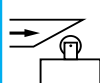
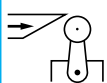
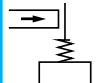
Limit switches

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)							
 2-pole NC + NO snap action (XE2SP2151)	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°
 2-pole NC + NO break before make, slow break (XE2NP2151)	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°
 2-pole NC + NC snap action (XE2SP2141)	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°
 2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCP27 + ZCPEP16 + ZCEH0  1.8 3.2(P) 0 5mm	ZCP27 + ZCPEP16 + ZCEH2  3.1 5.6(P) 0 mm	ZCP27 + ZCPEP16 + ZCE01 + ZCY18  25° 46°(P) 0 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY45  25° 46°(P) 0 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY39  25° 46°(P) 0 90°	ZCP27 + ZCPEP16 + ZCE01 + ZCY49  25° 46°(P) 0 90°	ZCP27 + ZCPEP16 + ZCE06  20° 0
 3-pole NC + NC + NO snap action (XE3SP2141)	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°
 3-pole NC + NC + NO break before make, slow break (XE3NP2141)	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  open	(A) = cam displacement		⊖ NC contact with positive opening operation			
		(P) = positive opening point					

Characteristics				
Switch actuation	On end	By 30° cam		By any moving part
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s		1 m/s (any direct.)
Mechanical durability	10 million operating cycles			5 million
Minimum force or torque	For tripping 15 N For positive opening 45 N	10 N 36 N	0.1 N.m 0.25 N.m	0.13 N.m —
Cable entry	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm			

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

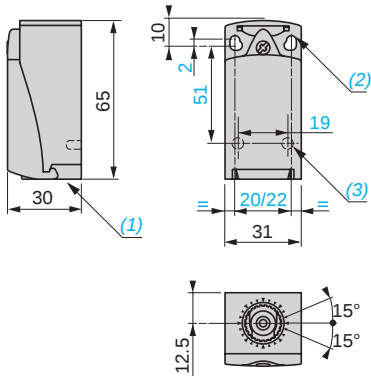
Limit switches

OsiSense XC Standard

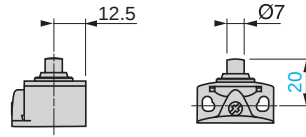
Compact design, plastic, XCKP

Complete switches with 1 cable entry

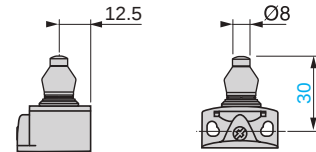
ZCP2● + ZCPEP16/ZCP3● + ZCPEP16



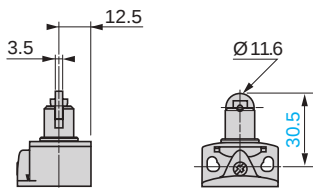
ZCE10



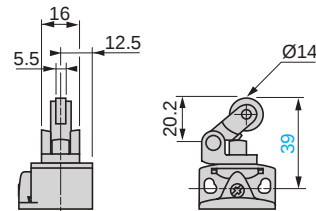
ZCE11



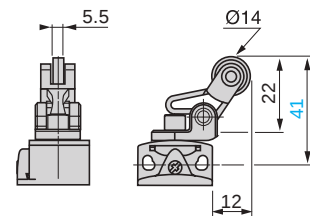
ZCE02



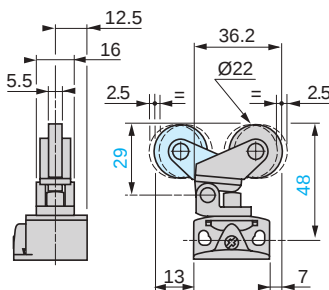
ZCE21



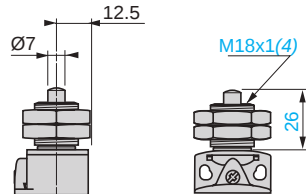
ZCE27



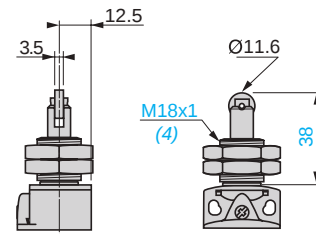
ZCE28



ZCEH0



ZCEH2



- (1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
 (2) 2 elongated holes 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.

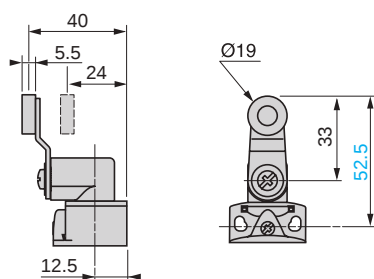
Limit switches

OsiSense XC Standard

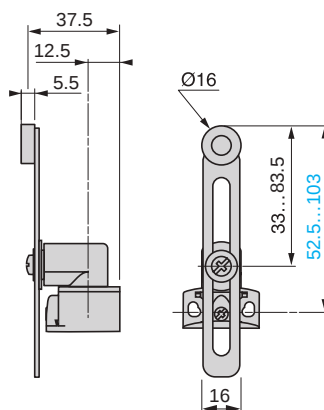
Compact design, plastic, XCKP

Complete switches with 1 cable entry

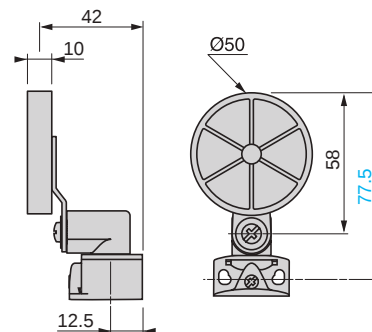
ZCE01 + ZCY18



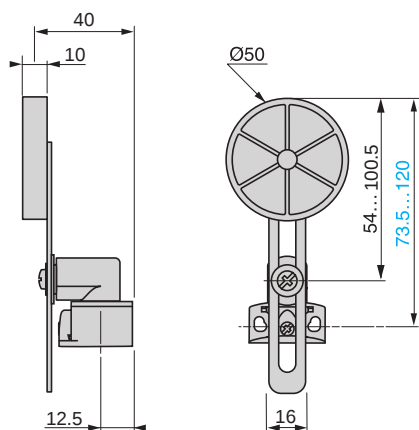
ZCE01 + ZCY45



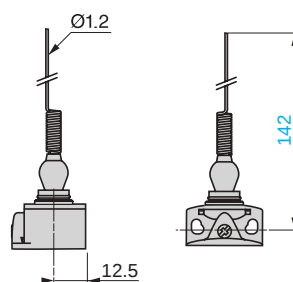
ZCE01 + ZCY39



ZCE01 + ZCY49



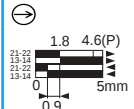
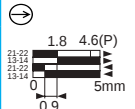
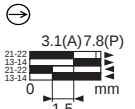
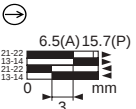
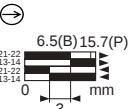
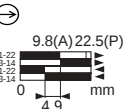
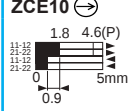
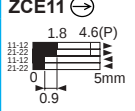
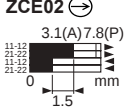
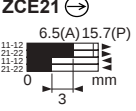
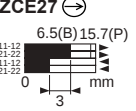
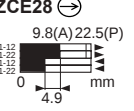
ZCE06



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.							

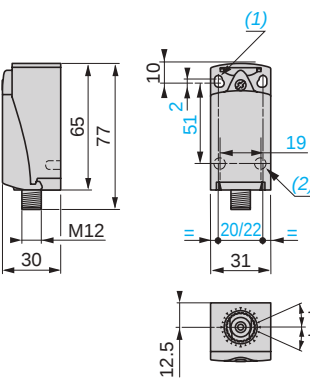
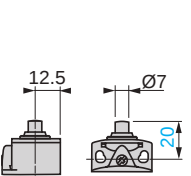
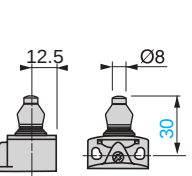
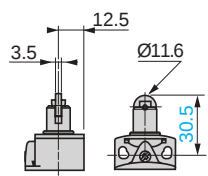
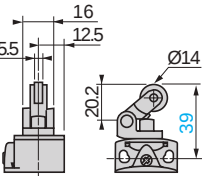
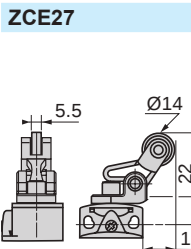
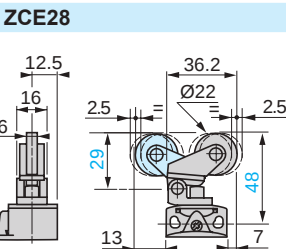
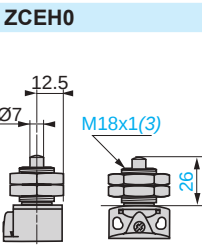
Characteristics			
Switch actuation	On end	By 30° cam	
Type of actuation			
Maximum actuation speed	0.5 m/s		1 m/s
Mechanical durability (in millions of operating cycles)	15	10	15
Minimum force or torque	15 N	12 N	6 N
	For tripping	36 N	18 N
	For positive opening		
Connection	M12 connector, Ui = 250 V, Ie = 3 A maximum, Ith = 3 A		

Connections

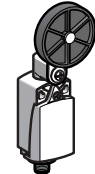
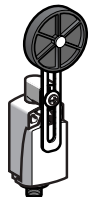
M12 connector

	XE2SP2151 1-2: NC 3-4: NO	XE2SP2141 1-2: NC 3-4: NC
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Dimensions

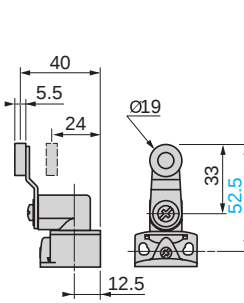
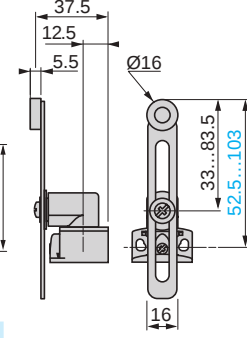
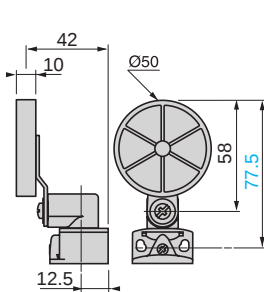
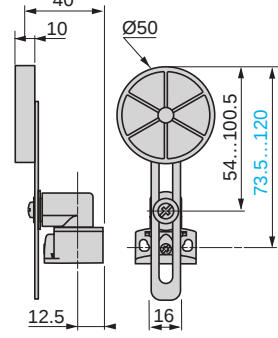
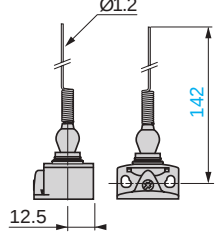
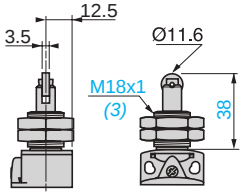
ZCP2●M12	ZCE10	ZCE11	ZCE02	ZCE21
				
	ZCE27 	ZCE28 		ZCEH0 

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

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 ⊖	ZCP29M12 + ZCE06 ⊖
Weight (kg)	0.140	0.140	0.140	0.150	0.155	0.160	0.090
Contact operation	closed open (A) = cam displacement (P) = positive opening point ⊖ NC contact with positive opening operation						
(1) Form conforming to EN 50047, see page 16.							
(2) Value taken with actuation by moving part at 100 mm from the fixing.							

Characteristics				
Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s	1.5 m/s		
Mechanical durability (in millions of operating cycles)	10	5		
Minimum force or torque	For tripping For positive opening	15 N 45 N	10 N 36 N	0.1 N.m 0.25 N.m
Connection	M12 connector, Ui = 250 V, Ie = 3 A maximum, Ith = 3 A			

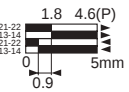
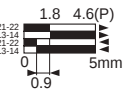
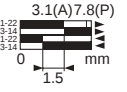
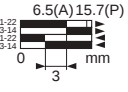
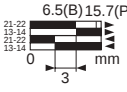
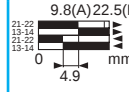
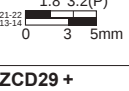
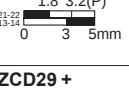
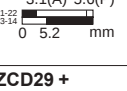
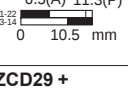
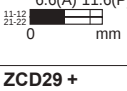
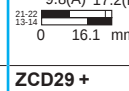
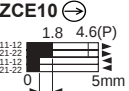
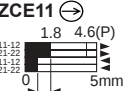
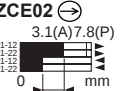
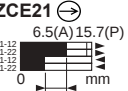
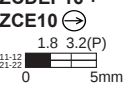
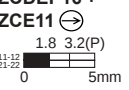
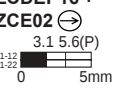
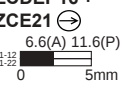
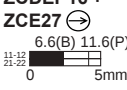
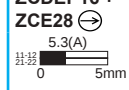
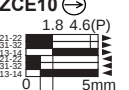
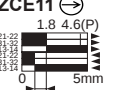
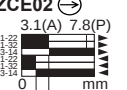
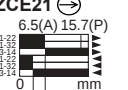
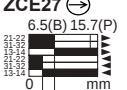
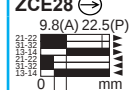
Dimensions				
ZCE01 + ZCY18	ZCE01 + ZCY45	ZCE01 + ZCY39	ZCE01 + ZCY49	ZCE06
				
ZCEH2				
	(3) Fixing nut thickness 3.5 mm.			

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 → 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm	9.8(A) 22.5(P) 4.9 mm
	2-pole NC + NO break before make, slow break (XE2N P2151)	XCKD2510P16 → 	XCKD2511P16 → 	XCKD2502P16 → 	XCKD2521P16 → 	XCKD2527P16 → 	XCKD2528P16 → 
		1.8 3.2(P) 0 3 5mm	1.8 3.2(P) 0 3 5mm	3.1(A) 5.6(P) 0 5.2 mm	6.5(A) 11.3(P) 0 10.5 mm	6.6(A) 11.6(P) 0 mm	9.8(A) 17.2(P) 0 16.1 mm
	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 → 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm	9.8(A) 22.5(P) 4.9 mm
	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 → 
		1.8 3.2(P) 0 5mm	1.8 3.2(P) 0 5mm	3.1 5.6(P) 0 5mm	6.6(A) 11.6(P) 0 5mm	6.6(B) 11.6(P) 0 5mm	5.3(A) 0 5mm
	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 → 
		1.8 4.6(P) 0.9 5mm	1.8 4.6(P) 0.9 5mm	3.1(A) 7.8(P) 1.5 mm	6.5(A) 15.7(P) 3 mm	6.5(B) 15.7(P) 3 mm	9.8(A) 22.5(P) 4.9 mm
	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 → 
		1.8 3.2(P) 0 3 5mm	1.8 3.2(P) 0 3 5mm	3.1(A) 5.6(P) 0 5.2 mm	6.5(A) 11.3(P) 0 10.5 mm	6.5(B) 11.3(P) 0 10.5 mm	9.8(A) 17.2(P) 0 16.1 mm
Weight (kg)		0.180	0.180	0.185	0.195	0.190	0.195

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

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by G11. Example: XCKD2110P16 becomes **XCKD2110G11** or ZCDEP16 becomes **ZCDEG11**.

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

Characteristics					
Switch actuation		On end	By 30° cam		
Type of actuation					
Maximum actuation speed		0.5 m/s	1 m/s		
Mechanical durability (in millions of operating cycles)		15	10	15	
Minimum force or torque	For tripping	15 N	12 N	6 N	
	For positive opening	45 N	36 N	18 N	
Cable entry		1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm			

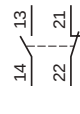
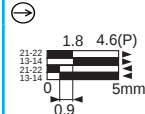
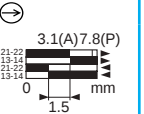
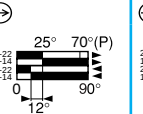
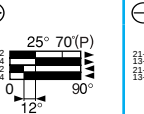
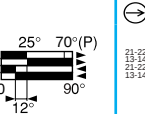
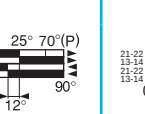
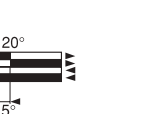
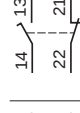
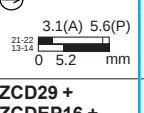
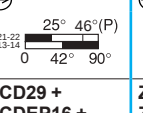
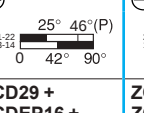
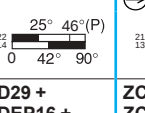
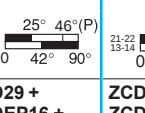
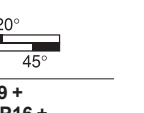
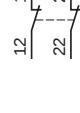
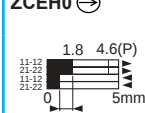
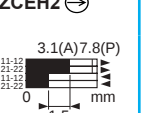
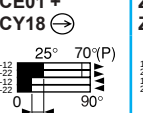
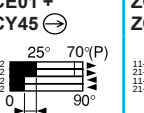
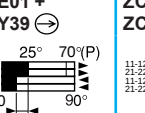
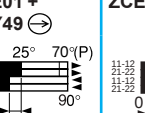
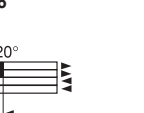
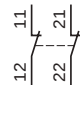
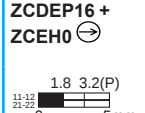
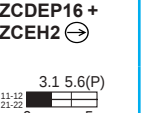
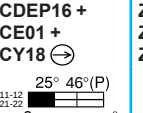
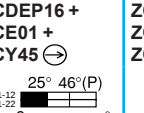
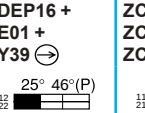
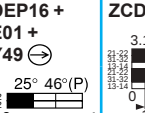
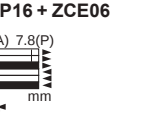
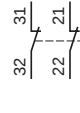
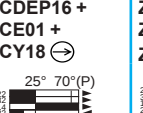
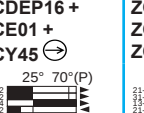
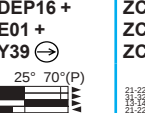
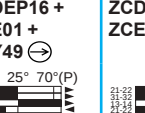
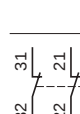
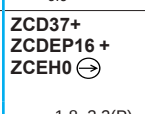
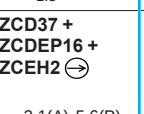
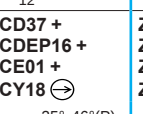
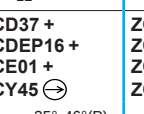
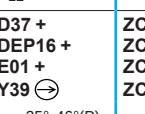
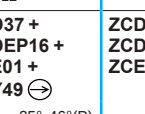
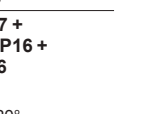
(1) Form conforming to EN 50047, see page 16.

(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)								
	XCKD21H0P16 	XCKD21H2P16 	XCKD21H8P16 	XCKD2145P16 	XCKD2139P16 	XCKD2149P16 	XCKD2106P16 	
	XCKD25H0P16 	XCKD25H2P16 	XCKD25H8P16 	XCKD2545P16 	XCKD2539P16 	XCKD2549P16 	XCKD2506P16 	
	ZCD29 + ZCDEP16 + ZCEH0 	ZCD29 + ZCDEP16 + ZCEH2 	ZCD29 + ZCDEP16 + ZCE01 + ZCY18 	ZCD29 + ZCDEP16 + ZCE01 + ZCY45 	ZCD29 + ZCDEP16 + ZCE01 + ZCY39 	ZCD29 + ZCDEP16 + ZCE01 + ZCY49 	ZCD29 + ZCDEP16 + ZCE06 	
	ZCD27 + ZCDEP16 + ZCEH0 	ZCD27 + ZCDEP16 + ZCEH2 	ZCD27 + ZCDEP16 + ZCE01 + ZCY18 	ZCD27 + ZCDEP16 + ZCE01 + ZCY45 	ZCD27 + ZCDEP16 + ZCE01 + ZCY39 	ZCD27 + ZCDEP16 + ZCE01 + ZCY49 	ZCD27 + ZCDEP16 + ZCE06 	
	ZCD39 + ZCDEP16 + ZCEH0 	ZCD39 + ZCDEP16 + ZCEH2 	ZCD39 + ZCDEP16 + ZCE01 + ZCY18 	ZCD39 + ZCDEP16 + ZCE01 + ZCY45 	ZCD39 + ZCDEP16 + ZCE01 + ZCY39 	ZCD39 + ZCDEP16 + ZCE01 + ZCY49 	ZCD39 + ZCDEP16 + ZCE06 	
	ZCD37 + ZCDEP16 + ZCEH0 	ZCD37 + ZCDEP16 + ZCEH2 	ZCD37 + ZCDEP16 + ZCE01 + ZCY18 	ZCD37 + ZCDEP16 + ZCE01 + ZCY45 	ZCD37 + ZCDEP16 + ZCE01 + ZCY39 	ZCD37 + ZCDEP16 + ZCE01 + ZCY49 	ZCD37 + ZCDEP16 + ZCE06 	
Weight (kg)	0.220	0.220	0.225	0.235	0.235	0.245	0.175	

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

For an entry tapped for a n° 11 cable gland, replace P16 in the reference by G11. Example: XCKD21H0P16 becomes XCKD21H0G11 or ZCDEP16 becomes ZCDEG11.

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

Characteristics					
Switch actuation	On end	By 30° cam			By any moving part
Type of actuation					
Maximum actuation speed	0.5 m/s	1.5 m/s			1 m/s (any direct.)
Mechanical durability	10 million operating cycles				5 million
Minimum force or torque	For tripping	15 N	10 N	0.1 N.m	0.13 N.m
	For positive opening	45 N	36 N	0.25 N.m	–
Cable entry	1 entry tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm				

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

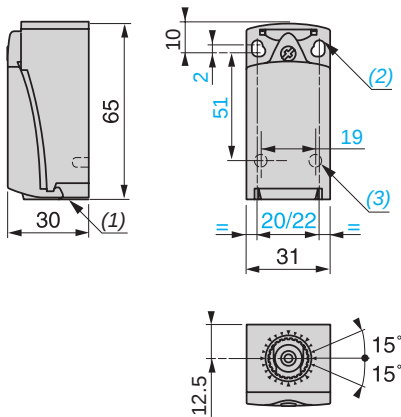
Limit switches

OsiSense XC Standard

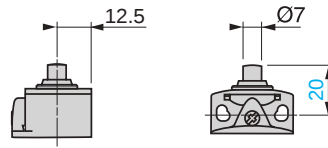
Compact design, metal, XCKD

Complete switches with 1 cable entry

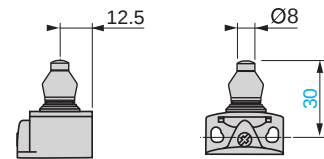
ZCD2● + ZCDEP16/ZCD3● + ZCDEP16



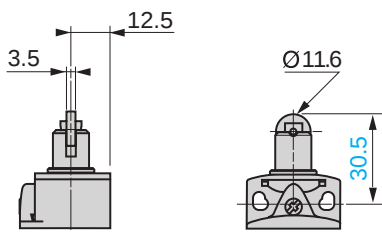
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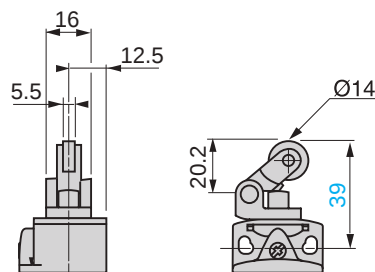
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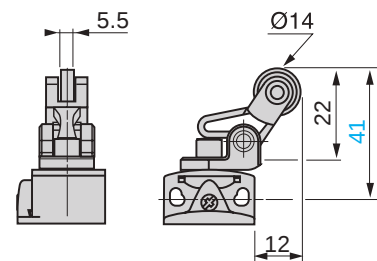
ZCE02



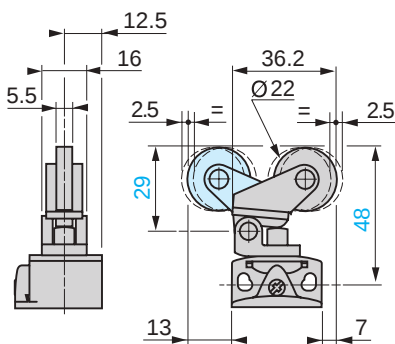
ZCE21



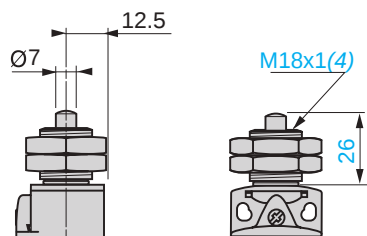
ZCE27



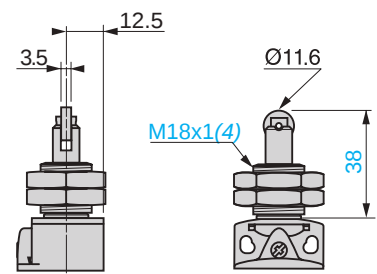
ZCE28



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.

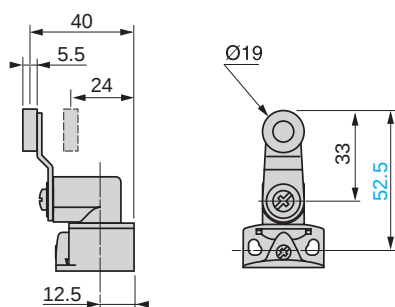
Limit switches

OsiSense XC Standard

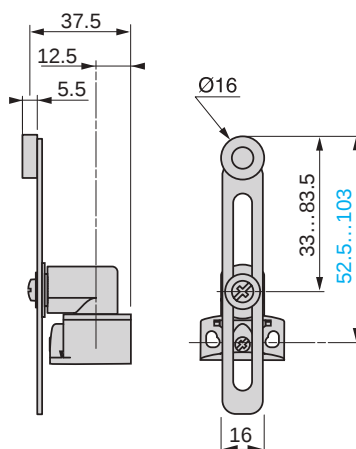
Compact design, metal, XCKD

Complete switches with 1 cable entry

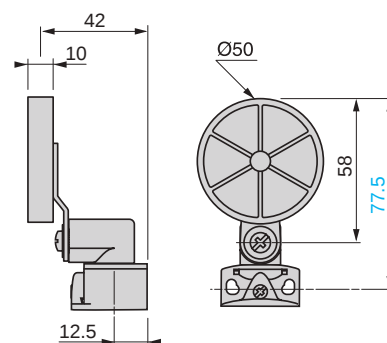
ZCE01 + ZCY18



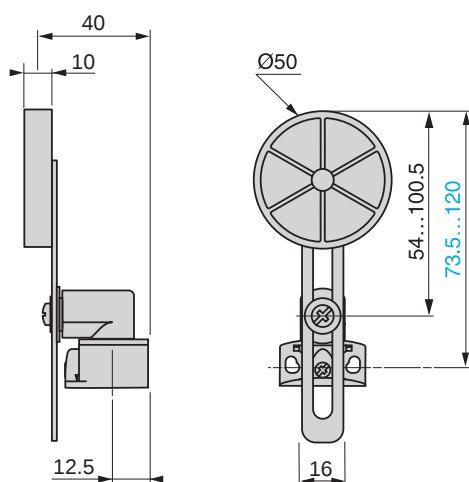
ZCE01 + ZCY45



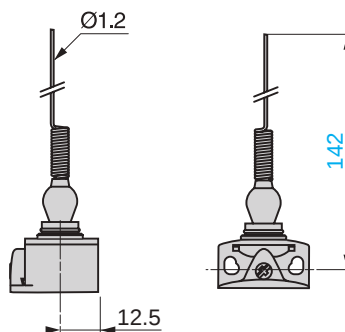
ZCE01 + ZCY39



ZCE01 + ZCY49



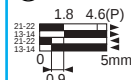
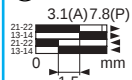
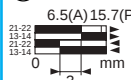
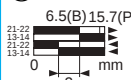
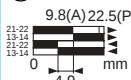
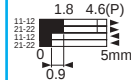
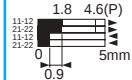
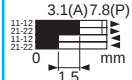
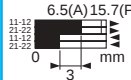
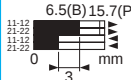
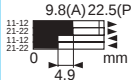
ZCE06



Limit switches

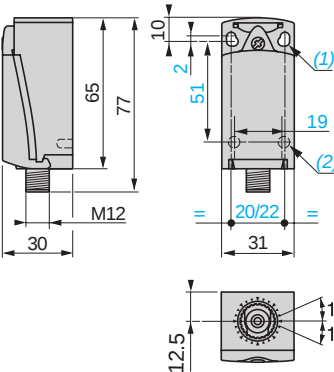
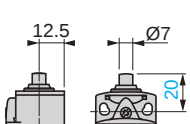
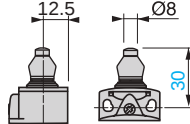
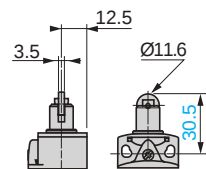
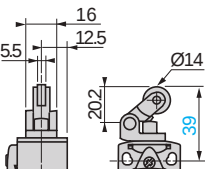
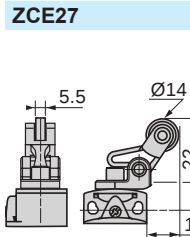
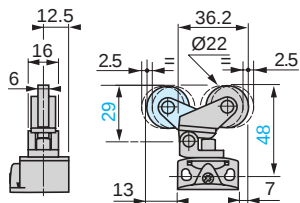
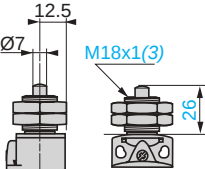
OsiSense XC Standard
Compact design, metal, XCKD
M12 connector

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	Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 direction

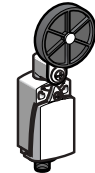
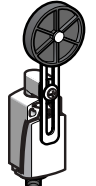
References						
2-pole NC + NO snap action (XE2S P2151)		XCKD2110M12	XCKD2111M12	XCKD2102M12	XCKD2121M12	XCKD2127M12
						
2-pole NC + NC snap action (XE2S P2141)		ZCD29M12 + ZCE10	ZCD29M12 + ZCE11	ZCD29M12 + ZCE02	ZCD29M12 + ZCE21	ZCD29M12 + ZCE28
						
Weight (kg)	0.190	0.190	0.195	0.205	0.200	0.205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

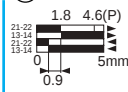
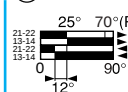
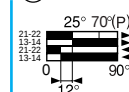
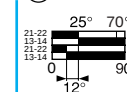
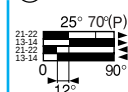
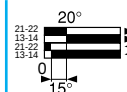
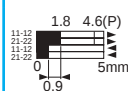
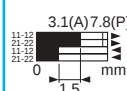
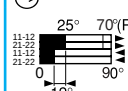
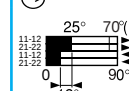
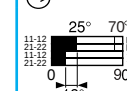
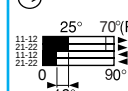
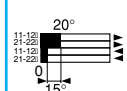
Characteristics	
Switch actuation	On end
Type of actuation	By 30° cam
Maximum actuation speed	0.5 m/s
Mechanical durability (in millions of operating cycles)	15
Minimum force or torque	15 N
For tripping	12 N
For positive opening	36 N
Connection	M12 connector, Ui = 60 V, Ie = 4 A maximum, Ith = 4 A

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

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.

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

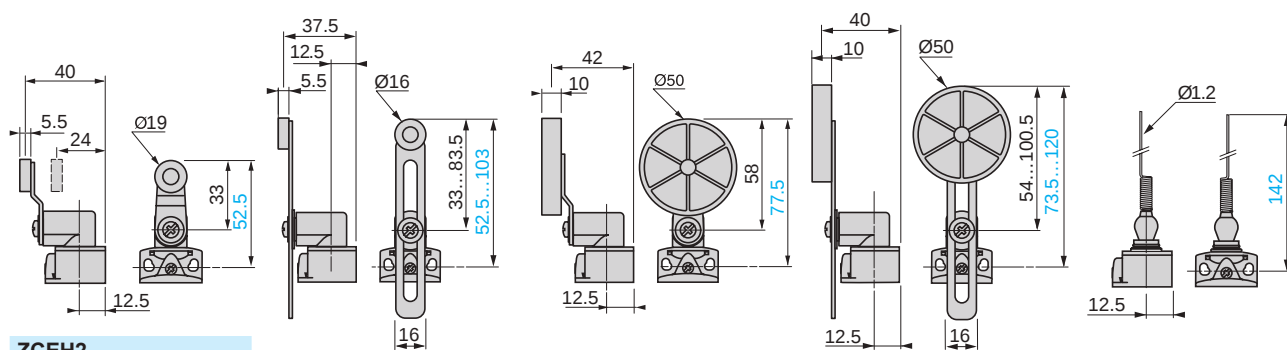
References							
2-pole NC + NO snap action (XE2S P2151)	XCKD21H0M12	XCKD21H2M12	XCKD2118M12	XCKD2145M12	XCKD2139M12	XCKD2149M12	XCKD2106M12
							
2-pole NC + NC snap action (XE2S P2141)	ZCD29M12 + ZCEH0	ZCD29M12 + ZCEH2	ZCD29M12 + ZCE01 + ZCY18	ZCD29M12 + ZCE01 + ZCY45	ZCD29M12 + ZCE01 + ZCY39	ZCD29M12 + ZCE01 + ZCY49	ZCD29M12 + ZCE06
							
Weight (kg)	0.235	0.235	0.220	0.220	0.220	0.220	0.185
Contact operation	 closed  open						

(1) Form conforming to EN 50047, see page 16.

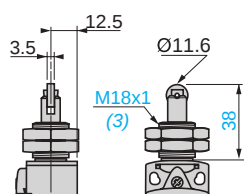
(2) Value taken with actuation by moving part at 100 mm from the fixing.

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

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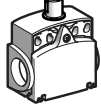
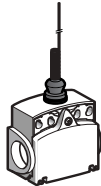
ZCEH2



(3) Fixing nut thickness 3.5 mm.

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)

	2-pole NC + NO snap action (XE2SP3151)	XCKT2110P16 	XCKT2111P16 	XCKT2102P16 	XCKT2121P16 	XCKT2106P16
	2-pole NC + NO break before make, slow break (XE2NP3151)	ZCT25P16 + ZCE10 	ZCT25P16 + ZCE11 	ZCT25P16 + ZCE02 	ZCT25P16 + ZCE21 	ZCT25P16 + ZCE06
	2-pole NC + NO make before break, slow break (XE2NP3161)	ZCT26P16 + ZCE10 	ZCT26P16 + ZCE11 	ZCT26P16 + ZCE02 	ZCT26P16 + ZCE21 	ZCT26P16 + ZCE06
	2-pole NC + NC simultaneous, slow break (XE2NP2141)	ZCT27P16 + ZCE10 	ZCT27P16 + ZCE11 	ZCT27P16 + ZCE02 	ZCT27P16 + ZCE21 	ZCT27P16 + ZCE06
	2-pole NO + NO simultaneous, slow break (XE2NP3131)	ZCT28P16 + ZCE10 	ZCT28P16 + ZCE11 	ZCT28P16 + ZCE02 	ZCT28P16 + ZCE21 	ZCT28P16 + ZCE06
Weight (kg)	0.100	0.100	0.105	0.115	0.095	

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

For entries tapped for n° 11 cable gland, replace P16 in the reference by G11. Example: XCKT2110P16 becomes XCKT2110G11.

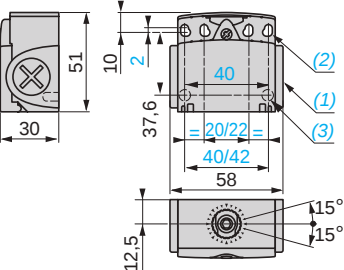
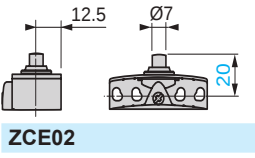
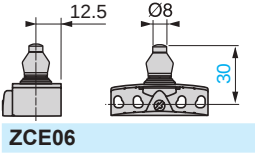
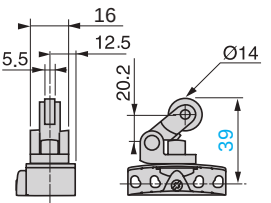
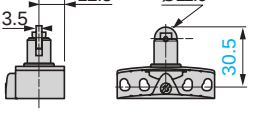
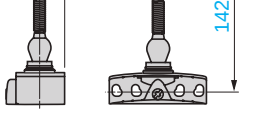
Contact operation	 closed	(A) = cam displacement	 NC contact with positive opening operation
	 open	(P) = positive opening point	

Characteristics	On end	By 30° cam	By any moving part
Switch actuation			
Type of actuation			
Maximum actuation speed	0.5 m/s		1 m/s
Mechanical durability (in millions of operating cycles)	15	10	15
Minimum force or torque	For tripping: 15 N For positive opening: 45 N	12 N	6 N
Cable entry (3)	2 entries tapped M16 x 1.5 for ISO cable gland Clamping capacity 4 to 8 mm (1 entry fitted with blanking plug)		

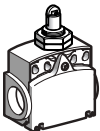
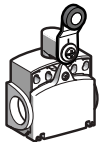
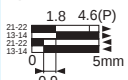
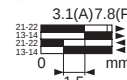
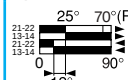
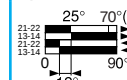
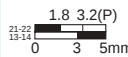
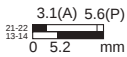
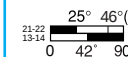
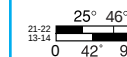
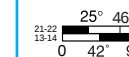
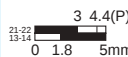
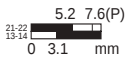
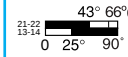
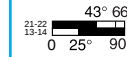
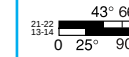
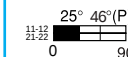
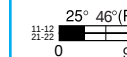
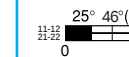
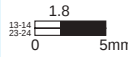
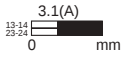
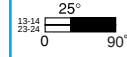
(1) Form conforming to EN 50047, see page 16. (2) Nitrile for indoor use.

(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
			
			

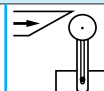
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland.
(2) 4 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22/42mm ctrs, 4 holes $\varnothing 4.3$ on 20/40 mm ctrs.
(3) 2 x $\varnothing 3$ holes for support studs, depth 4 mm.

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

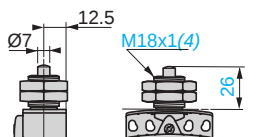
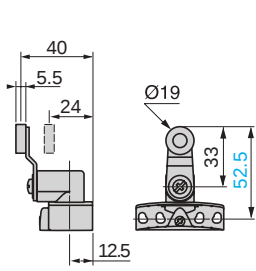
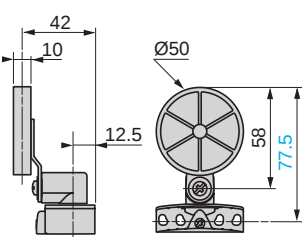
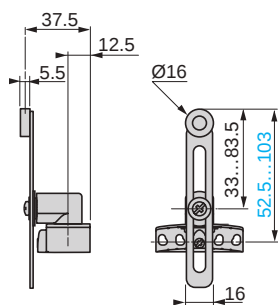
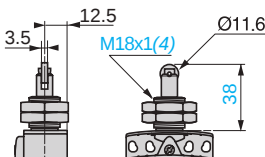
For entries tapped for n° 11 cable gland, replace P16 in the reference by **G11**. Example: XCKT21H0P16 becomes **XCKT21H0G11**.

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

Characteristics				
Switch actuation		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.

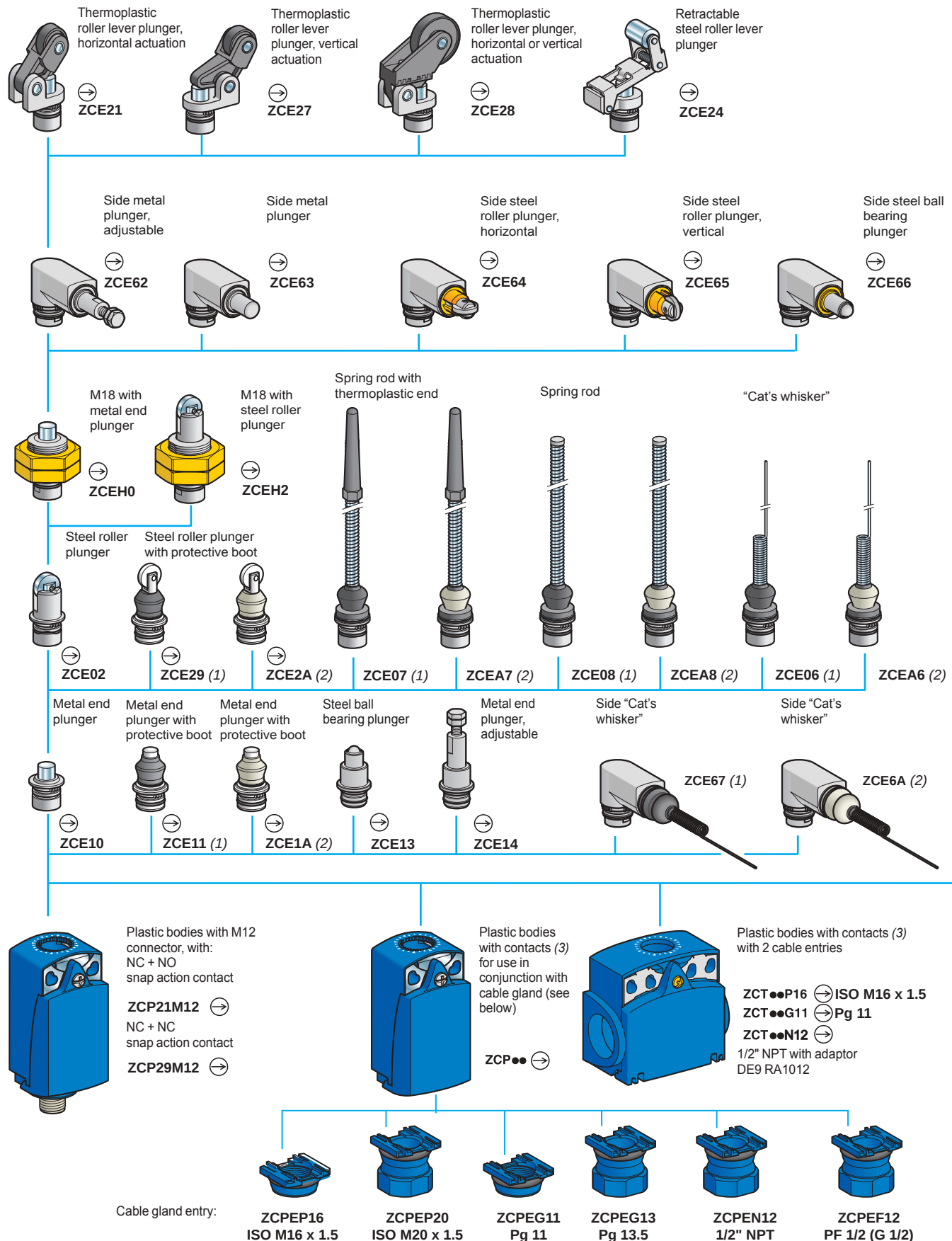
Dimensions			
ZCEH0	ZCE01 + ZCY18	ZCE01 + ZCY39	ZCE01 + ZCY45
			
ZCEH2 			

(4) Fixing nut thickness 3.5 mm.

Limit switches

OsiSense XC Standard

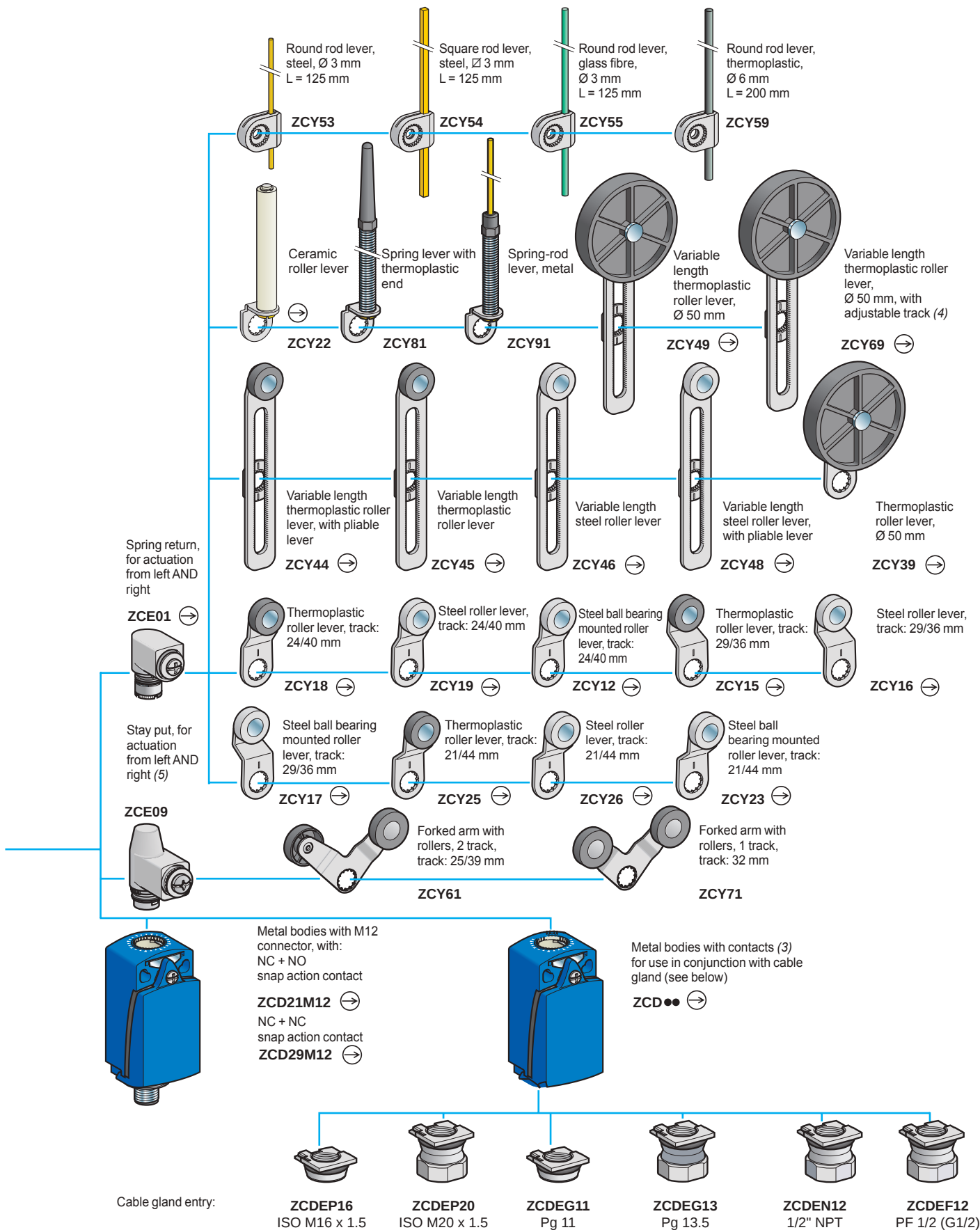
Compact design, XCKD, XCKP and XCKT
Variable composition



(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

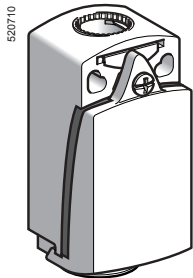
Limit switches

OsiSense XC Standard

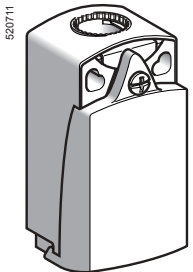
Compact design, metal, XCKD

or plastic, XCKP

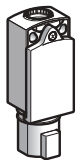
Adaptable sub-assemblies: bodies with contacts



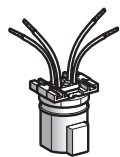
ZCD●●



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.

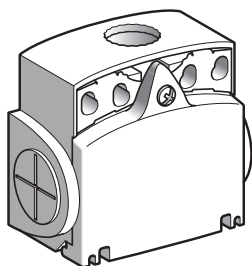
Limit switches

OsiSense XC Standard

Compact design, plastic, XCKT

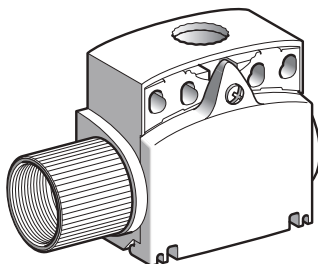
Adaptable sub-assemblies: bodies with contacts

561390



ZCT...

561387



ZCT...N12

Bodies with contacts, XCKT plastic, 2 cable entries

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

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

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

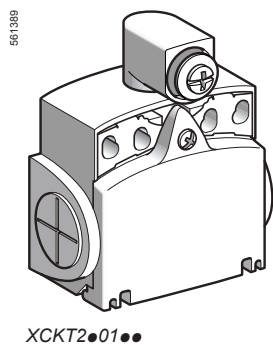
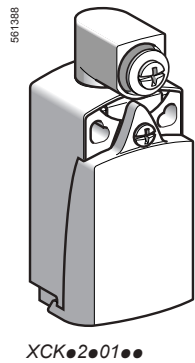
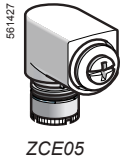
(1) ⊕: bodies with contact assuring positive opening operation.

Limit switches

OsiSense XC Standard

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

Adaptable sub-assemblies: bodies with contacts



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.

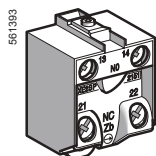
(2) : bodies with contact assuring positive opening operation.

Limit switches

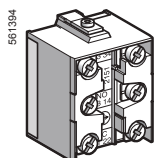
OsiSense XC Standard

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



Page 70

520414



XCPR

520425



Page 68

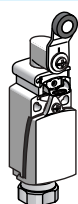
520427



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

XCDR

520416



Page 70

XCPR

520428



Page 68

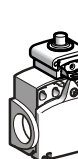
■ XCTR

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

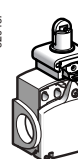
□ With head for linear movement (plunger). Fixing by the body

XCTR

520436



520437



Page 72

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

XCTR

520438



Page 72

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 XCDDR
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		XCDDR : Zamak bodies and heads, XCPR and XCTR : plastic bodies, Zamak heads

Contact block characteristics

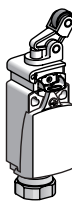
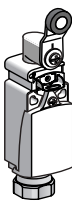
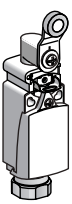
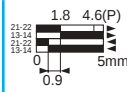
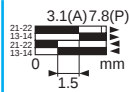
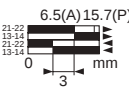
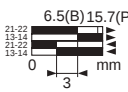
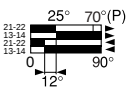
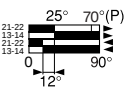
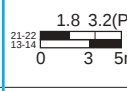
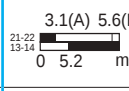
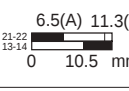
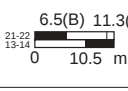
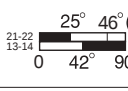
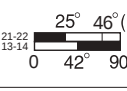
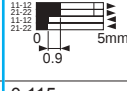
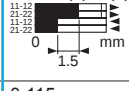
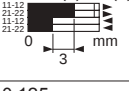
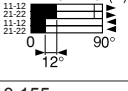
Rated operational characteristics		$\sim$ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A $\equiv$ DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage		Ui = 500 V degree of pollution 3 conforming to IEN/IEC 60947-1 Ui = 300 V conforming to UL 508, 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						
 2-pole NC + NO snap action (XE2SP2151)	XCPR2110P20 	XCPR2102P20 	XCPR2121P20 	XCPR2127P20 	XCPR2118P20 	XCPR2119P20 
 2-pole NC + NO break before make, slow break (XE2NP2151)	XCPR2510P20 	XCPR2502P20 	XCPR2521P20 	XCPR2527P20 	XCPR2518P20 	XCPR2519P20 
 2-pole NC + NC snap action (XE2SP2141)	XCPR2910P20 	XCPR2902P20 	XCPR2921P20 	XCPR2927P20 	XCPR2918P20 	–
Weight (kg)	0.115	0.115	0.125	0.120	0.155	–

References of complete switches with 1 Pg 13.5 cable entry

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

Example: XCPR2110P20 becomes **XCPR2110G13**.

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

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

Example: XCPR2110P20 becomes **XCPR2110N12**.

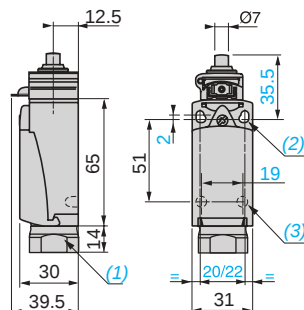
Contact operation	 closed  open	(A) (B) = cam displacement (P) = positive opening point	 NC contact with positive opening operation
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Characteristics

Switch actuation	On end	By 30° cam		
Type of actuation				
Maximum actuation speed	0.5 m/s		1 m/s	1.5 m/s
Minimum force or torque	15 N	12 N	6 N	0.1 N.m
	For tripping			
	For positive opening	45 N	36 N	18 N
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm 1 entry tapped Pg 13.5 for cable gland, clamping capacity 9 to 12 mm 1 entry tapped for 1/2" NPT (USAS B2-1) conduit			
Other versions	Complete switches with cable entries other than those listed above. please consult our Customer Care Centre.			

Dimensions

XCPR2●10●●●

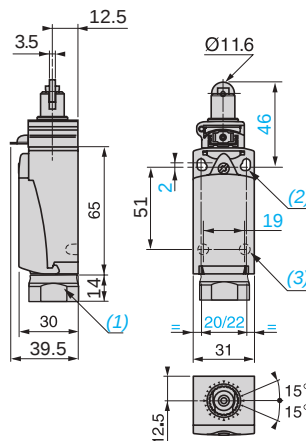


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

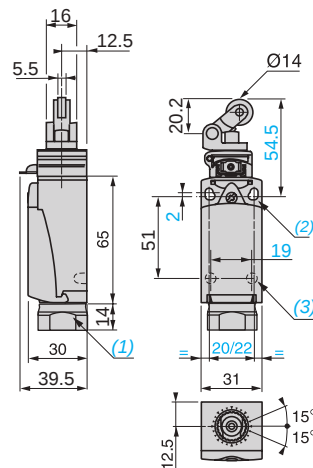
(2) 2 elongated holes Ø 4.3 x 6.3 mm on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

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

XCPR2●02●●●

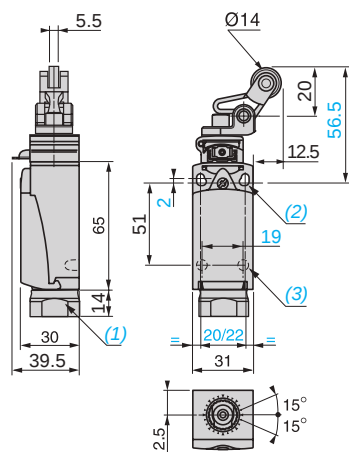


XCPR2●21●●●



Dimensions

XCPR2●27●●●

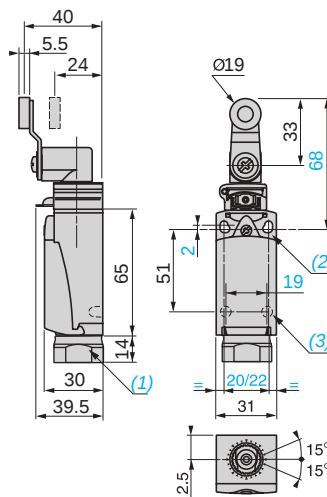


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

(2) 2 elongated holes 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.

XCPR2●18●●●, XCPR2●19●●●

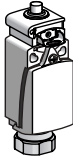
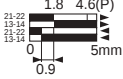
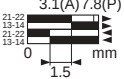
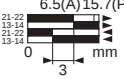
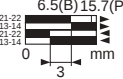
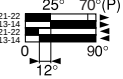
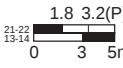
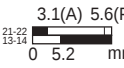
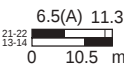
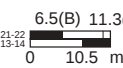
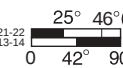


Limit switches

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
References of complete switches with 1 ISO M20 x 1.5 cable entry						
	2-pole NC + NO snap action (XE2SP2151)	XCDR2110P20 	XCDR2102P20 	XCDR2121P20 	XCDR2127P20 	XCDR2118P20 
	2-pole NC + NO break before make, slow break (XE2NP2151)	XCDR2510P20 	XCDR2502P20 	XCDR2521P20 	XCDR2527P20 	XCDR2518P20 
Weight (kg)		0.215	0.220	0.225	0.225	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
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

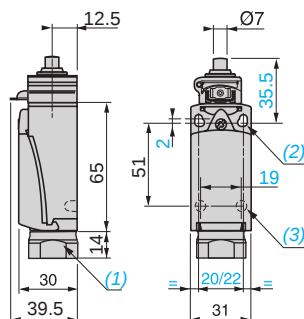
OsiSense XC Standard

Compact design, metal, with reset, XCDR

Complete switches with 1 cable entry

Dimensions

XCDR2●10●●●

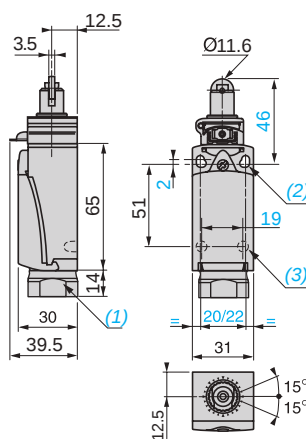


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

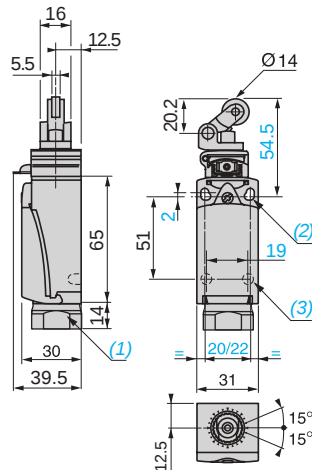
(2) 2 elongated holes $\varnothing 4.3 \times 6.3$ mm on 22 mm centres, 2 holes $\varnothing 4.3$ on 20 mm centres.

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

XCDR2●02●●●

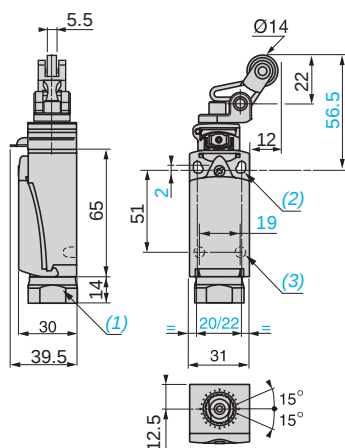


XCDR2●21●●●



Dimensions

XCDR2●27●●●

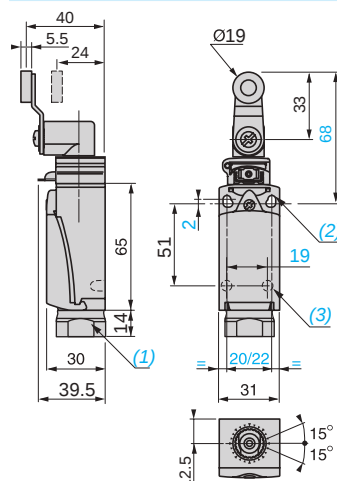


(1) Tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland or tapped 1/2" NPT.

(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.

XCDR2●18●●●, XCDR2●19●●●

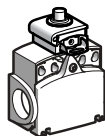
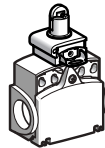
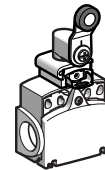
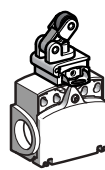
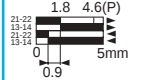
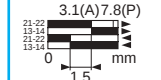
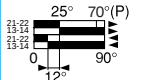
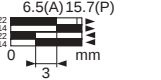
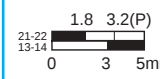
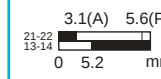
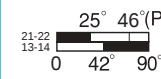
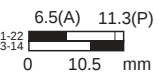
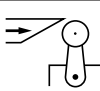


Limit switches

OsiSense XC Standard

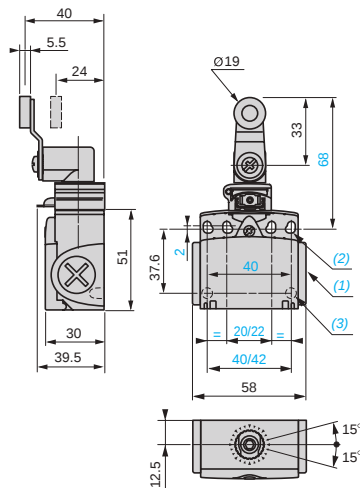
Compact design, plastic, with reset, XCTR

Complete switches with 2 cable entries

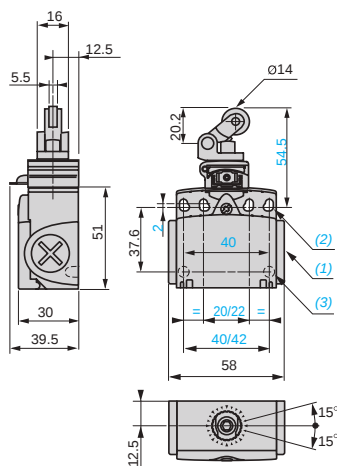
Type of head		Plunger (fixing by the body)				
						
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	
References of complete switches with 2 ISO M16 x 1.5 cable entries						
	2-pole NC + NO snap action (XE2SP3151)					
	2-pole NC + NO break before make, slow break (XE2NP3151)					
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  open	(A) = cam displacement (P) = positive opening point ⊖ NC contact with positive opening operation			
Characteristics						
Switch actuation		On end	By 30° cam			
Type of actuation						
Maximum actuation speed		0.5 m/s		1.5 m/s	1 m/s	
Minimum force or torque		For tripping For positive opening	15 N 45 N	12 N 36 N	0.1 N.m 0.25 N.m	6 N 18 N
Cable entry (1 entry fitted with blanking plug)		2 entries tapped M16 x 1.5 mm for ISO cable gland, clamping capacity 4 to 8 mm 2 entries tapped Pg 11 for cable gland, clamping capacity 7 to 10 mm 2 entries tapped for 1/2" NPT (USAS B2-1) conduit using Pg 11 - 1/2" NPT adaptor DE9RA1012				

Dimensions

XCTR2●18●●●



XCTR2●21●●●



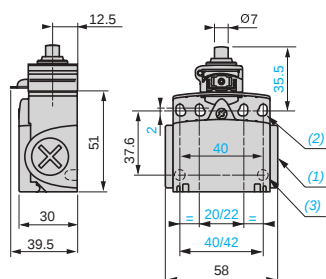
(1) Tapped entry for ISO M16 x 1.5 or Pg 11 cable gland or 1/2" NPT conduit.

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

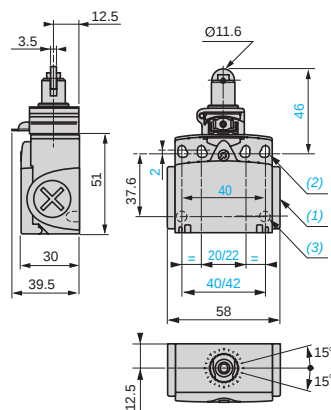
(3) 2 x Ø 3 holes for support studs, depth 4 mm.

Dimensions

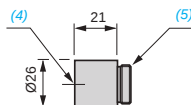
XCTR2●10●●●



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

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

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

(5) Pg 11 threaded sleeve.

Limit switches

OsiSense XC Basic

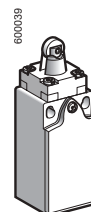
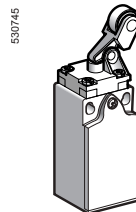
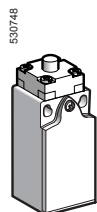
Compact design, plastic, XCKN and XCNT

■ XCKN

with 1 cable entry

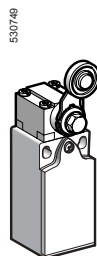
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 76

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



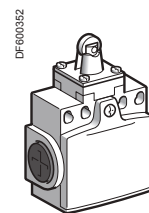
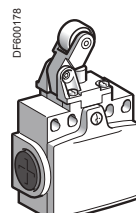
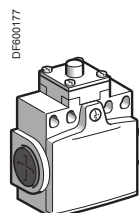
Page 77

■ XCNT

with 2 cable entries

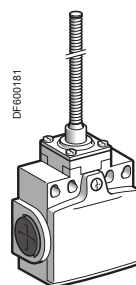
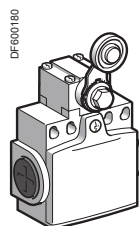
Conforming to CENELEC EN 50047

□ With head for linear movement (plunger)



Page 78

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



Page 79

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

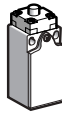
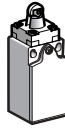
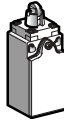
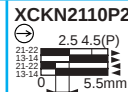
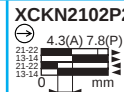
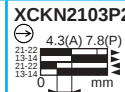
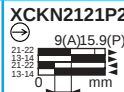
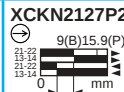
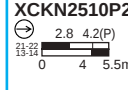
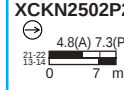
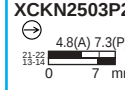
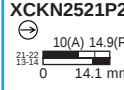
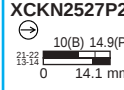
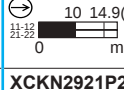
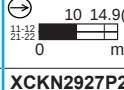
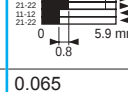
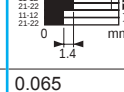
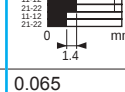
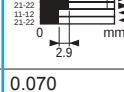
Rated operational characteristics		$\sim$ AC-15; A300 (U _e = 240 V, I _e = 3 A); I _{the} = 10 A $\equiv$ DC-13; R300 (U _e = 250 V, I _e = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	U _i = 500 V degree of pollution 3 conforming to IEC 60947-1 U _i = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	2-pole contact	U _{imp} = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Short-circuit protection		10 A cartridge fuse type gG (gl)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

Limit switches

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					
	2-pole NC + NO break before make, slow break					
	2-pole NC + NC simultaneous, slow break					
	2-pole NC + NC snap action					
Weight (kg)		0.065	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.

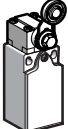
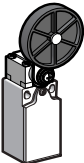
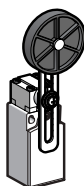
For complete switches with 3-pole contacts:
NC + NO + NO snap action,
NC + NC + NO snap action,
NC + NC + NO break before make, slow break,
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches

OsiSense XC Basic

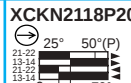
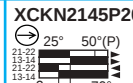
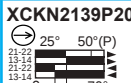
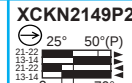
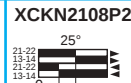
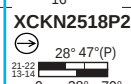
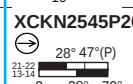
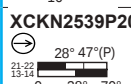
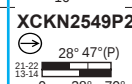
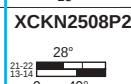
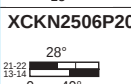
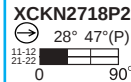
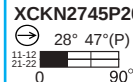
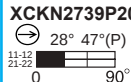
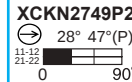
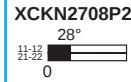
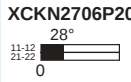
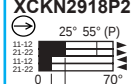
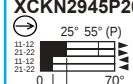
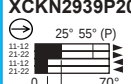
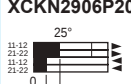
Compact design, plastic, XCKN

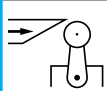
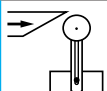
Complete switches with 1 cable entry

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						
	2-pole NC + NO break before make, slow break						
	2-pole NC + NC simultaneous, slow break						
	2-pole NC + NC snap action						
Weight (kg)		0.085	0.090	0.110	0.115	0.085	0.075
Contact operation	 closed  open	(A) (B) = cam displacement (P) = positive opening point			 NC contact with positive opening operation		

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

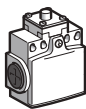
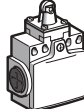
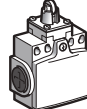
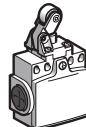
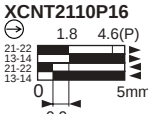
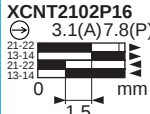
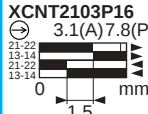
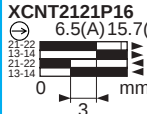
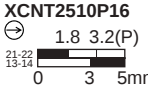
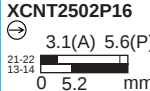
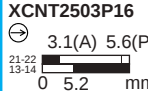
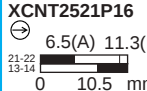
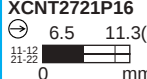
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

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) 0 5mm 0.9	XCNT2102P16  3.1(A) 7.8(P) 0 mm 1.5	XCNT2103P16  3.1(A) 7.8(P) 0 mm 1.5	XCNT2121P16  6.5(A) 15.7(P) 0 mm 3
 2-pole NC + NO break before make, slow break	XCNT2510P16  1.8 3.2(P) 0 5mm 3	XCNT2502P16  3.1(A) 5.6(P) 0 5.2 mm 5.2	XCNT2503P16  3.1(A) 5.6(P) 0 5.2 mm 5.2	XCNT2521P16  6.5(A) 11.3(P) 0 10.5 mm 10.5
 2-pole NC + NC simultaneous, slow break	XCNT2710P16  1.8 3.2(P) 0 5mm 3	XCNT2702P16  3.1 5.6(P) 0 mm 5.6	XCNT2703P16  3.1 5.6(P) 0 mm 5.6	XCNT2721P16  6.5 11.3(P) 0 mm 11.3
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

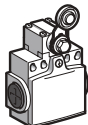
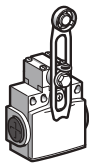
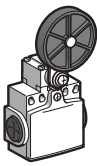
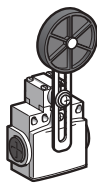
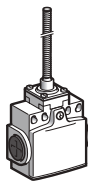
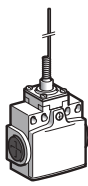
For complete switches with 2-pole contacts:
NO + NC make before break, slow break,
NO + NO simultaneous, slow break, please consult our Customer Care Centre.

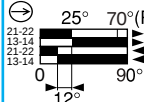
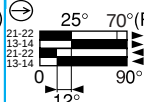
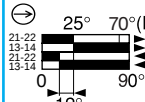
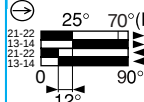
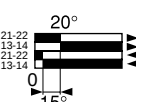
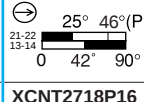
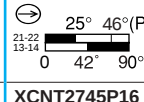
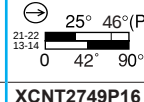
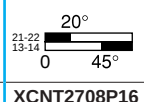
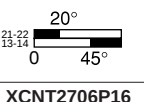
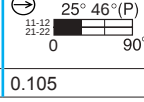
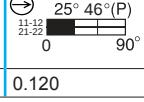
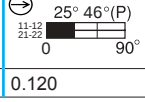
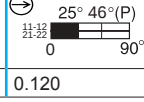
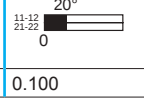
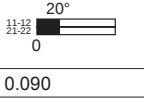
Limit switches

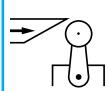
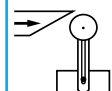
OsiSense XC Basic

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).



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

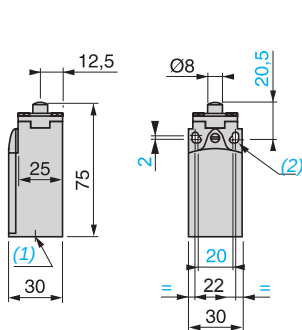
OsiSense XC Basic

Compact design, plastic, XCKN

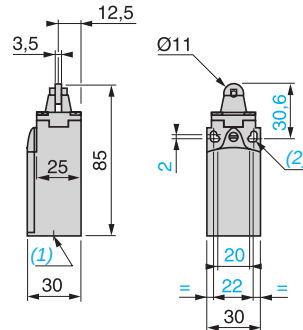
Complete switches with 1 cable entry

Dimensions

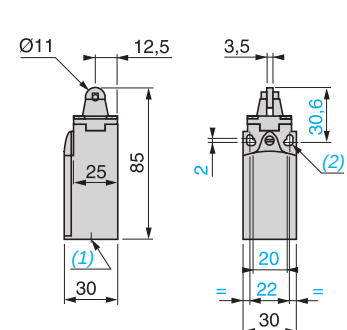
XCKN2•10P20



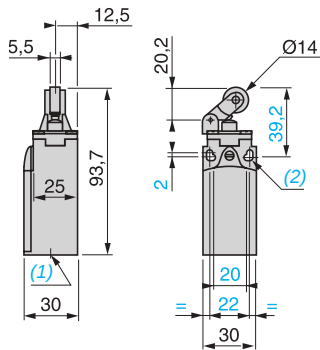
XCKN2•02P20



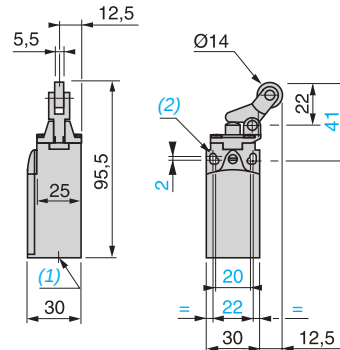
XCKN2•03P20



XCKN2•21P20

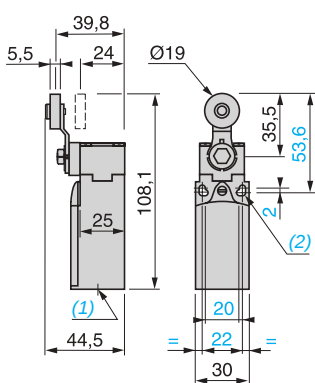


XCKN2•27P20

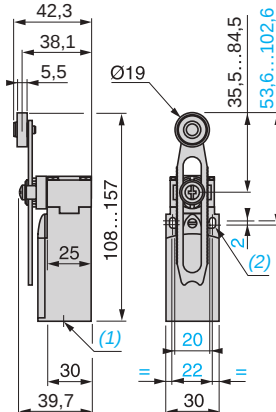


(1) 1 tapped entry for ISOM20 x 1.5 or Pg 11 cable gland.
(2) Ø: 2 elongated holes Ø 4.3 x 6.3 on 22 mm centres, 2 holes Ø 4.3 on 20 mm centres.

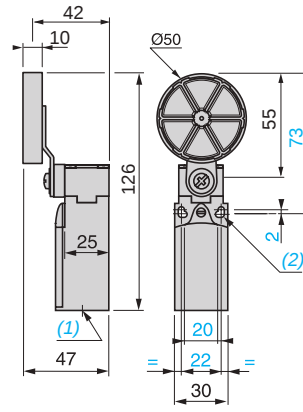
XCKN2•18P20



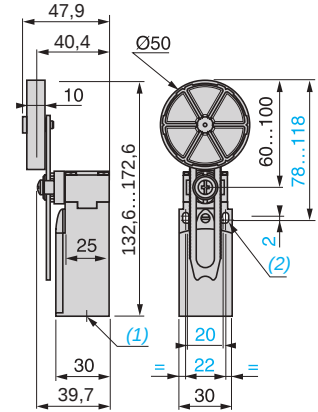
XCKN2•45P20



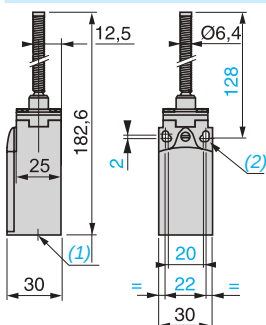
XCKN2•39P20



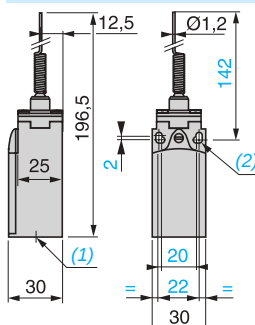
XCKN2•49P20



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

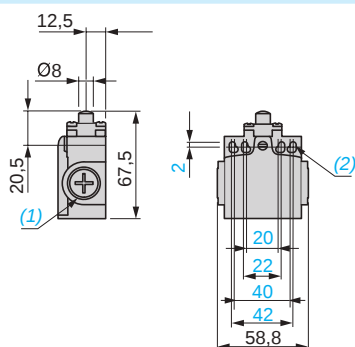
OsiSense XC Basic

Compact design, plastic, XCNT

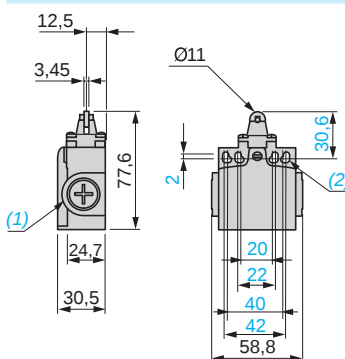
Complete switches with 2 cable entries

Dimensions

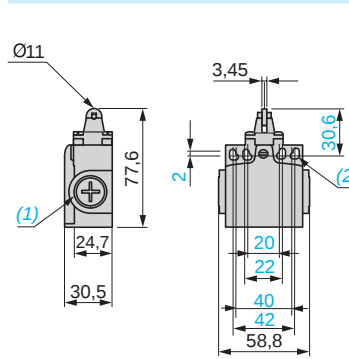
XCNT2●10P20



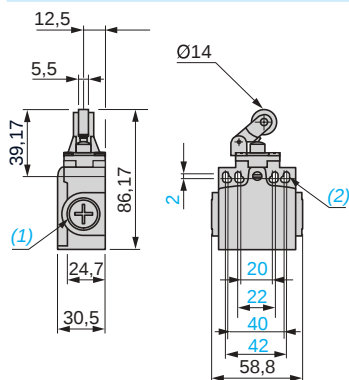
XCNT2●02P20



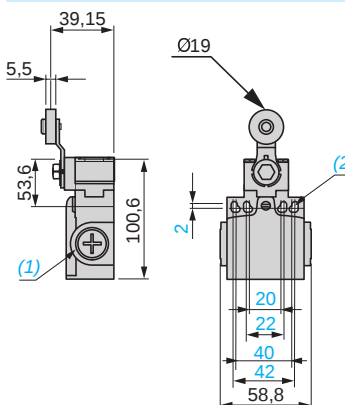
XCNT2●03P20



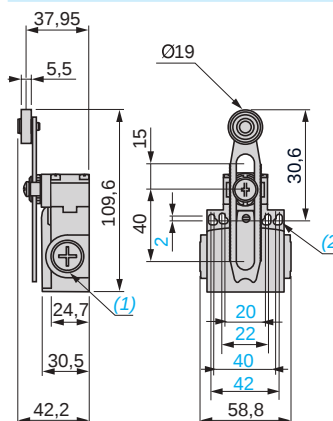
XCNT2●21P20



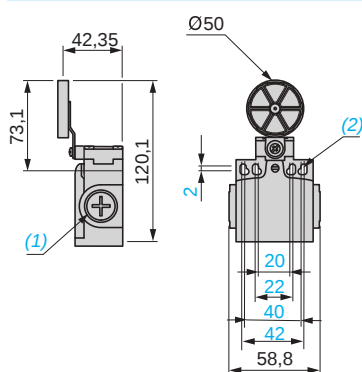
XCNT2●18P16



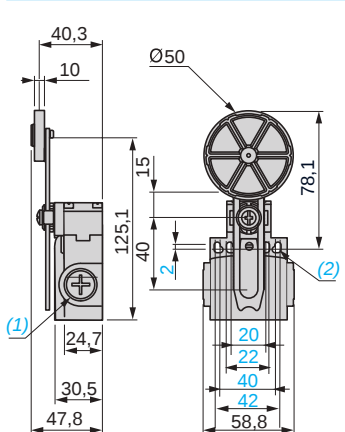
XCNT2●45P16



XCNT2●39P16

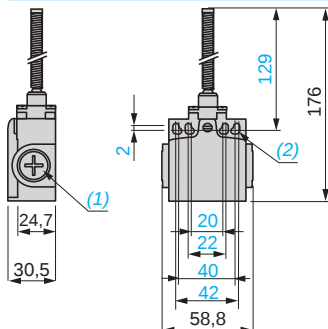


XCNT2●49P16

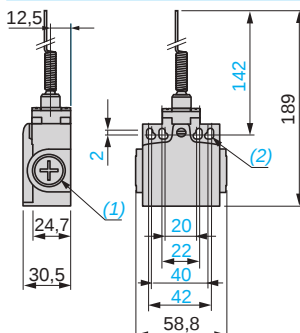


(1) 2 tapped entries for ISOM16 x 1.5 or Pg 11 cable gland.
(2) Ø: 4 elongated holes Ø 4.3 x 6.3

XCNT2●08P16



XCNT2●06P16



Limit switches

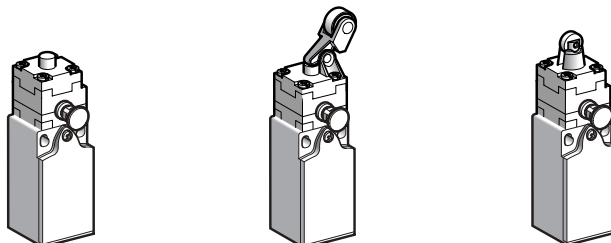
OsiSense XC Basic

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

■ XCNR

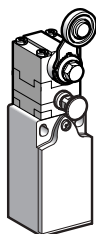
with 1 cable entry

□ With head for linear movement (plunger)



Page 84

□ With head for rotary movement (lever)

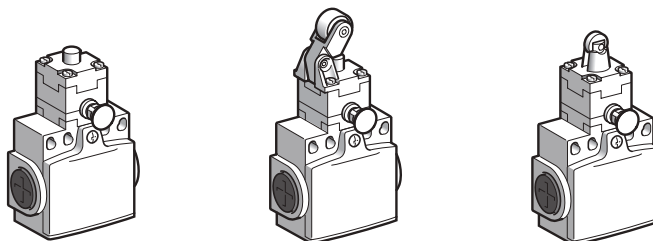


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■ XCNT

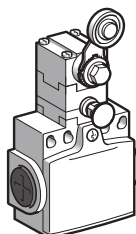
with 2 cable entries

□ With head for linear movement (plunger)



Page 85

□ With head for rotary movement (lever)



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Environment characteristics

Conformity to standards	Products	CE, IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14, EAC
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA, CCC
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

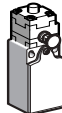
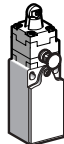
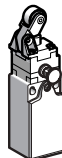
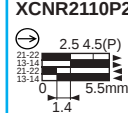
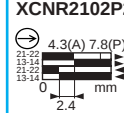
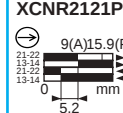
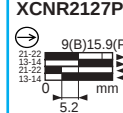
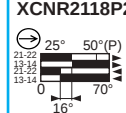
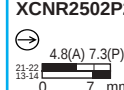
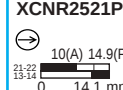
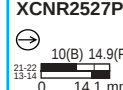
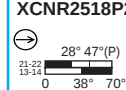
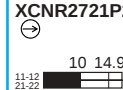
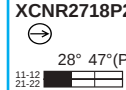
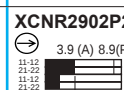
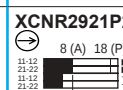
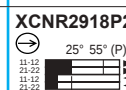
Rated operational characteristics		~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A
		≡ DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	2-pole contact	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	2-pole contact	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
Positive operation		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Short-circuit protection		10 A cartridge fuse type gG (gl)
Connection	Screw clamp terminals	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²

Limit switches

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					
 2-pole NC + NO snap action	XCNR2110P20 	XCNR2102P20 	XCNR2121P20 	XCNR2127P20 	XCNR2118P20 
 2-pole NC + NO break before make, slow break	XCNR2510P20 	XCNR2502P20 	XCNR2521P20 	XCNR2527P20 	XCNR2518P20 
 2-pole NC + NC simultaneous, slow break	XCNR2710P20 	XCNR2702P20 	XCNR2721P20 	XCNR2727P20 	XCNR2718P20 
 2-pole NC + NC snap action	XCNR2910P20 	XCNR2902P20 	XCNR2921P20 	XCNR2927P20 	XCNR2918P20 
Weight (kg)	0.080	0.080	0.085	0.090	0.100
Contact operation	closed open (A) (B) = cam displacement (P) = positive opening point  NC contact with positive opening operation				
Characteristics					
Switch actuation	On end	By 30° cam			
Type of actuation					
Maximum actuation speed	0.5 m/s	0.3 m/s	1 m/s	1.5 m/s	
Mechanical durability	100,000 operating cycles				
Minimum force or torque	For tripping	15 N	12 N	6 N	0.1 N.m
	For positive opening	30 N	20 N	10 N	0.15 N.m
Cable entry	1 entry tapped M20 x 1.5 mm for ISO cable gland, clamping capacity 7 to 13 mm				

References of complete switches with 1 Pg 11 cable entry

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

Example: XCNR2110P20 becomes **XCNR2110G11**.

Other cable entries

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

Other contacts

For complete switches with 2-pole contacts:

NC + NO make before break, slow break,

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

For complete switches with 3-pole contacts:

NC + NO + NO snap action,

NC + NC + NO snap action,

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

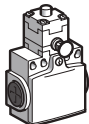
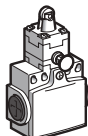
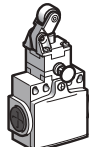
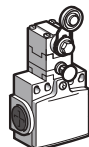
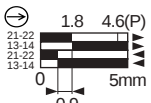
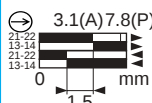
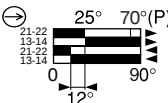
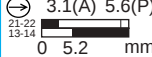
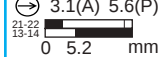
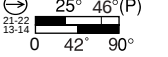
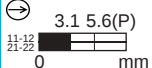
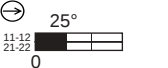
NC + NO + NO break before make, slow break, please consult our Customer Care Centre.

Limit switches

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			 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
	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: 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

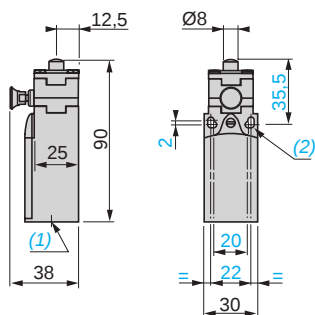
OsiSense XC Basic

Compact design, plastic, with reset knob, XCNR

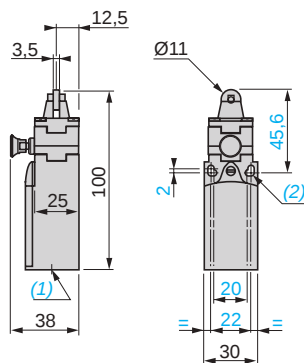
Complete switches with 1 cable entry

Dimensions

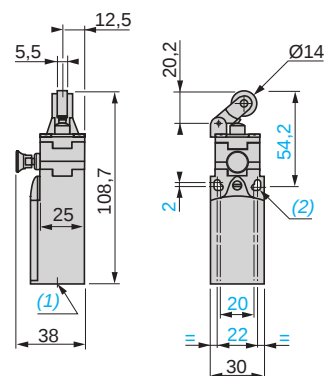
XCNR2•10P20



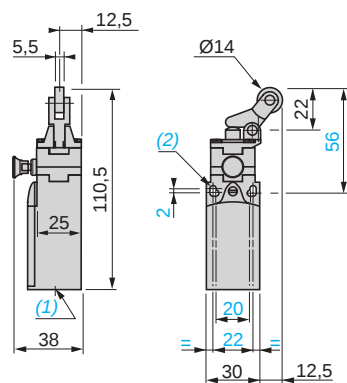
XCNR2•02P20



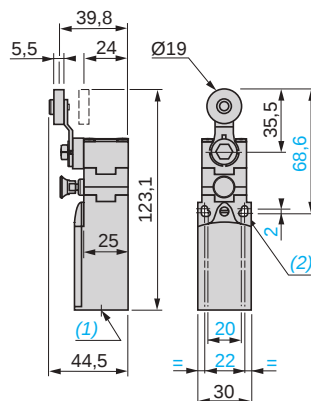
XCNR2•21P20



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

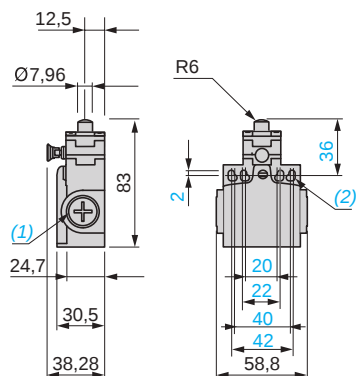
OsiSense XC Basic

Compact design, plastic, with reset knob, XCNTR

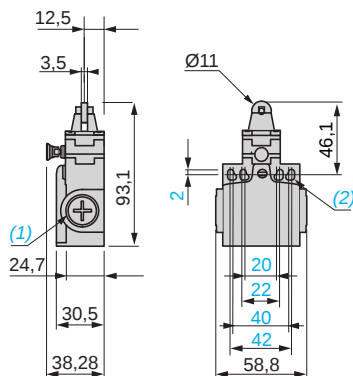
Complete switches with 2 cable entries

Dimensions

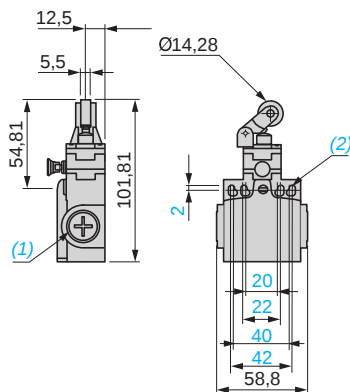
XCNTR2●10P16



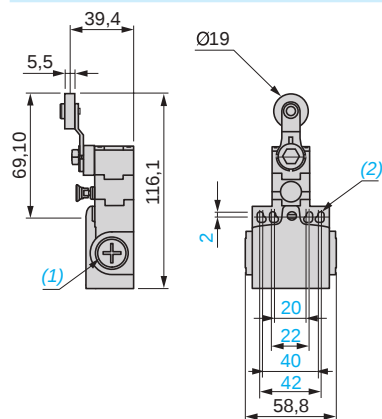
XCNTR2●02P16



XCNTR2●21P16



XCNTR2●18P16



(1) 2 tapped entries for ISO M16 x 1.5 or Pg 11 cable gland.

(2) Ø: 4 elongated holes Ø 4.3 x 6.3.

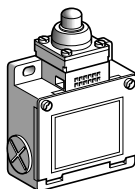
Limit switches

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

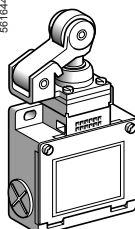
■ XCKM, with 3 cable entries

□ With head for linear movement (plunger)

561643

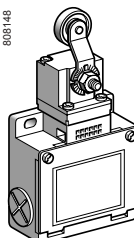


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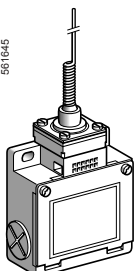


□ With head for rotary movement (lever) or multi-directional

808148



561645

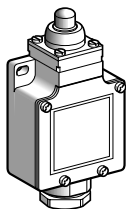


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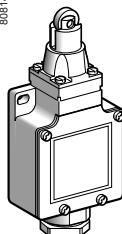
■ XCKL, with 1 cable entry

□ With head for linear movement (plunger)

808140

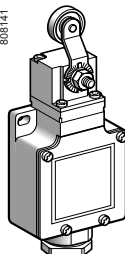


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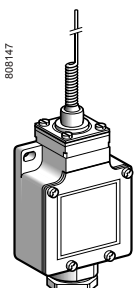


□ With head for rotary movement (lever) or multi-directional

808141



808147

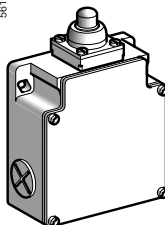


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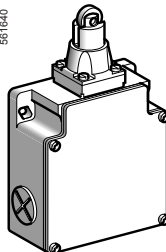
■ XCKML, with 3 cable entries and 2 x 2-pole contacts

□ With head for linear movement (plunger)

561639

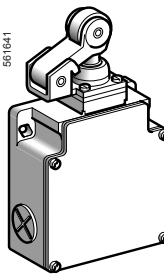


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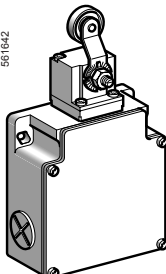


□ With head for rotary movement (lever)

561641



561642



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Environment characteristics

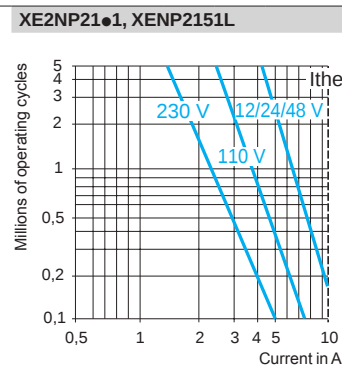
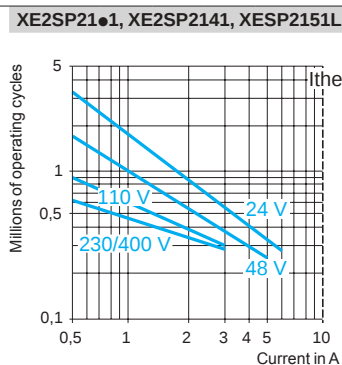
Conformity to standards	Products	IEC 60947-5-1, EN 60947-5-1, UL 508, CSA C22-2 n° 14
	Machine assemblies	IEC 60204-1, EN 60204-1
Product certifications		UL, CSA CCC (only for XCKM) BV (only for XCKM and XCKL)
Protective treatment	Version	Standard: "TC". Special: "TH"
Ambient air temperature	For operation	- 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 withstand voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XESP2151L and XENP2151L	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ² or 1 x 2.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed		XE2SP21●1, XESP2151L and XE3SP: 0.01 m/minute XE2NP21●1, XENP2151L and XE3NP: 6 m/minute

Electrical durability

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

AC supply
50/60 Hz ~
~ inductive circuit



DC supply ---

Power broken in W for 5 million operating cycles.

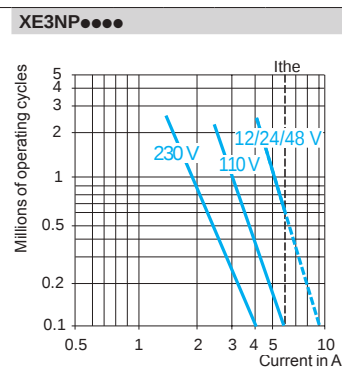
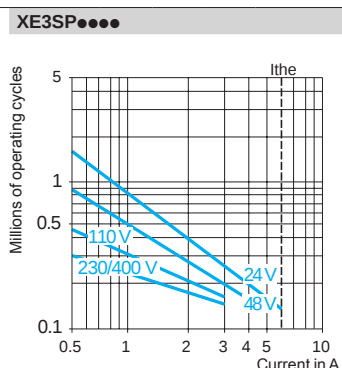
Voltage	V	24	48	120
~	W	10	7	4

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~	W	13	9	7

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

AC supply
50/60 Hz ~
~ inductive circuit



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~	W	3	2	1

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
~	W	4	3	2

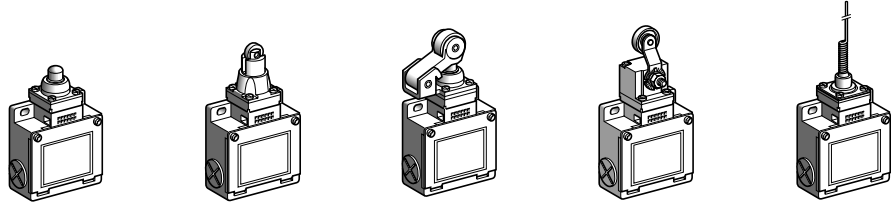
Limit switches

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)
------------------	-------------------	----------------------	---	--------------------------------	---------------------

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

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

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

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

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

(4) Limited to 15 million operating cycles for switches with contacts XE3P.

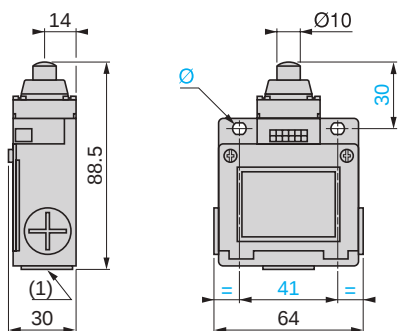
Limit switches

OsiSense XC Standard, Classic format

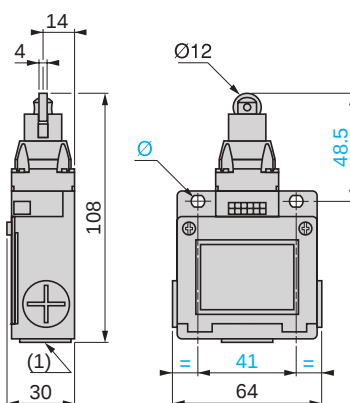
Metal, XCKM

Complete switches with 3 cable entries

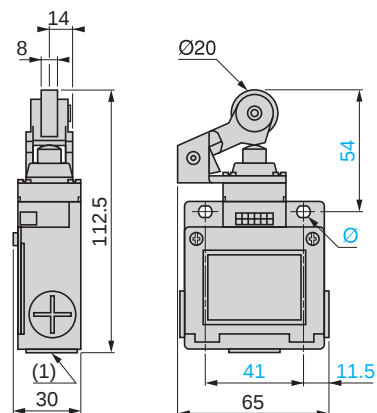
XCKM●10
ZCKMD3● + ZCKD10



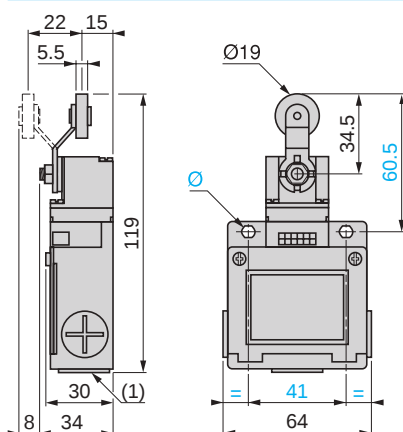
XCKM●02
ZCKMD3● + ZCKD02



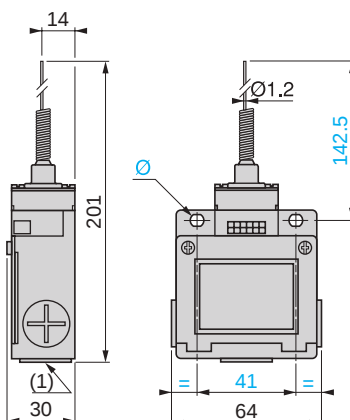
XCKM●21
ZCKMD3● + ZCKD21



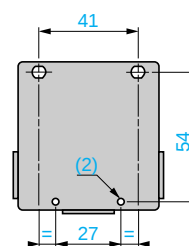
XCKM●15
ZCKMD3● + ZCKD15



XCKM●06
ZCKMD3● + ZCKD06



Rear view XCKM●●●, ZCKM●, ZCKMD3●

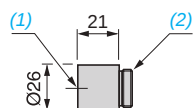


(1) 3 tapped entries for ISO M20 x 1.5 or Pg 11 cable gland or with 1/2" NPT conduit adaptor DE9RA1012.

(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.

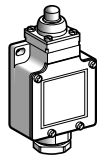
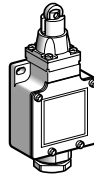
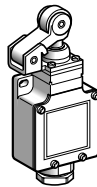
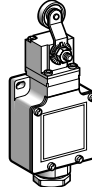
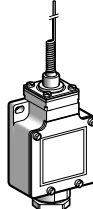
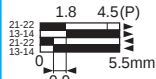
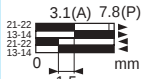
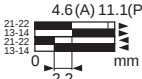
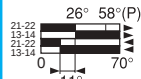
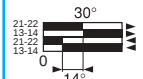
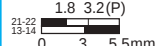
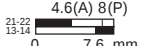
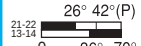
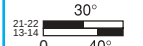
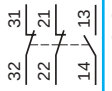
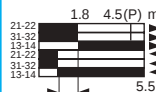
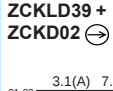
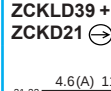
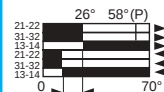
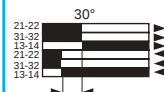
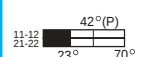
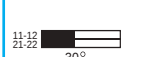
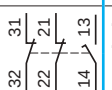
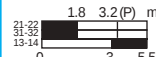
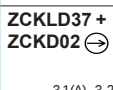
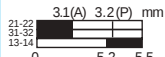
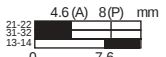
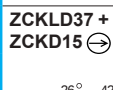
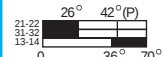
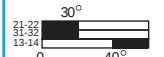
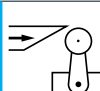
(2) Pg 11 threaded sleeve.

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)
					
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever (1)	"Cat's whisker" (2)
References (3)					
2-pole NC + NO snap action (XE2SP2151)	 XCKL110 ⊕ 	 XCKL102 ⊕ 	 XCKL121 ⊕ 	 XCKL115 ⊕ 	 XCKL106 
2-pole NC + NO break before make, slow break (XE2NP2151)	 XCKL510 ⊕ 	 XCKL502 ⊕ 	 XCKL521 ⊕ 	 XCKL515 ⊕ 	 XCKL506 
3-pole NC + NC + NO snap action (XE3SP2141)	 ZCKLD39 + ZCKD10 ⊕ 	 ZCKLD39 + ZCKD02 ⊕ 	 ZCKLD39 + ZCKD21 ⊕ 	 ZCKLD39 + ZCKD15 ⊕ 	 ZCKLD39 + ZCKD06 
2-pole NC + NC simultaneous, slow break (XE2NP2141)	 ZCKL7 + ZCKD10 ⊕ 	 ZCKL7 + ZCKD02 ⊕ 	 ZCKL7 + ZCKD21 ⊕ 	 ZCKL7+ ZCKD15 ⊕ 	 ZCKL7 + ZCKD06 
3-pole NC + NC + NO break before make, slow break (XE3NP2141)	 ZCKLD37 + ZCKD10 ⊕ 	 ZCKLD37 + ZCKD02 ⊕ 	 ZCKLD37 + ZCKD21 ⊕ 	 ZCKLD37 + ZCKD15 ⊕ 	 ZCKLD37 + ZCKD06 
Weight (kg)	0.255	0.260	0.305	0.285	0.255
Contact operation	 closed  open			 NC contact with positive opening 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		1.5 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.

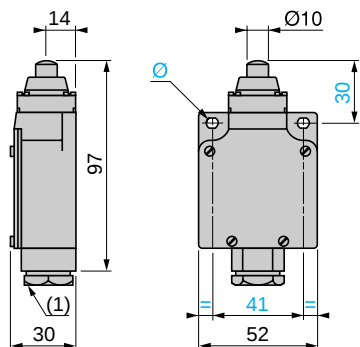
Limit switches

OsiSense XC Standard, Classic format

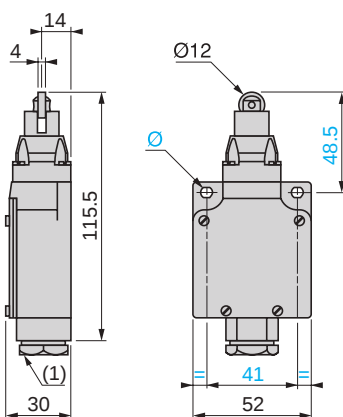
Metal, XCKL

Complete switches incorporating Pg 13.5 cable gland

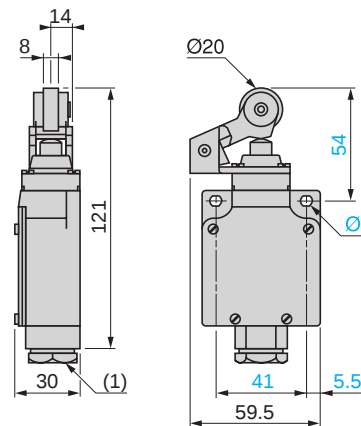
XCKL●10
ZCKL● + ZCKD10
ZCKLD3● + ZCKD10



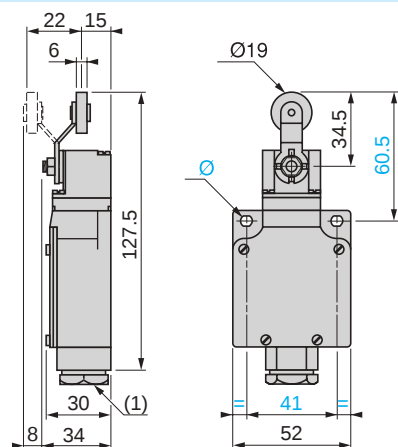
XCKL●02
ZCKL3● + ZCKD02
ZCKLD3● + ZCKD02



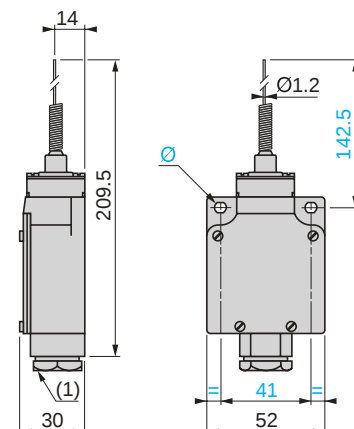
XCKL●21
ZCKL● + ZCKD21
ZCKLD3● + ZCKD21



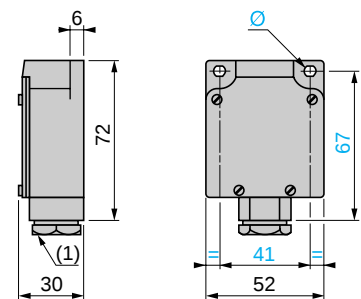
XCKL●15
ZCKL● + ZCKD15
ZCKLD3● + ZCKD15



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

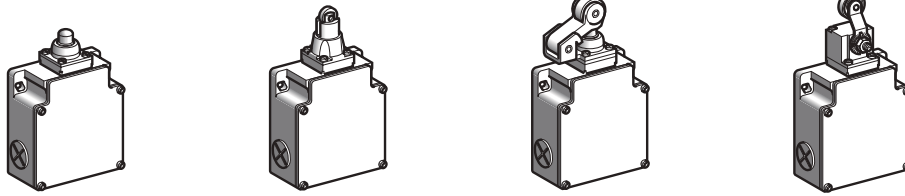
Limit switches

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)
--------------	------------------------------	-----------------------------



Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever (1)
------------------	-------------------	----------------------	---	--------------------------------

References of complete switches with 3 ISO M20 x 1.5 cable entries (2)

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

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

2 x 2-pole NC + NO snap action (XESP2151L)	XCKML110	XCKML102	XCKML121	XCKML115
2 x 2-pole NC + NO break before make, slow break (XENP2151L)	XCKML510	XCKML502	XCKML521	XCKML515
Weight (kg)	0.400	0.405	0.450	0.430

Contact operation	closed open	(A) = cam displacement (P) = positive opening point	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 For positive opening	15 N 60 N	12 N 50 N	8 N 50 N
				0.2 N.m 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).

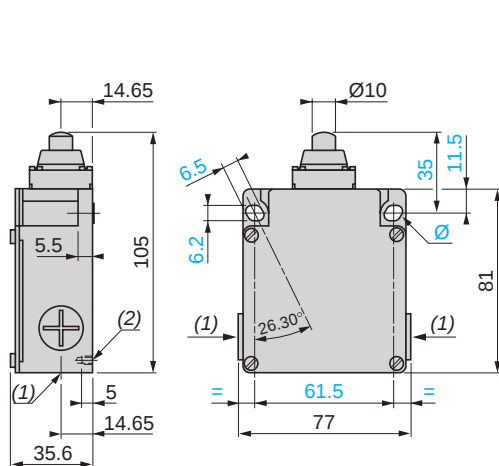
Limit switches

OsiSense XC Standard, Classic format

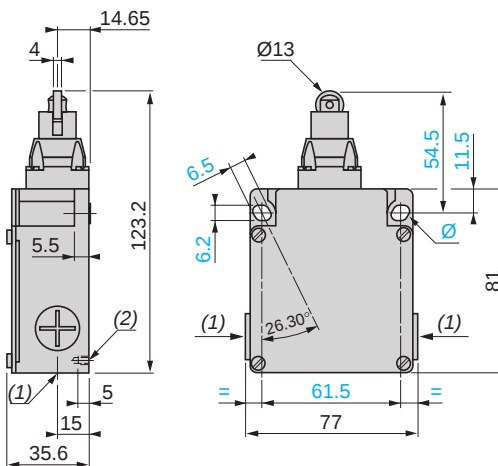
Metal, 2 x 2-pole contacts, XCKML

Complete switches with 3 cable entries

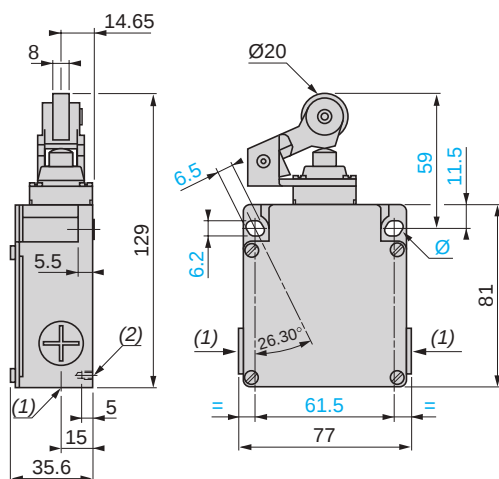
XCKML110H29, XCKML510H29, XCKML110,
XCKML510



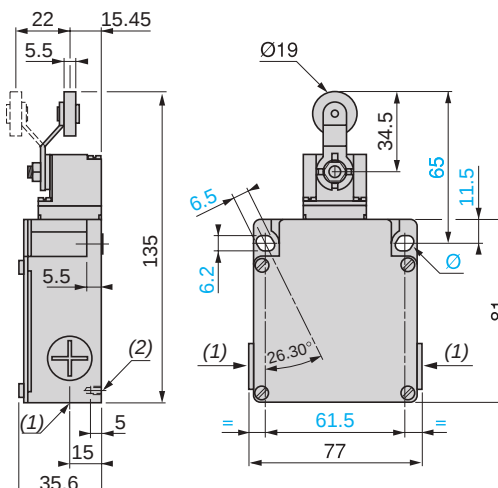
XCKML102H29, XCKML502H29, XCKML102, XCKML502



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.

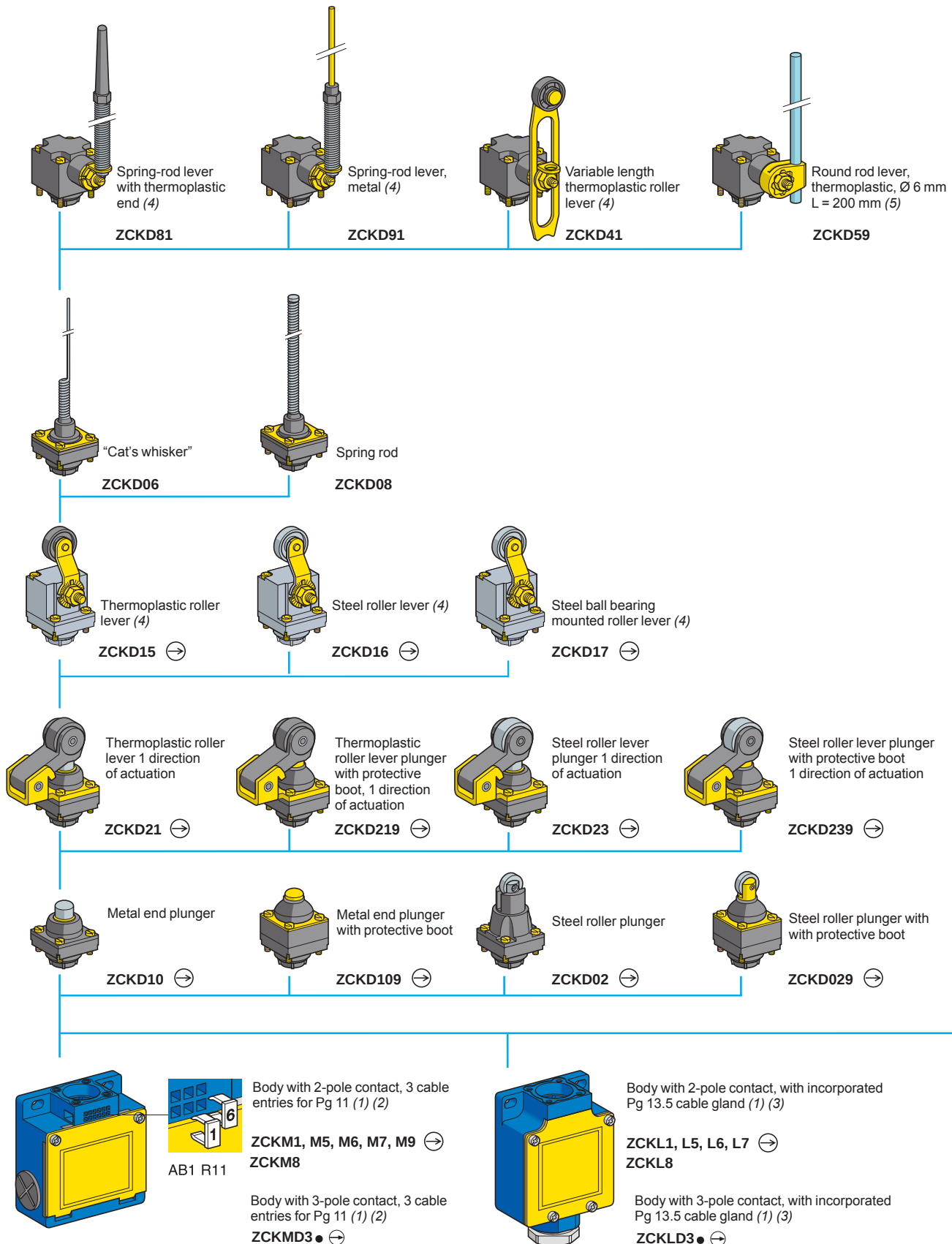
Ø 2 elongated holes 6.2 x 6.5, inclined at 26° 30' to the vertical axis, for M5 screws.

Limit switches

OsiSense XC Standard, Classic format

Metal, XCKM and XCKL

Variable composition

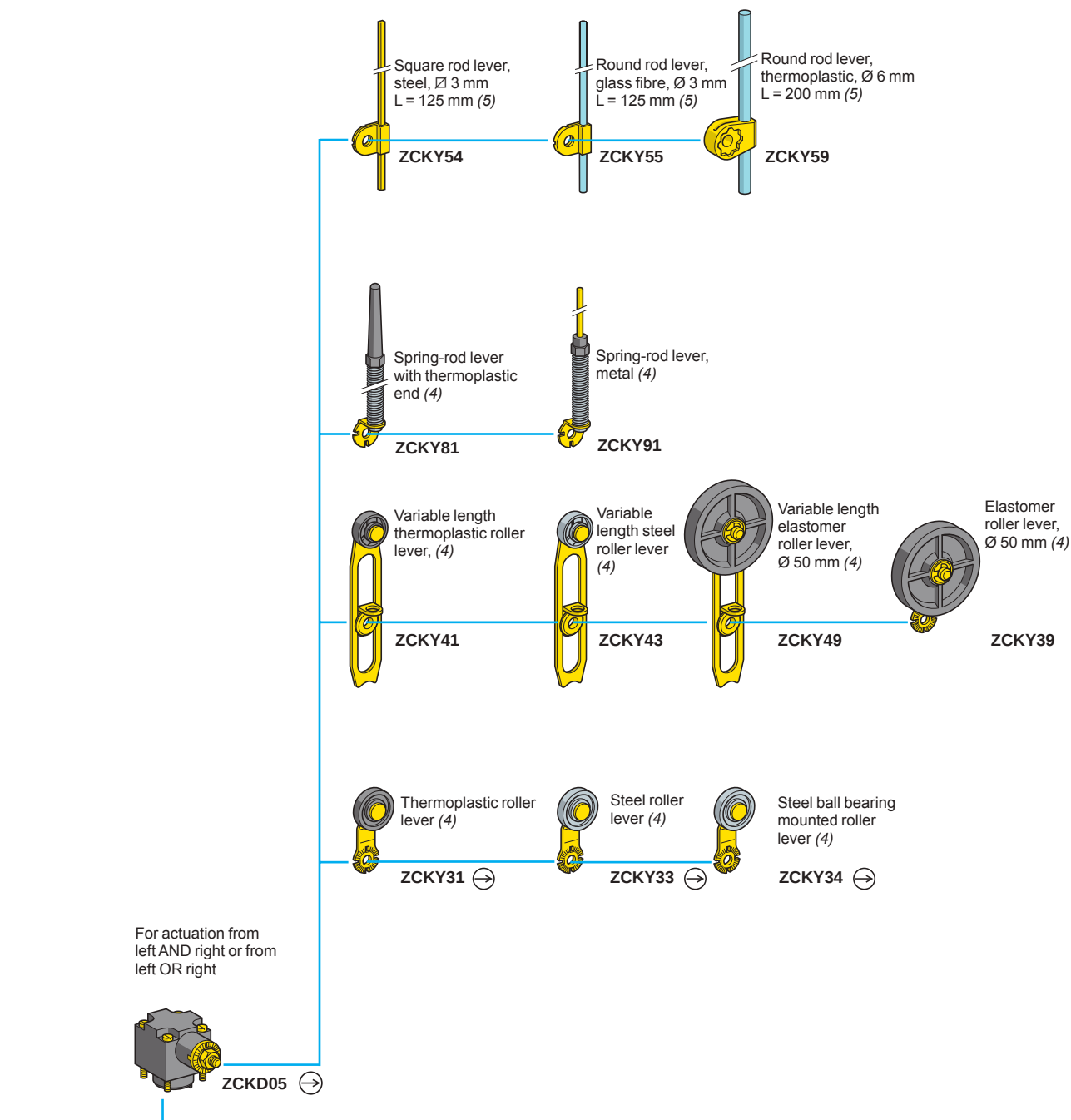


(1) For further information, see page 98.

(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.

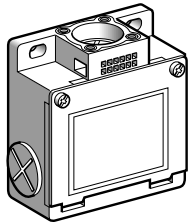
(5) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.

Limit switches

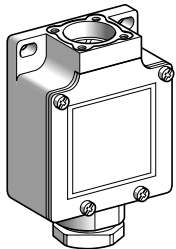
OsiSense XC Standard, Classic format

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.

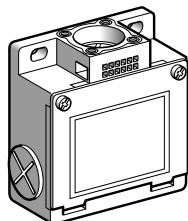
(3) Pg 13.5 cable gland included with switch.

Limit switches

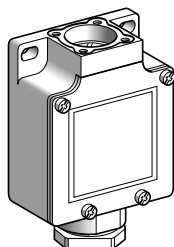
OsiSense XC Standard, Classic format

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

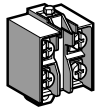
OsiSense XC Standard, Classic format

Metal, XCKM and XCKL

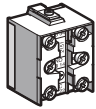
Adaptable sub-assemblies



XE2SP21●1



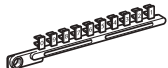
XE2NP21●1



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

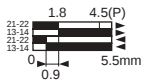
Description	Sold in lots of	Unit reference	Weight kg
Tap-off terminal for cabling continuity	1	XCKZ09	0.010
Clip-in markers (strips of 10 numbers: 0 to 9)	25	AB1R11	0.002
Other markers, please consult our Customer Care Centre.			

Other versions

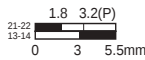
Gold flashed contacts.
Please consult our Customer Care Centre.

Heads ZCKD10, D109 with body

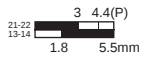
ZCKM1, L1



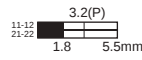
ZCKM5, L5



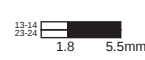
ZCKM6, L6



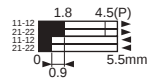
ZCKM7, L7



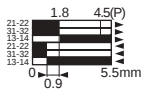
ZCKM8, L8



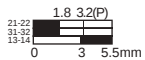
ZCKM9



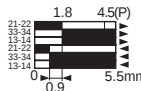
ZCKMD39, LD39



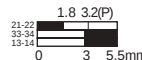
ZCKMD37, LD37



ZCKMD31, LD31

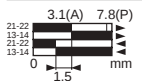


ZCKMD35, LD35

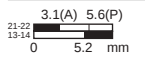


Heads ZCKD02, D029 with body

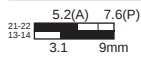
ZCKM1, L1



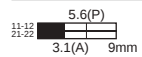
ZCKM5, L5



ZCKM6, L6



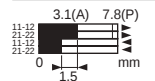
ZCKM7, L7



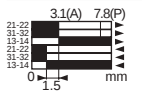
ZCKM8, L8



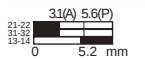
ZCKM9



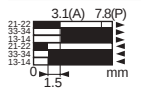
ZCKMD39, LD39



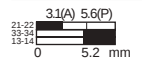
ZCKMD37, LD37



ZCKMD31, LD31

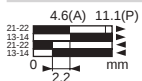


ZCKMD35, LD35

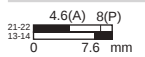


Heads ZCKD21, D23, D219, D239 with body

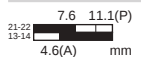
ZCKM1, L1



ZCKM5, L5



ZCKM6, L6



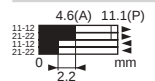
ZCKM7, L7



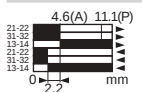
ZCKM8, L8



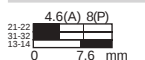
ZCKM9



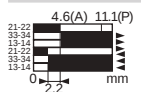
ZCKMD39, LD39



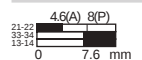
ZCKMD37, LD37



ZCKMD31, LD31

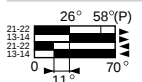


ZCKMD35, LD35

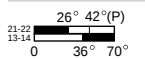


Heads ZCKD15, D16, D17 with body

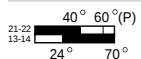
ZCKM1, L1



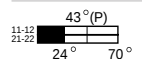
ZCKM5, L5



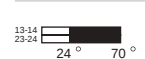
ZCKM6, L6



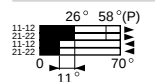
ZCKM7, L7



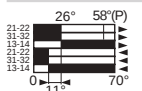
ZCKM8, L8



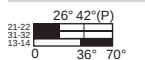
ZCKM9



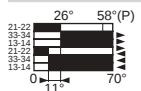
ZCKMD39, LD39



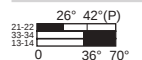
ZCKMD37, LD37



ZCKMD31, LD31

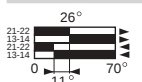


ZCKMD35, LD35

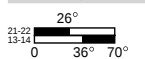


Heads ZCKD41, D59, D81, D91 with body

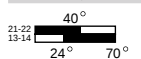
ZCKM1, L1



ZCKM5, L5



ZCKM6, L6



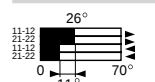
ZCKM7, L7



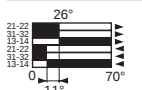
ZCKM8, L8



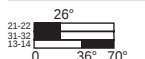
ZCKM9



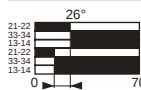
ZCKMD39, LD39



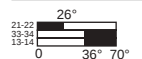
ZCKMD37, LD37



ZCKMD31, LD31

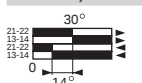


ZCKMD35, LD35

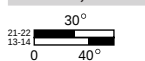


Heads ZCKD06, D08 with body

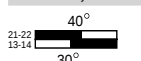
ZCKM1, L1



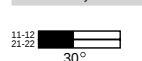
ZCKM5, L5



ZCKM6, L6



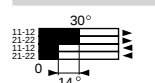
ZCKM7, L7



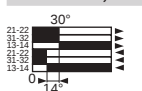
ZCKM8, L8



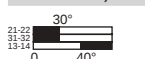
ZCKM9



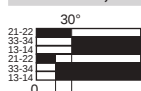
ZCKMD39, LD39



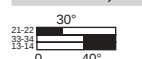
ZCKMD37, LD37



ZCKMD31, LD31



ZCKMD35, LD35



Contact operation

■ closed
□ open

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

Limit switches

OsiSense XC Standard, Classic format

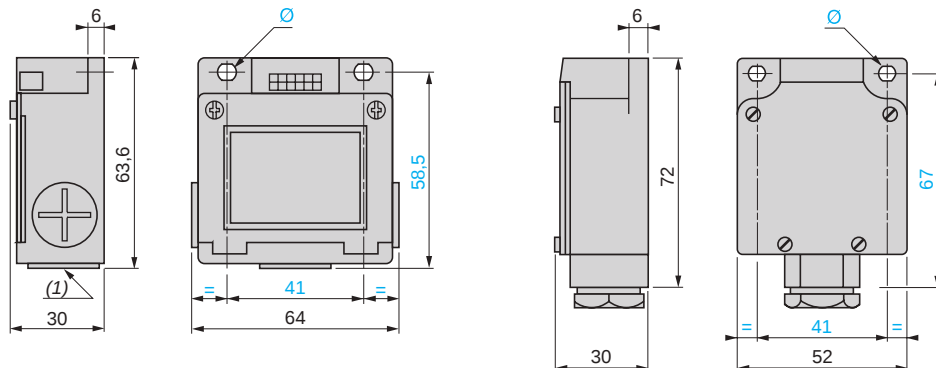
Metal, XCKM and XCKL

Adaptable sub-assemblies

Bodies with contacts

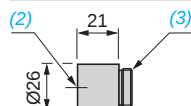
ZCKM1, M5, M6, M7, M8, M9, MD3●, MD3H●29, MD3●H7
ZCKM1H29, M5H29, M6H29, M7H29, M8H29, M9H29
ZCKM1H7, M5H7, M6H7, M7H7, M8H7

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

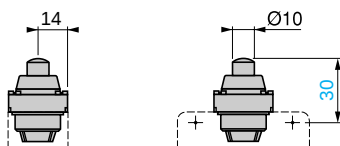
OsiSense XC Standard, Classic format

Metal, XCKM and XCKL

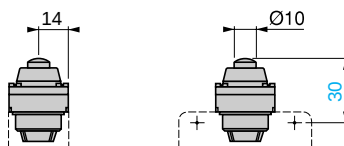
Adaptable sub-assemblies

Plunger heads

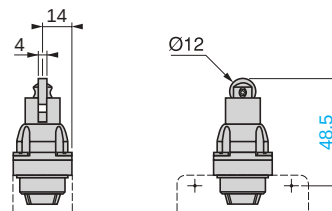
ZCKD10



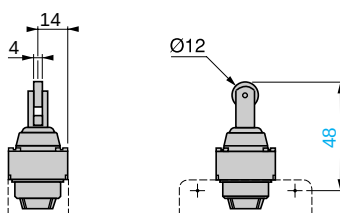
ZCKD109



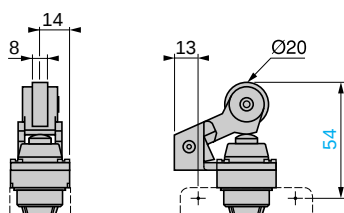
ZCKD02



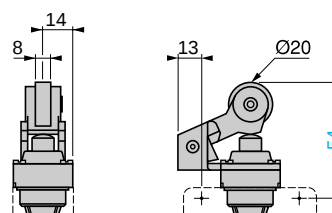
ZCKD029



ZCKD21, D23

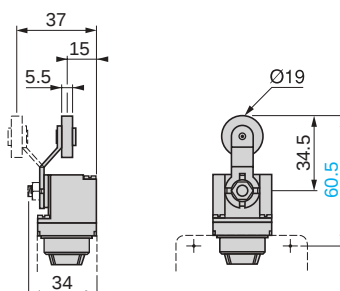


ZCKD219, D239

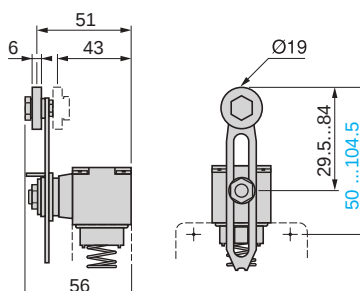


Rotary heads

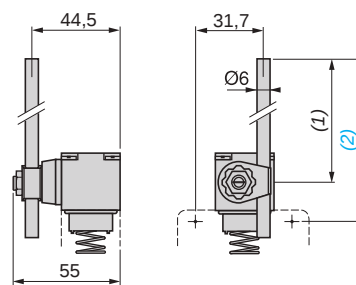
ZCKD15, D16, D17



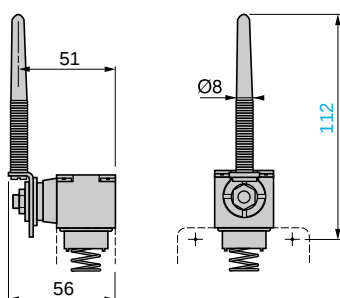
ZCKD41



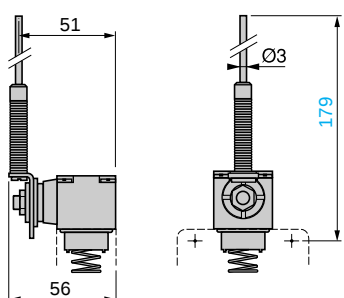
ZCKD59



ZCKD81

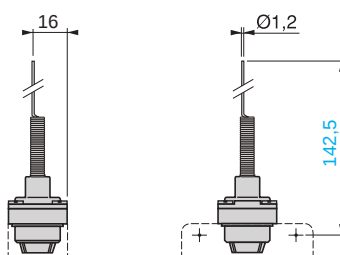


ZCKD91

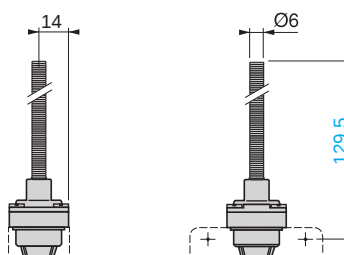


Multi-directional heads

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●●	~ AC-15 ; A300 (Ue = 240 V, Ie = 3 A) ; Ithe = 10 A
	XE2●P●, XESP●	--- DC-13 ; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to EN/IEC 60947-5-1 Appendix A
	XE3●P●	~ AC-15 ; B300 (Ue = 240 V, Ie = 1.5 A) ; Ithe = 6 A --- DC-13 ; R300 (Ue = 250 V, Ie = 0.1 A), conforming to EN/IEC 60947-5-1 Appendix A
Rated insulation voltage	XCKS1●●, XCKS5●●	Ui = 500 V degree of pollution 3 conforming to EN/IEC 60947-5-1
	XE2●P●, XESP●	
	XE3●P●	Ui = 300 V conforming to UL 508 and CSA C22-2 n° 14
Rated impulse withstand voltage	XCKS1●●, XCKS5●●	U imp = 6 kV conforming to EN/IEC 60947-1, IEC 60664
	XE2●P●, XESP●	
	XE3●P●	U imp = 4 kV conforming to EN/IEC 60947-1, IEC 60664
Short-circuit protection	XCKS1●●, XCKS5●●	10 A cartridge fuse type gG (gl)
	XE2●P●, XESP●	
	XE3●P●	6 A cartridge fuse type gG (gl)
Resistance across terminals		≤ 25 mΩ conforming to EN/IEC 60255-7 category 3
Connection (screw clamp terminals)	XCKS1●●, XCKS5●●	Clamping capacity, min: 1 x 0.34 mm² / AWG 22, max: 2 x 1.5 mm² / AWG 16
	XE2SP21●1	Clamping capacity, min: 1 x 0.5 mm² / AWG 20, max: 2 x 2.5 mm² / AWG 14
	XE2NP21●1	Clamping capacity, min: 1 x 0.75 mm² / AWG 20, max: 2 x 1.5 mm² / AWG 16
	XESP●	Clamping capacity, min: 1 x 0.34 mm² / AWG 22, max: 1 x 1 mm² / AWG 18 or 2 x 0.75 mm² / AWG 20
Minimum actuation speed		Snap action contacts (XCKS1●, XE●SP● and XESP●): 0.01 m/minute
		Slow break contacts (XCKS5●, XE2NP● and XE3NP●): 6 m/minute
Electrical durability	XCKS1●● + LC1D38 / ~ 230 V	15 million operating cycles
	XCKS5●● + LC1D38 / ~ 230 V	20 million operating cycles
	ZCKS	☐ Conforming to IEC 60947-5-1 Appendix C ☐ Utilisation categories AC-15 and DC-13 ☐ Maximum operating rate: 3600 operating cycles/hour ☐ Load factor: 0.5

	XE2SP21●1, XE2SP2141	XE2NP21●1	XESP3021																								
AC supply 50/60 Hz ~ mm inductive circuit																											
DC supply ---	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>10</td><td>7</td><td>4</td></tr> </table>	Voltage V	24	48	120	mm W	10	7	4	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>13</td><td>9</td><td>7</td></tr> </table>	Voltage V	24	48	120	mm W	13	9	7	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>10</td><td>7</td><td>4</td></tr> </table>	Voltage V	24	48	120	mm W	10	7	4
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mm W	10	7	4																								
For XE2S P●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.																											
	XE3SP●●●●	XE3NP●●●●																									
AC supply 50/60 Hz ~ mm inductive circuit																											
DC supply ---	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>3</td><td>2</td><td>1</td></tr> </table>	Voltage V	24	48	120	mm W	3	2	1	Power broken in W for 5 million operating cycles. <table> <tr> <th>Voltage V</th><th>24</th><th>48</th><th>120</th></tr> <tr> <th>mm W</th><td>4</td><td>3</td><td>2</td></tr> </table>	Voltage V	24	48	120	mm W	4	3	2									
Voltage V	24	48	120																								
mm W	3	2	1																								
Voltage V	24	48	120																								
mm W	4	3	2																								

Limit switches

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

2-pole NC + NO snap action	XCKS101H29	XCKS102H29	XCKS131H29 (thermoplastic) XCKS133H29 (steel)	XCKS139H29	XCKS141H29 (thermoplastic) XCKS143H29 (steel)	XCKS149H29	XCKS159H29
2-pole NC + NO break before make, slow break	XCKS501H29	XCKS502H29	XCKS531H29 (thermoplastic) 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		

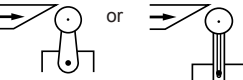
References of complete switches with 1 Pg 13.5 cable entry

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

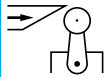
Variable composition switches with 1 cable entry



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

References of variable composition switches (ZCKS bodies and ZCKD heads) with 1 Pg 13.5 cable entry
For ZCKS bodies with 1 Pg 13.5 cable entry, delete H29 from the end of the reference. Example: ZCKS1H29 becomes ZCKS1.

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

(1) Form conforming to EN 50041, see page 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

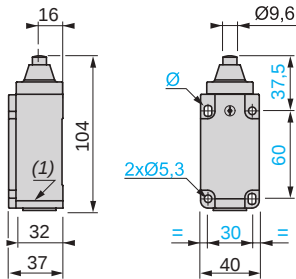
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

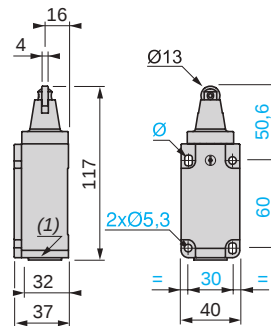
Complete switches with 1 cable entry

Dimensions

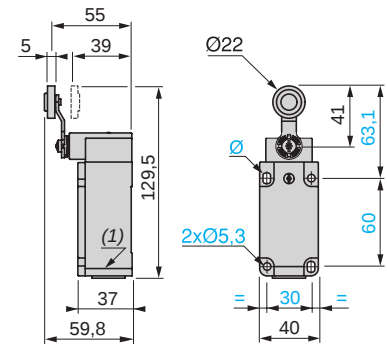
XCKS●01●●



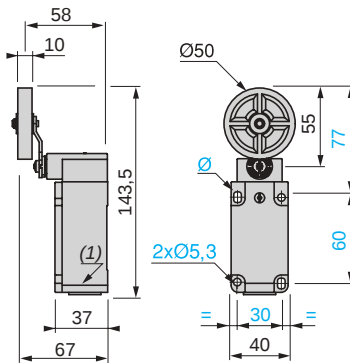
XCKS●02●●



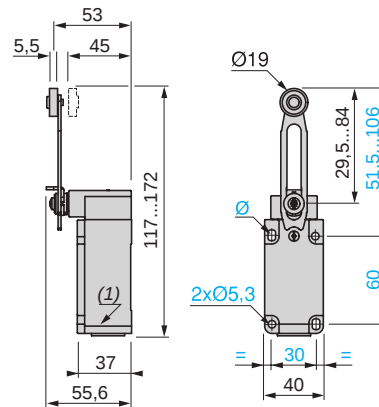
XCKS●31●● / XCKS●33●●



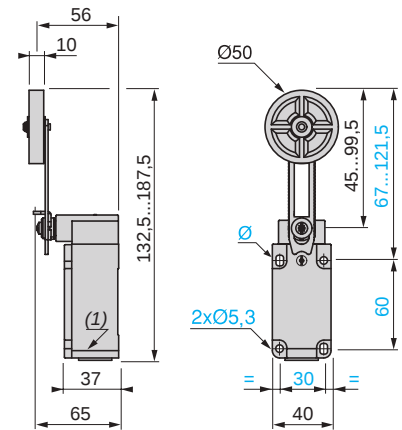
XCKS●39●●



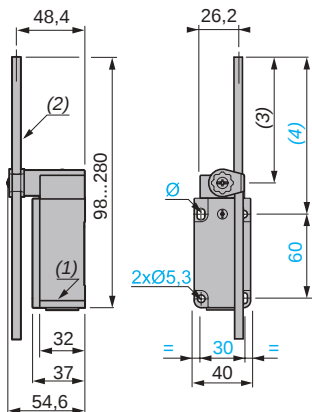
XCKS●41●● / XCKS●43●●



XCKS●49●●



XCKS●59●●



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

(2) Ø 6 rode, lenght 200 mm.

(3) 190 max.

(4) 212 max.

Ø : 2 elongated holes 5.3 x 7.3 mm.

Limit switches

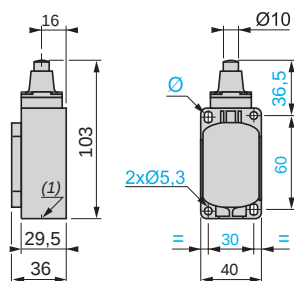
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

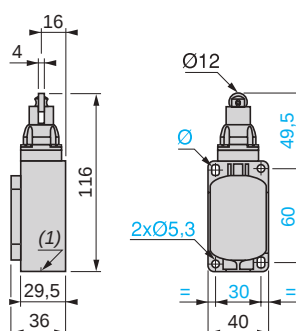
Variable composition switches with 1 cable entry

Dimensions

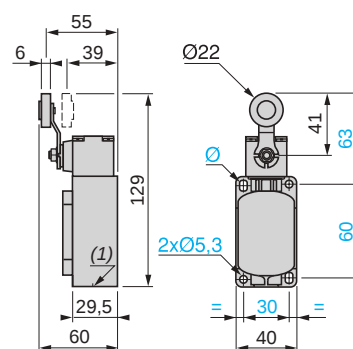
ZCKS● + ZCKD01



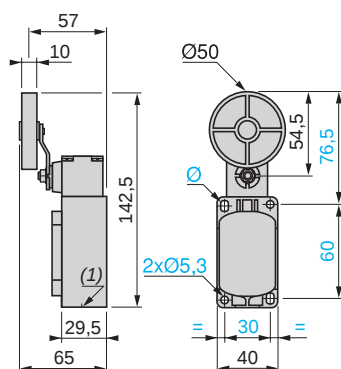
ZCKS● + ZCKD02



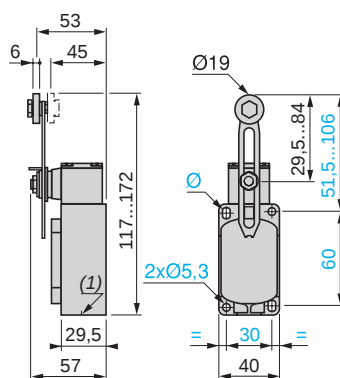
ZCKS● + ZCKD31



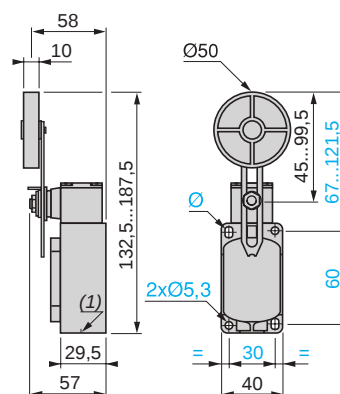
ZCKS● + ZCKD39



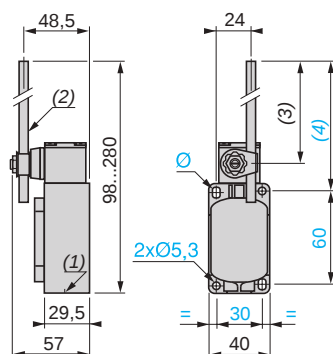
ZCKS● + ZCKD41



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.

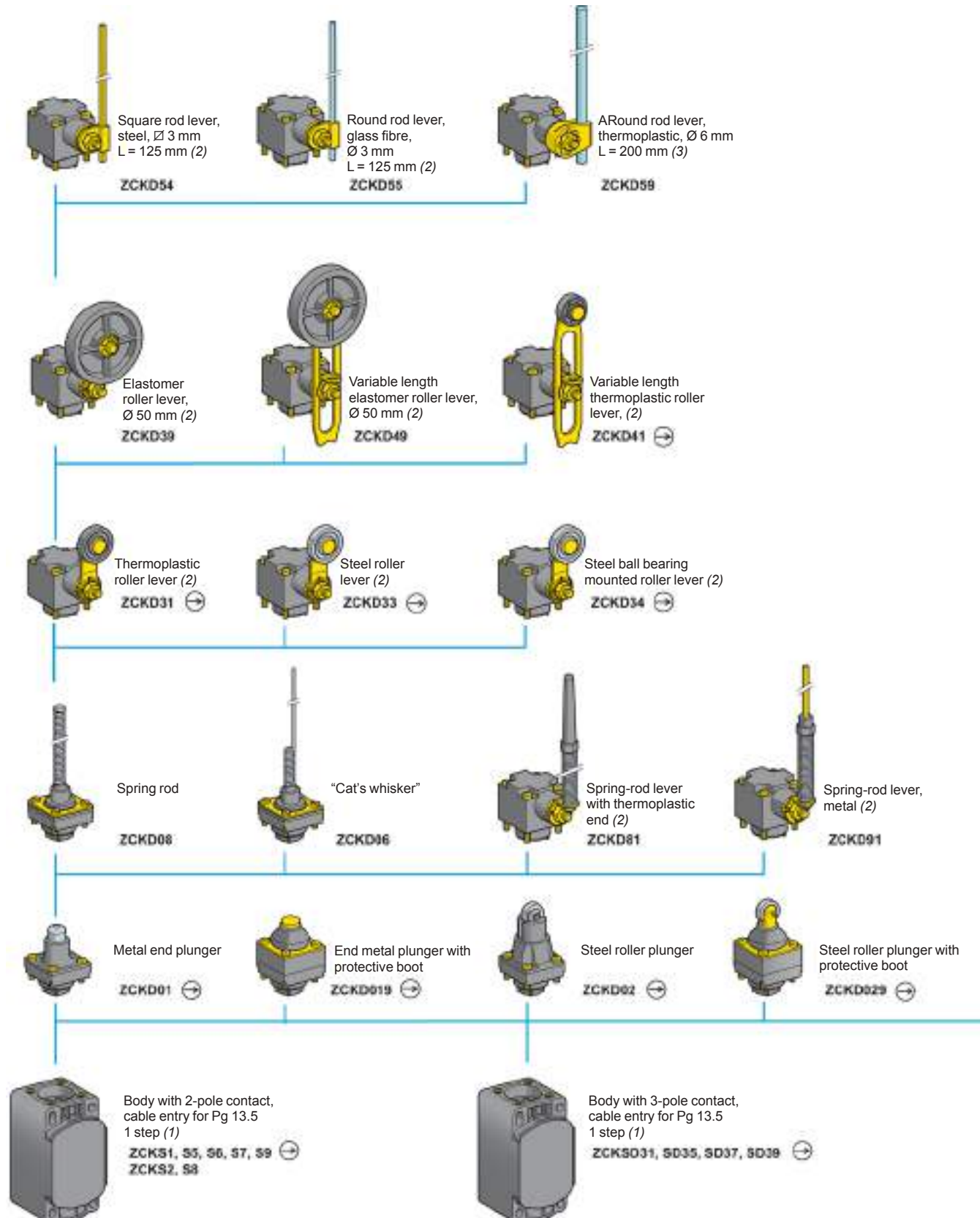
Ø : 2 elongated holes 5.3 x 7.3 mm.

Limit switches

OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

Variable composition



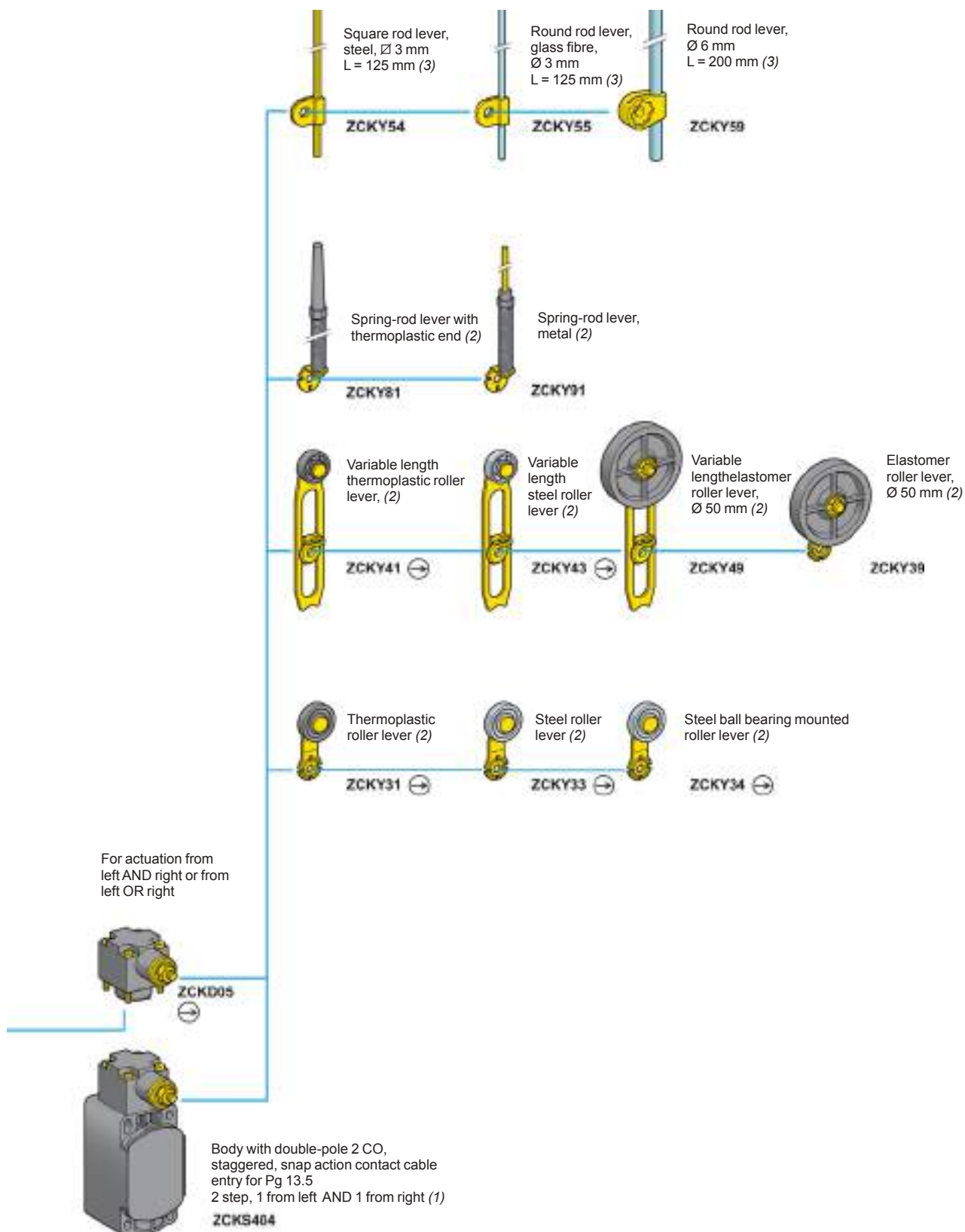
(1) For further details see page 112. For a cable entry tapped ISO M20 x 1.5, add **H29** to the reference.

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.

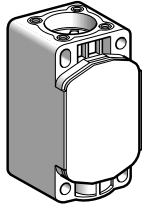


Limit switches

OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

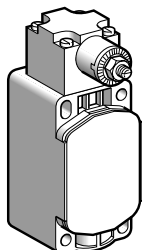
Variable composition switches



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

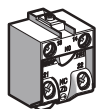
(1) : NC contact with positive opening operation or head assuring positive opening operation.

Limit switches

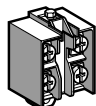
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

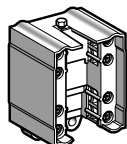
Variable composition switches



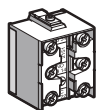
XE2SP21●1



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●●

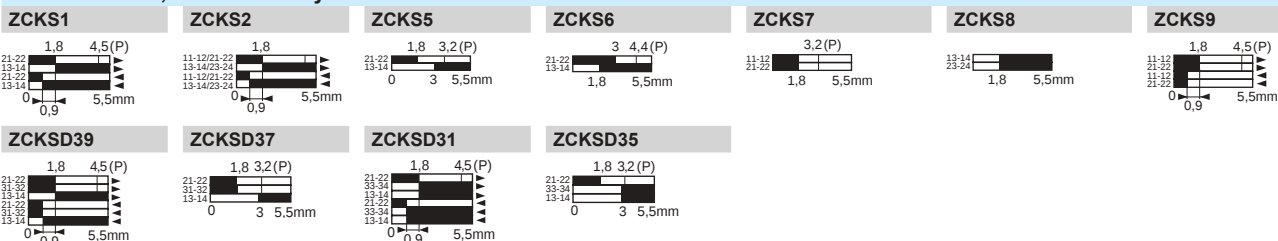
Description	Minimum order quantity	Reference	Weight kg
Adaptator for 1/2" NPT conduit (male Pg 13.5 / female 1/2" NPT)	10	DE9RA1212	0.035
Adaptator for 1/2" NPT conduit (male M20 x 1.5 / female 1/2" NPT)	5	DE9RA2012	0.050

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

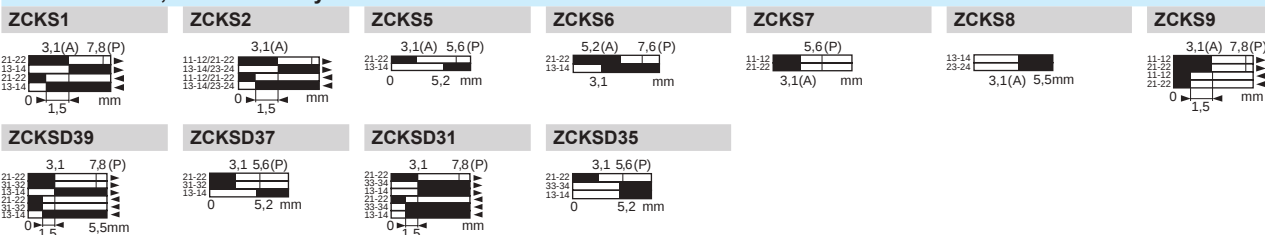
Other versions

Gold flashed contacts.
Please consult our Customer Care Centre.

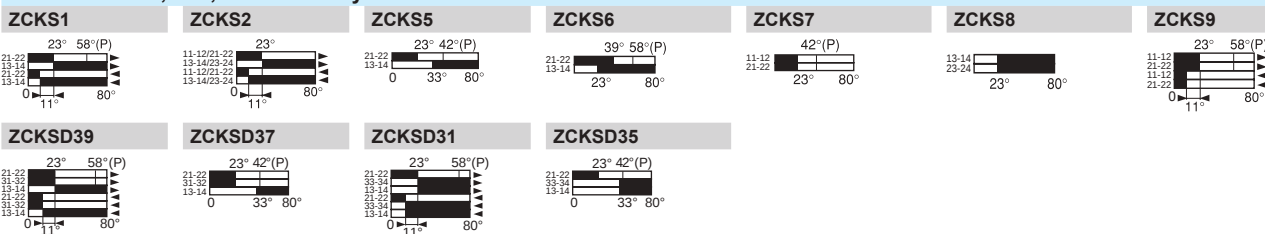
Heads ZCKD01, D109 with body



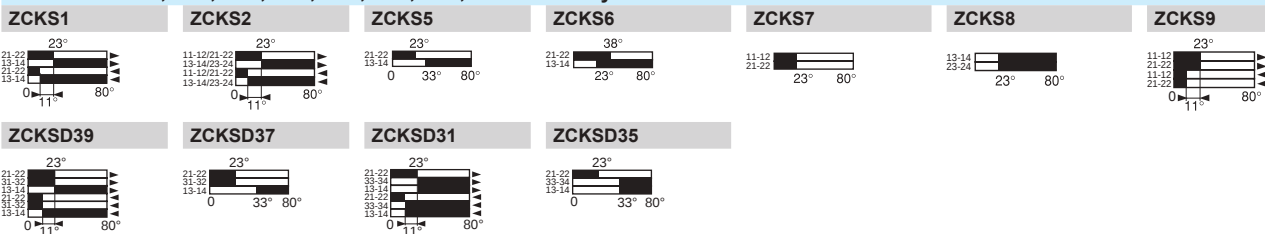
Heads ZCKD02, D029 with body



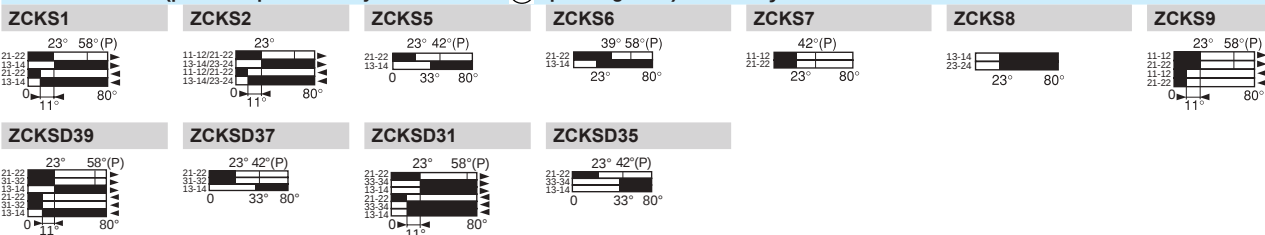
Heads ZCKD31, D33, D34 with body



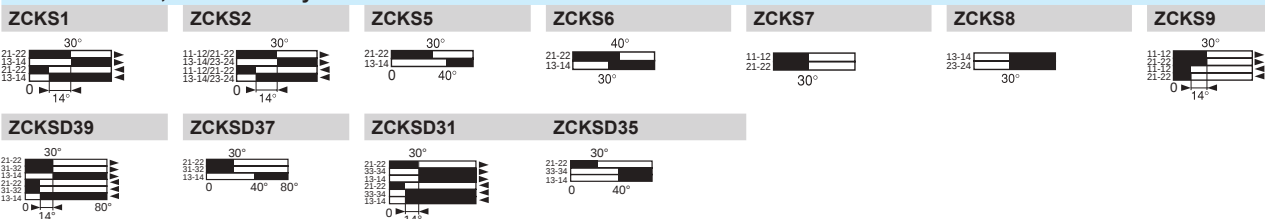
Heads ZCKD39, D41, D49, D54, D55, D59, D81, D91 with body



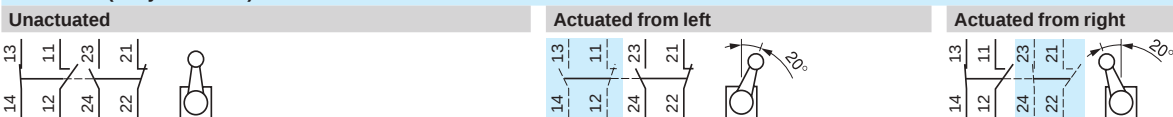
Heads ZCKD05 (positive operation only assured with a ⊖ operating lever) with body



Heads ZCKD06, D08 with body



ZCKS404 (body with head)



Contact operation

■ closed

□ open

(A) = cam displacement

(P) = positive opening point

Limit switches

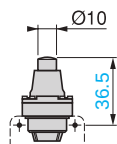
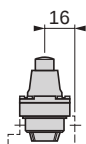
OsiSense XC Standard, format EN 50041

Plastic, double insulated, XCKS

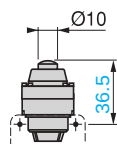
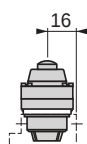
Variable composition switches

Plunger heads

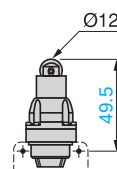
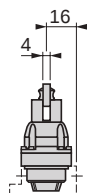
ZCKD01



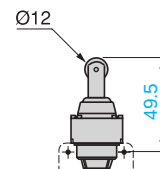
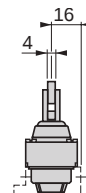
ZCKD019



ZCKD02

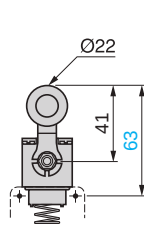
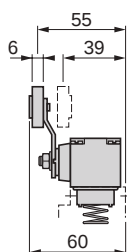


ZCKD029

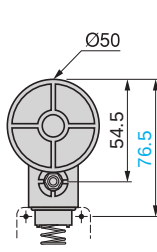
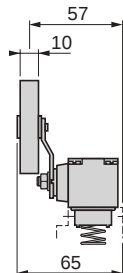


Rotary heads

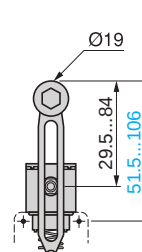
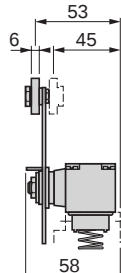
ZCKD31, ZCKD33, ZCKD34



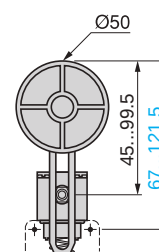
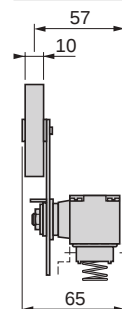
ZCKD39



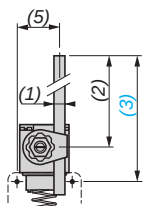
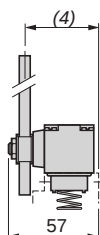
ZCKD41



ZCKD49

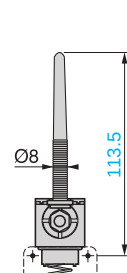
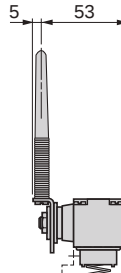


ZCKD54, ZCKD55, ZCKD59

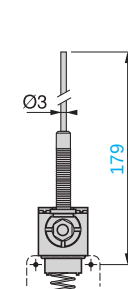
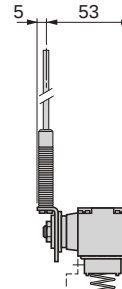


ZCK	(1) rod	(2)	(3)	(4)	(5)
D54	Ø 3, L = 125	115 max.	137 max.	49	24
D55	Ø 3, L = 125	115 max.	137 max.	49	24
D59	Ø 6, L = 200	190 max.	212 max.	46.5	26.2

ZCKD81



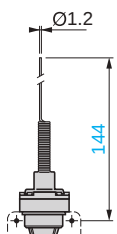
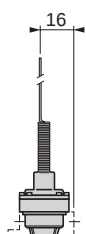
ZCKD91



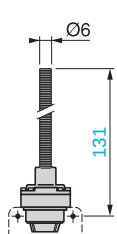
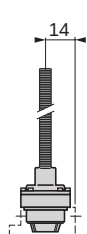
Note: operating lever spindle threaded M6.

Multi-directional heads

ZCKD06



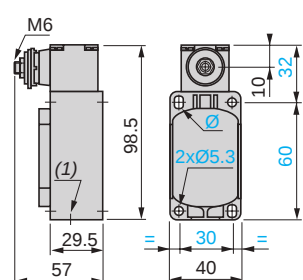
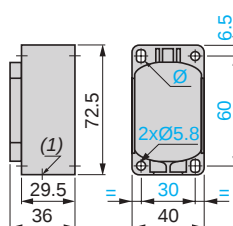
ZCKD08



Bodies with contacts

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

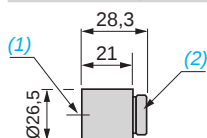
ZCKS404, S404H29



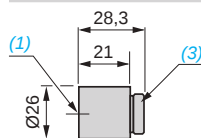
(1) 1 tapped entry for ISO M20 x 1.5 or Pg 13.5 cable gland.
Ø: 2 elongated holes 5.3 x 7.3.

Adaptators for 1/2" NPT conduit

DE9RA1212 (Pg 13.5)



DE9RA2012 (M20)



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

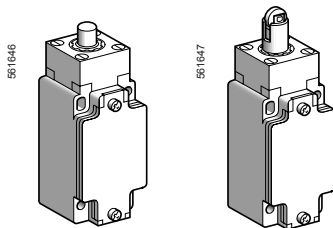
Limit switches

OsiSense XC Standard
Industrial format EN 50041
Metal, XCK J
Conforming to CENELEC EN 50041

■ XCKJ

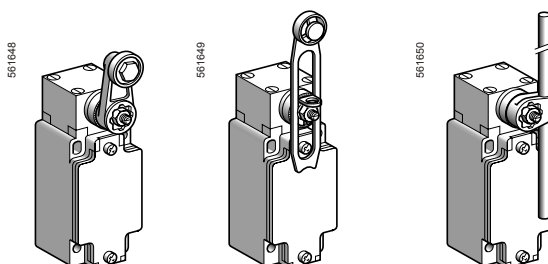
fixed body with 1 cable entry

□ With head for linear movement (plunger)



Page 118

□ With head for rotary movement (lever)

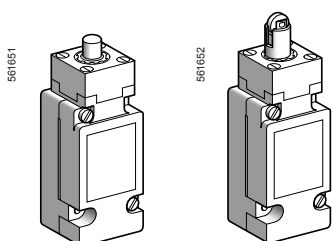


Page 118

■ XCKJ

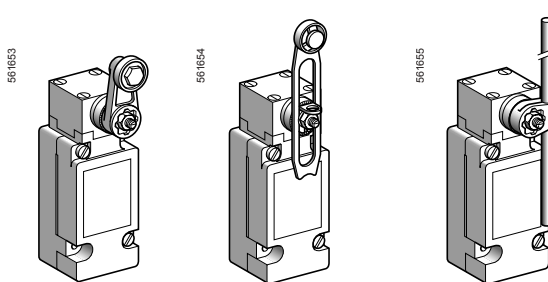
plug-in body with 1 cable entry

□ 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

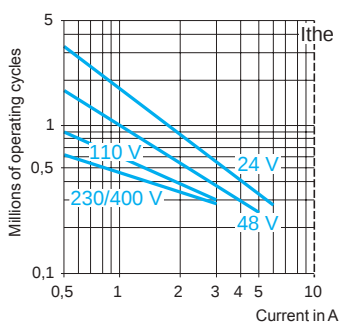
Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250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

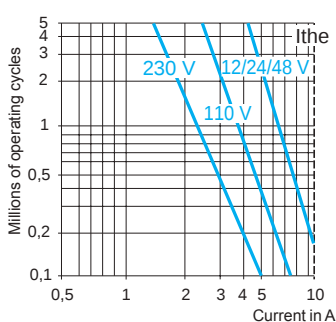
- Conforming to IEC 60947-5-1 Appendix C
- Utilisation categories AC-15 and DC-13
- Maximum operating rate: 3600 operating cycles/hour
- Load factor: 0.5

AC supply
50/60 Hz ~
~ inductive circuit

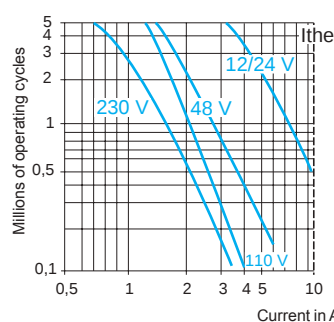
XE2SP21●1, XE2SP2141



XE2NP21●1



XCK J plug-in, XES P20●1



DC supply ---

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	10	7	4

Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	13	9	7

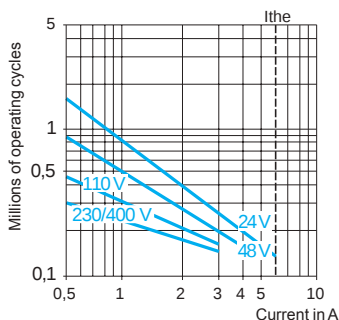
Power broken in W for 5 million operating cycles.

Voltage V	24	48	120
mm W	10	7	4

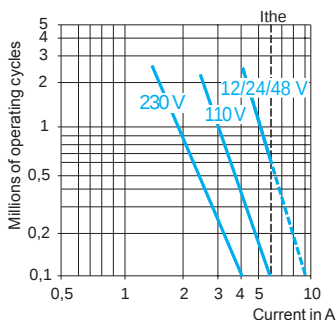
For XE2S P●151 on ~ or ---, NC and NO contacts simultaneously loaded to the values shown with reverse polarity.

XE3SP●●●●

AC supply
50/60 Hz ~
~ inductive circuit



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

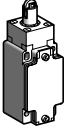
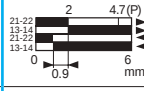
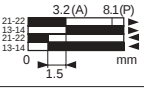
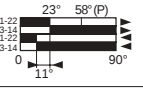
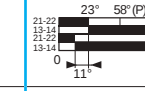
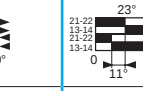
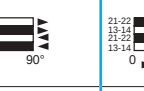
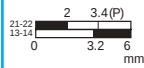
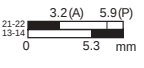
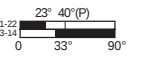
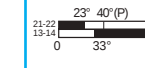
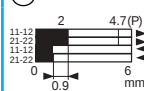
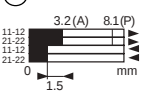
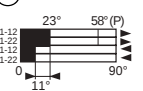
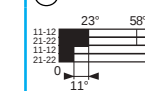
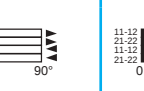
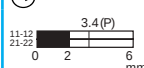
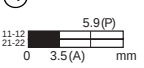
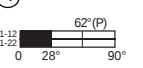
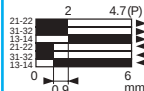
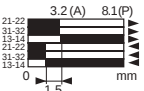
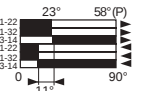
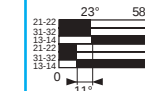
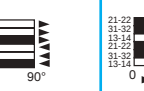
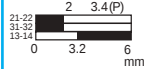
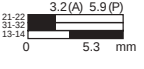
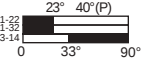
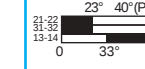
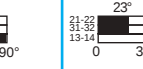
Limit switches

OsiSense XC Standard

Industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Complete fixed body switches with 1 cable entry

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

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

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

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

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

(1) Form conforming to EN 50041, see page 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

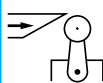
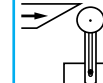
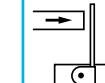
OsiSense XC Standard

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

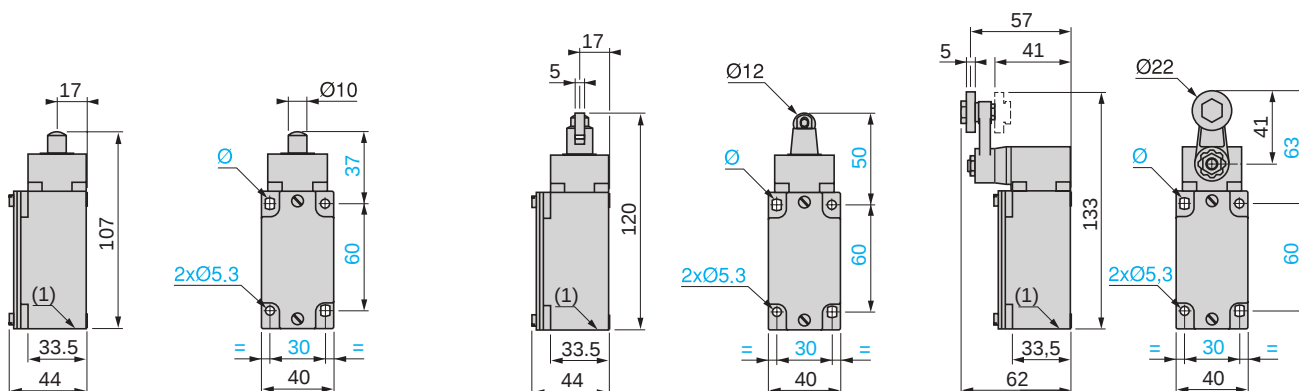
ZCKJ● + ZCKE61

XCKJ●67H29

ZCKJ● + ZCKE67

XCKJ●051●H29

ZCKJ● + ZCKE05 + ZCKY11 or Y13

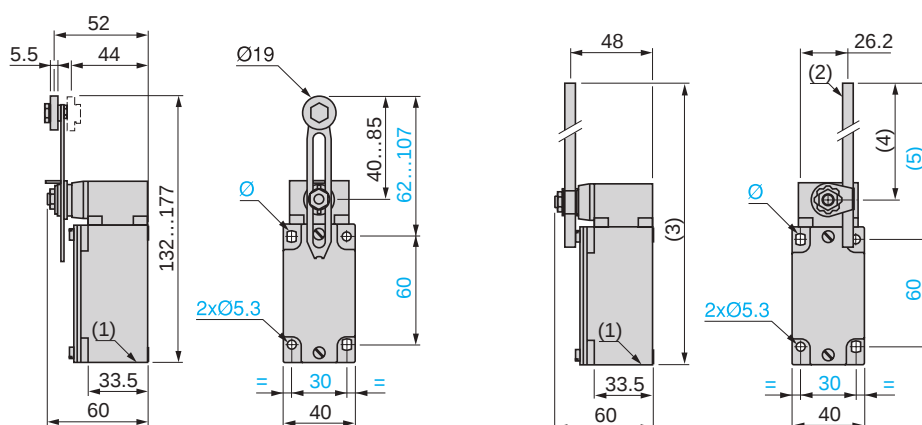


XCKJ●0541H29

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.

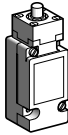
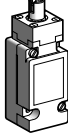
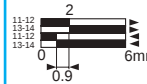
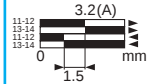
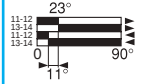
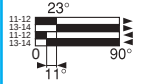
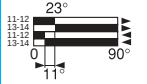
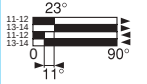
(4) 190 max.

(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

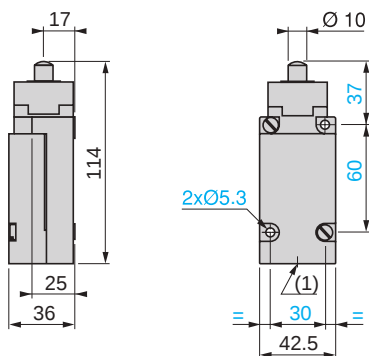
OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

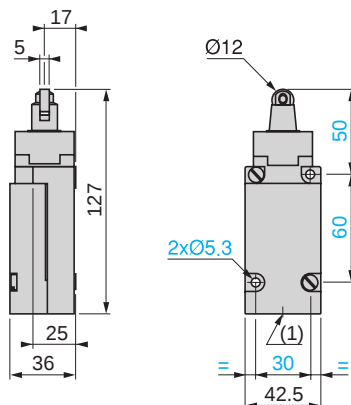
Complete switches, plug-in body

With 1 cable entry

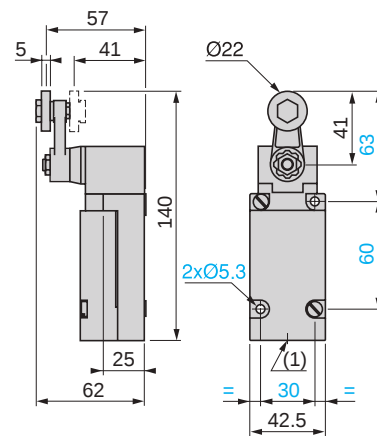
XCKJ1161H29



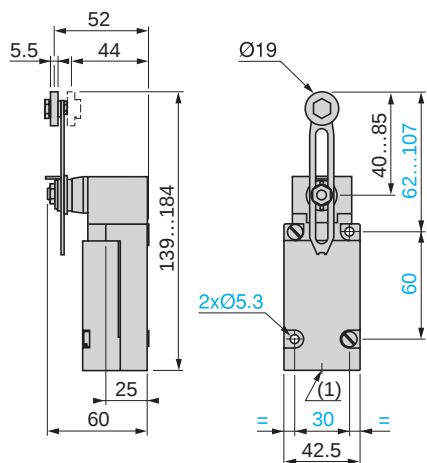
XCKJ1167H29



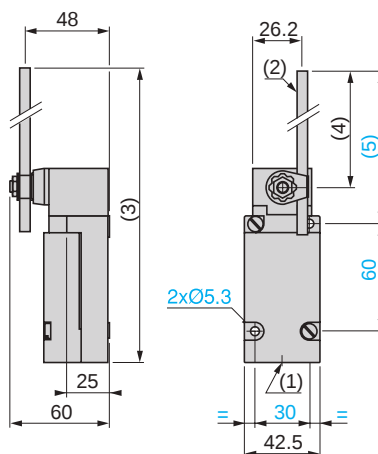
XCKJ110511H29, XCKJ110513H29



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.

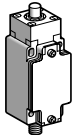
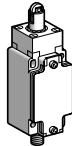
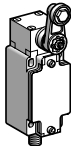
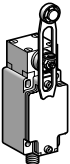
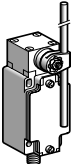
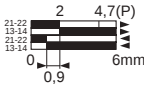
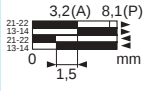
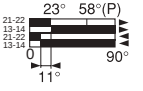
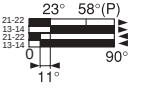
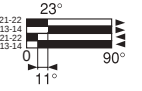
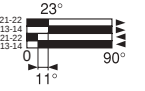
(3) 289 max.

(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

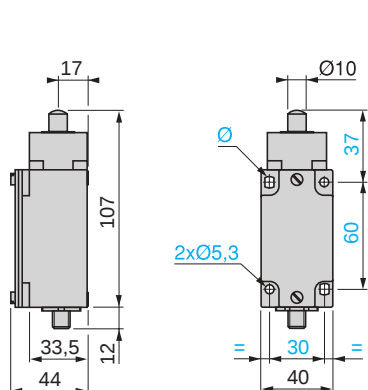
Type of head	Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)			
	Form B (1)	Form C (1)	Form A (1)		Form D (1)	
						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable 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  	XCKJ10559D  
Weight (kg)	0.430	0.455	0.480	0.490	0.485	0.485
Contact operation	 closed  open		(A) = cam displacement (P) = positive opening point			
Characteristics						
Switch actuation	On end	By 30° cam			By any moving part	
Type of actuation						
Maximum actuation speed	0.5 m/s	1 m/s	1.5 m/s			
Mechanical durability (in millions of operating cycles)	30	25	30			
Minimum force or torque	For tripping	20 N	16 N	0.25 N.m		
	For positive opening	50 N	40 N	0.50 N.m	–	–
Connection	M12 connector, Ui = 60 V, Ie = 4 A (see suitable pre-wired female connectors below).					
(1) Form conforming to EN 50041, see page 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 mm² + 1 x 0.5 mm²)	L = 2 m	XZCP1164L2		XZCP1264L2		
	L = 5 m	XZCP1164L5		XZCP1264L5		
	L = 10 m	XZCP1164L10		XZCP1264L10		
Weight (kg)	L = 2 m	0.115				
	L = 5 m	0.270				
	L = 10 m	0.520				

Limit switches

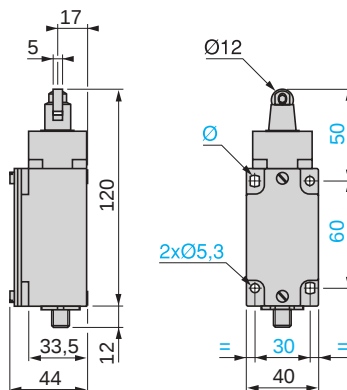
OsiSense XC Standard, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
M12 connector

Dimensions

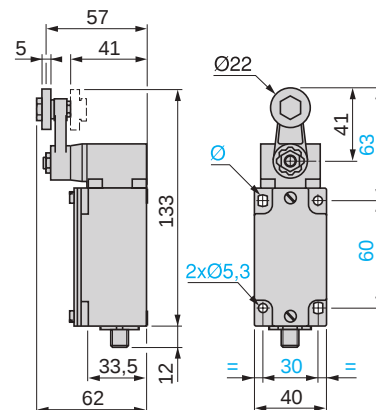
XCKJ161D



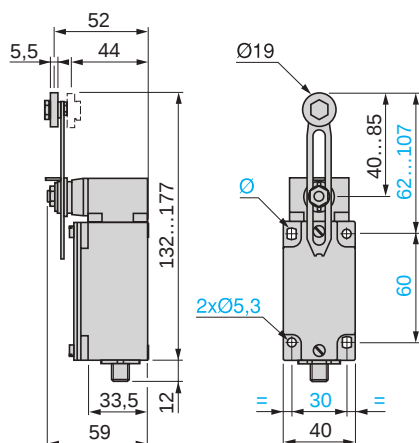
XCKJ167D



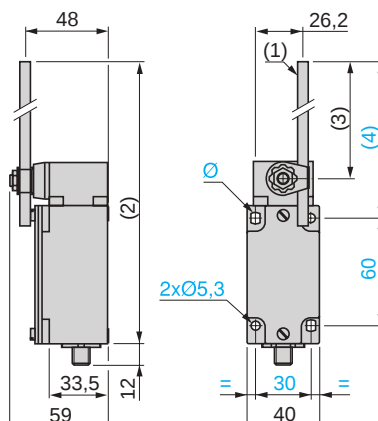
XCKJ1051●D



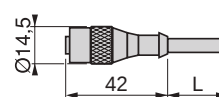
XCKJ10541D



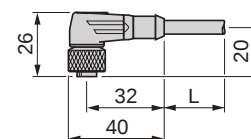
XCKJ10559D



XZCP1164L●



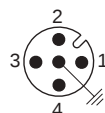
XZCP1264L●



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

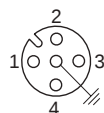
Connections

Limit switch XCKJ●●●●D



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

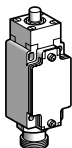
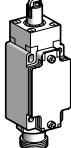
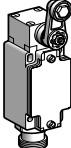
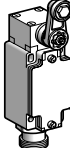
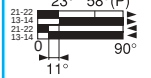
Pre-wired female connector XZCP1●64L●



1 = brown
2 = white
3 = blue
4 = black
5 = $\frac{1}{2}$ 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

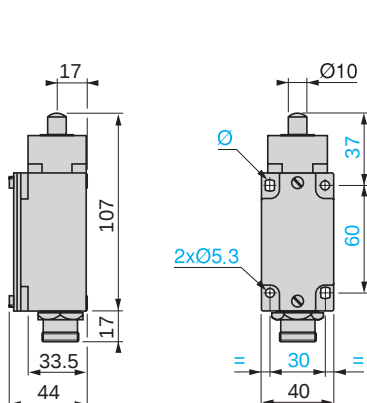
Type of head		Plunger (fixing by the body)		Rotary (fixing by the body) (switches supplied for actuation from left AND right)		
		Form B (1)	Form C (1)	Form A (1)		Form D (1)
						
Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever (2)	Steel roller lever (2)	Variable 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
						
Weight (kg)			0.430	0.455	0.480	0.490
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

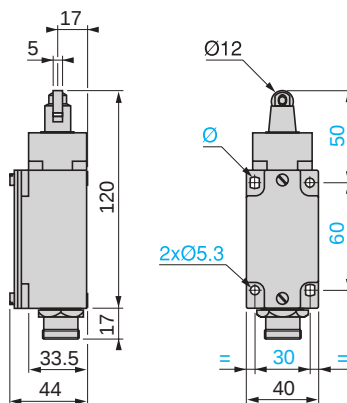
OsiSense XC Standard, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Complete switches, fixed body
7/8"-16UN connector

Dimensions

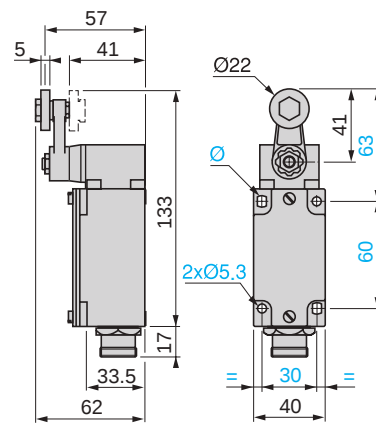
XCKJ161A



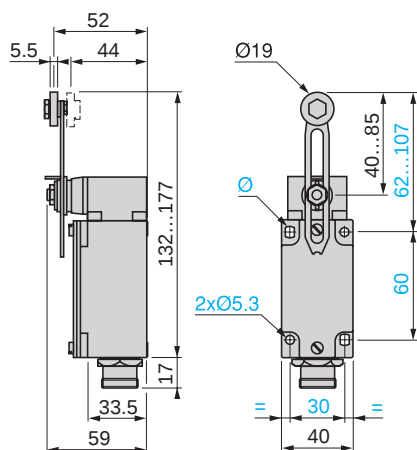
XCKJ167A



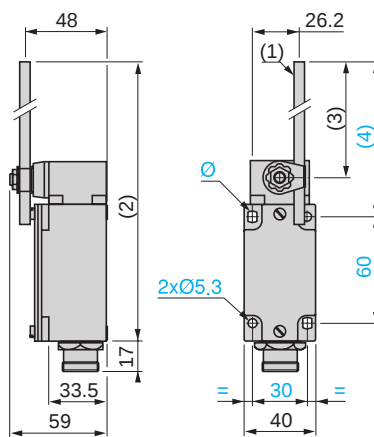
XCKJ1051●A



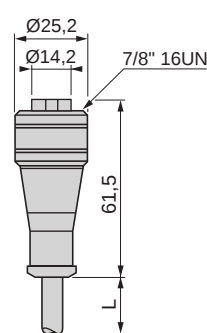
XCKJ10541A



XCKJ10559A



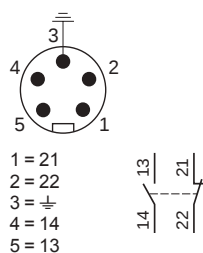
XZCP1764L●



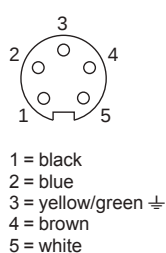
(1) Ø 6 rod, length 200 mm.
(2) 282 max.
(3) 190 max.
(4) 212 max.
Ø: 2 elongated holes Ø 5.3 x 7.3.
L: Cable length 2, 5 or 10 m.

Connections

Limit switch XCKJ●●●●A



Pre-wired female connector XZCP1764L●



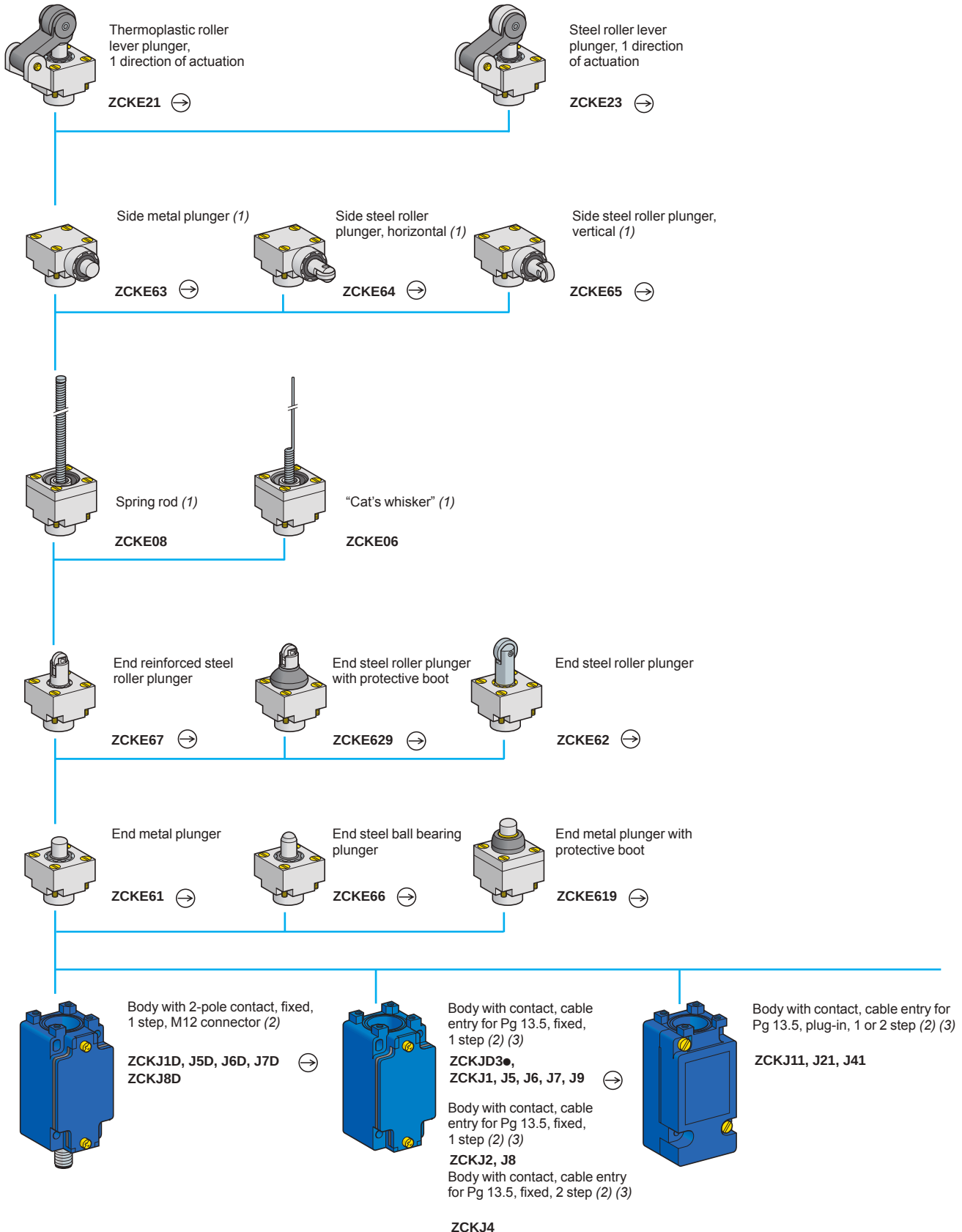
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

Variable composition: standard bodies

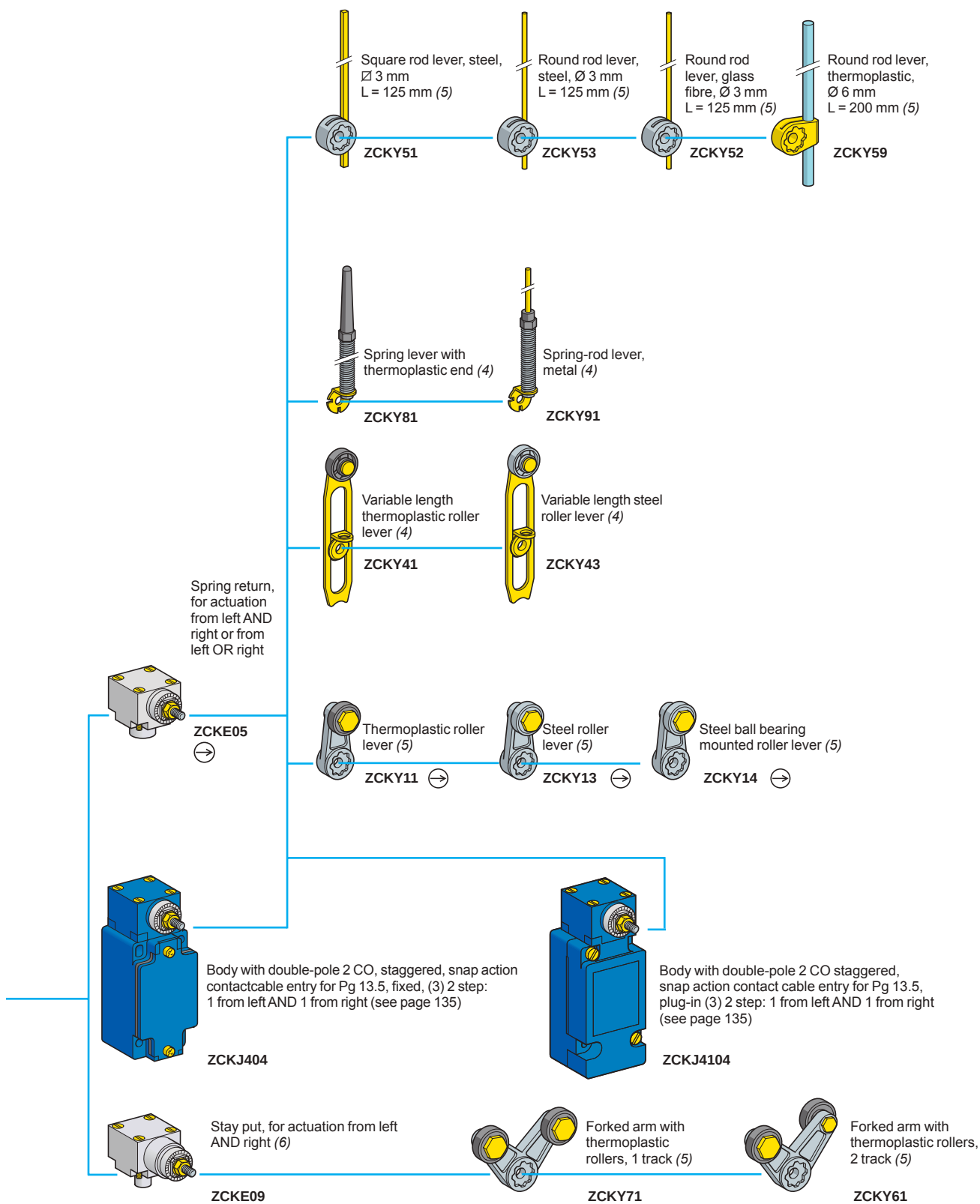


(1) Cannot be used with bodies ZCKJ4 and ZCKJ41.

(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.

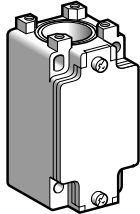
Limit switches

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 ISO M20 x 1.5 1/2" NPT	ZCKJ1 ZCKJ1H29 ZCKJ1H7	0.310 0.310 0.310
	2 CO simultaneous, snap action (XESP2021)		-	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ2 ZCKJ2H29 ZCKJ2H7	0.310 0.310 0.310
	1 NC + 1 NO break before make, slow break (XE2NP2151)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ5 ZCKJ5H29 ZCKJ5H7	0.310 0.310 0.310
	1 NO + 1 NC make before break, slow break (XE2NP2161)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ6 ZCKJ6H29 ZCKJ6H7	0.310 0.310 0.310
	2 NC simultaneous, slow break (XE2NP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ7 ZCKJ7H29 ZCKJ7H7	0.310 0.310 0.310
	2 NO simultaneous, slow break (XE2NP2131)		-	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ8 ZCKJ8H29 ZCKJ8H7	0.310 0.310 0.310
	2 NC snap action (XE2SP2141)			Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ9 ZCKJ9H29 ZCKJ9H7	0.310 0.310 0.310
2 step	2 CO staggered snap action (XESP2031)		-	Pg 13.5 ISO M20 x 1.5 1/2" NPT	ZCKJ4 ZCKJ4H29 ZCKJ4H7	0.310 0.310 0.310

Fixed bodies with 3-pole contact

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

(1) : NC contact with positive opening operation.

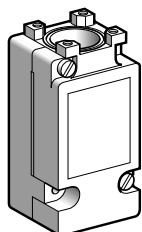
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

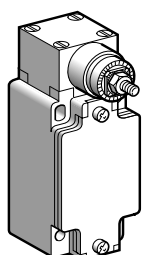
Adaptable sub-assemblies: standard bodies



ZCKJ11

Plug-in bodies with contact

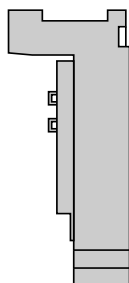
Type	With contact block	Scheme	Positive operation (1)	Cable entry	Reference	Weight kg
1 step	Single-pole 1 CO snap action		—	Pg 13.5	ZCKJ11	0.300
				ISO M20 x 1.5	ZCKJ11H29	0.300
				1/2" NPT	ZCKJ11H7	0.300
	Double-pole 2 CO simultaneous, snap action		—	Pg 13.5	ZCKJ21	0.300
				ISO M20 x 1.5	ZCKJ21H29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



ZCKJ404

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

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



ZCKJ01

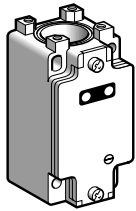
Plug-in housing only

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

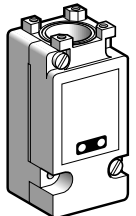
OsiSense XC Standard, industrial format EN 50041
Metal, conforming to CENELEC EN 50041, XCKJ
Fixed or plug-in body. Adaptable sub-assemblies:
bodies with indicator light module



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



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	ZCKJ1121	0.340
				ISO M20 x 1.5	ZCKJ1121H29	0.340
With module comprising 2 LEDs, 110/240 V $\sim$						
1 step	CO snap action		—	Pg 13.5	ZCKJ1134	0.340
				ISO M20 x 1.5	ZCKJ1134H29	0.340

(1) : NC contact with positive opening operation.

Indicator light module characteristics

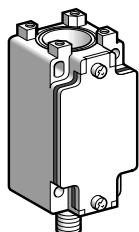
Type of indicator	1 LED or 2 LEDs	2 LEDs
Rated insulation voltage	50 V --- , conforming to IEC 60947-1	250 V $\sim$, conforming to IEC 60947-1
Current consumption	7 mA per LED	9 mA per LED
Rated operational voltage	24 V ---	110/240 V $\sim$
Voltage limits	20...30 V --- (including ripple)	95...264 V $\sim$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

Limit switches

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



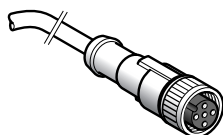
ZCKJ-D

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

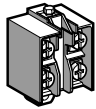
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

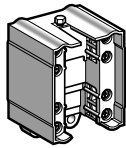
Adaptable sub-assemblies: contact blocks



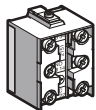
XE2SP21●1



XE2NP21●1



XE3P21●1



XE3NP21●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.

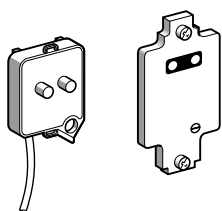
Limit switches

OsiSense XC Standard, industrial format EN 50041

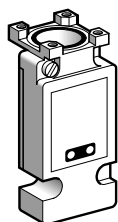
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

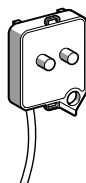
Adaptable sub-assemblies: add-ons



ZCKZ000



ZCKJ010



ZCKJ900



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

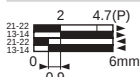
Fixed or plug-in body

Adaptable sub-assemblies

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

Heads ZCKE61, ZCKE619, ZCKE66 with body

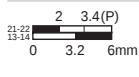
ZCKJ1●



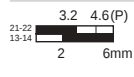
ZCKJ2●



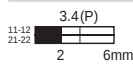
ZCKJ5●



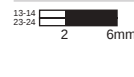
ZCKJ6●



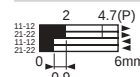
ZCKJ7●



ZCKJ8●



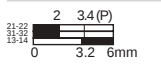
ZCKJ9



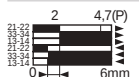
ZCKJD39



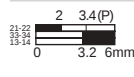
ZCKJD37



ZCKJD31

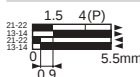


ZCKJD35

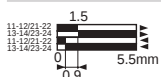


Head ZCKE63 with body

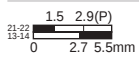
ZCKJ1●



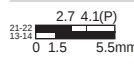
ZCKJ2●



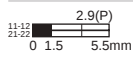
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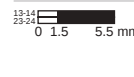
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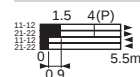
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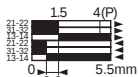
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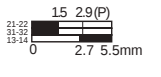
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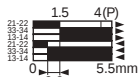
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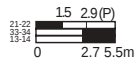
ZCKJD37



ZCKJD31

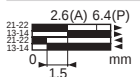


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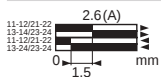


Heads ZCKE64, ZCKE65 with body

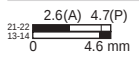
ZCKJ1●



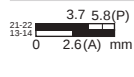
ZCKJ2●



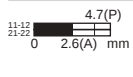
ZCKJ5●



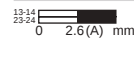
ZCKJ6



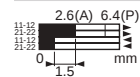
ZCKJ7



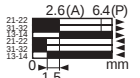
ZCKJ8



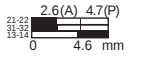
ZCKJ9



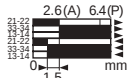
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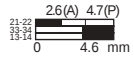
ZCKJD37



ZCKJD31

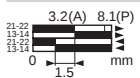


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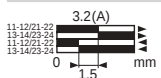


Heads ZCKE67, ZCKE629 with body

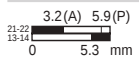
ZCKJ1●



ZCKJ2●



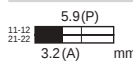
ZCKJ5●



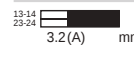
ZCKJ6



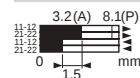
ZCKJ7



ZCKJ8



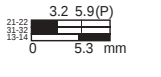
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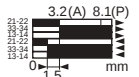
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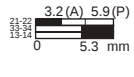
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ZCKJD31

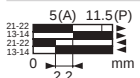


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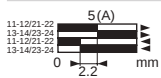


Heads ZCKE21, ZCKE23 with body

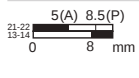
ZCKJ1●



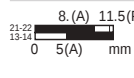
ZCKJ2●



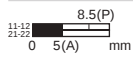
ZCKJ5●



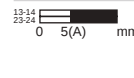
ZCKJ6



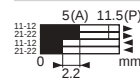
ZCKJ7



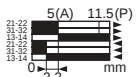
ZCKJ8



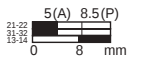
ZCKJ9



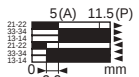
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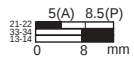
ZCKJD37



ZCKJD31

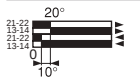


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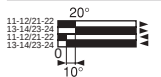


Heads ZCKE06, ZCKE08 with body

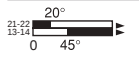
ZCKJ1●



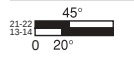
ZCKJ2●



ZCKJ5●



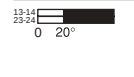
ZCKJ6



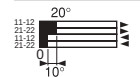
ZCKJ7



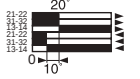
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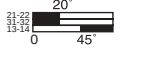
ZCKJ9



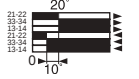
ZCKJD39



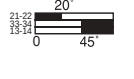
ZCKJD37



ZCKJD31

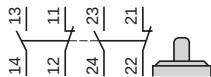


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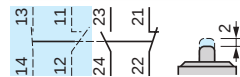


ZCKJ4●

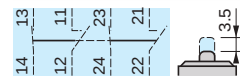
Unactuated



1st step



2nd step



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

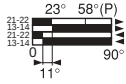
Fixed or plug-in body

Adaptable sub-assemblies

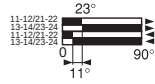
Function diagrams (positive operation assured only if the associated sub-assemblies are)

Head ZCKE05 with body

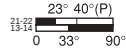
ZCKJ1●



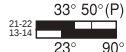
ZCKJ2●



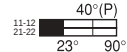
ZCKJ5●



ZCKJ6



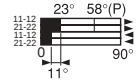
ZCKJ7



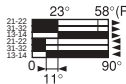
ZCKJ8



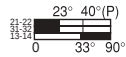
ZCKJ9



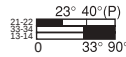
ZCKJD39



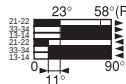
ZCKJD37



ZCKJD39

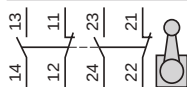


ZCKJD31

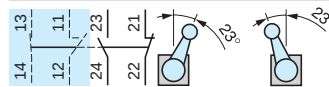


ZCKJ4●

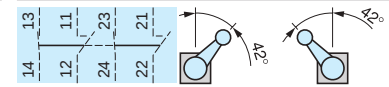
Unactuated



1st step, actuated from left or right

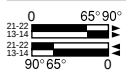


2nd step, actuated from left or right

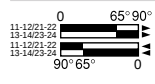


Head ZCKE09 with body

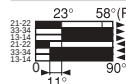
ZCKJ1●



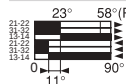
ZCKJ2●



ZCKJD31



ZCKJD39

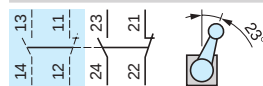


ZCKJ404, J4104 (body with head)

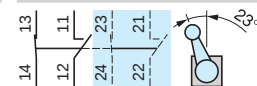
Unactuated



Actuated from left



Actuated from right



Contact operation

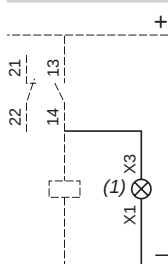
■ closed
□ open

(P) = positive opening point

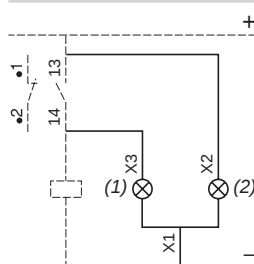
Wiring schemes

Indicator light modules

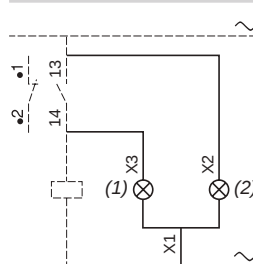
1 LED, 24 V ~



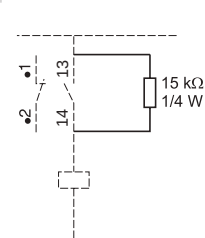
2 LEDs, 24 V ~



2 LEDs, 110/240 V ~

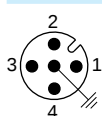


Module with resistor



(1) Orange indicator
(2) Green indicator

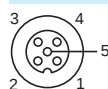
ZCKJ●D



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



Pre-wired connectors XZCP1164●



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

Limit switches

OsiSense XC Standard, industrial format EN 50041

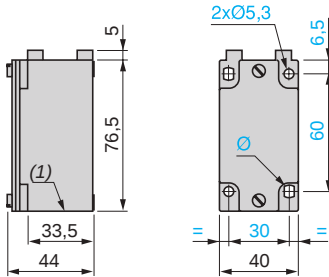
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

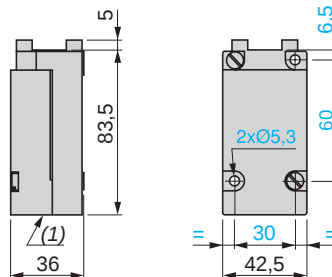
Adaptable sub-assemblies

Bodies

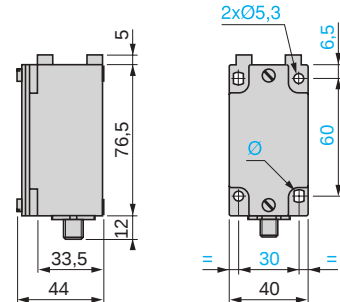
ZCKJ1, J2, J5, J4, J2●, J3●, J6, J7, J8, J9
ZCKJ1H29, J2H29, J5H29, J4H29, J2●H29, J3●H29,
J6H29, J7H29, J8H29, J9H29
ZCKJ1H7, J2H7, J5H7, J4H7, J2●H7, J3●H7, J6H7,
J7H7, J8H7, J9H7



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

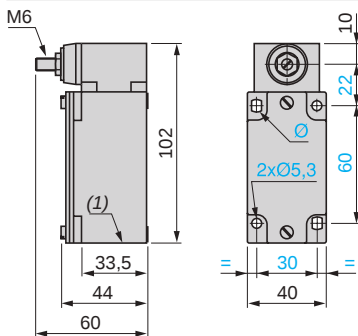


ZCKJ1D, J5D, J6D, J7D, J8D

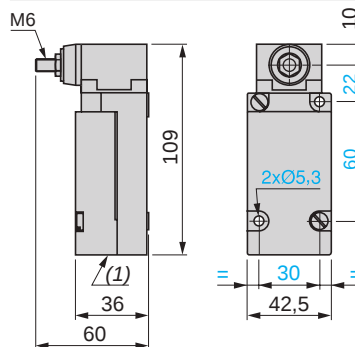


Bodies with rotary head mounted

ZCKJ404, ZCKJ404H29, ZCKJ404H7



ZCKJ4104, ZCKJ4104H29, ZCKJ4104H7

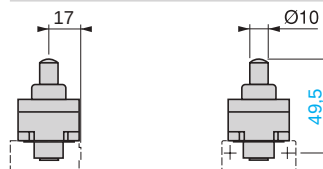


Plunger heads

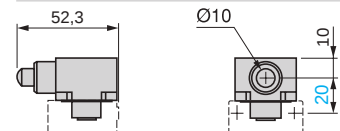
ZCKE61



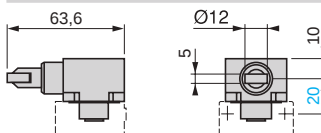
ZCKE619



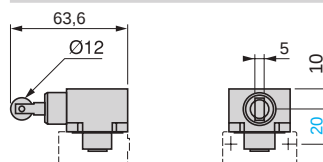
ZCKE63



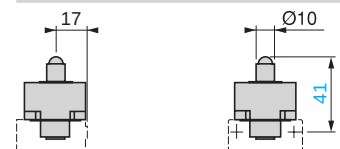
ZCKE64



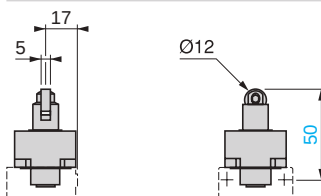
ZCKE65



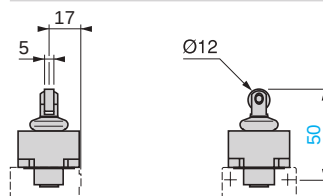
ZCKE66



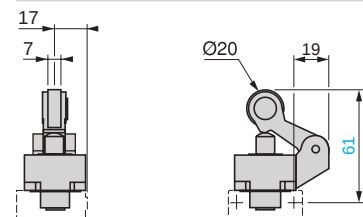
ZCKE62, ZCKE67



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

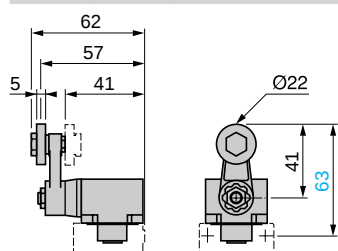
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

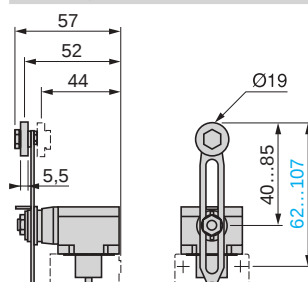
Adaptable sub-assemblies

Rotary head ZCKE05 with operating lever

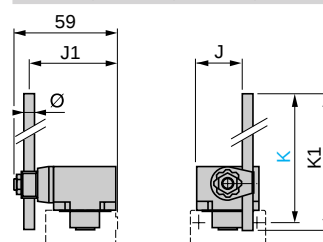
ZCKY11, ZCKY13, ZCKY14



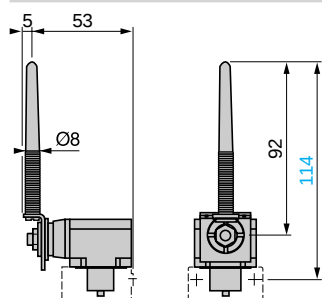
ZCKY41, ZCKY43



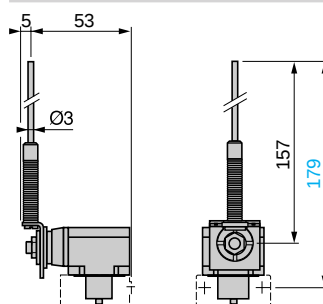
ZCKY51, ZCKY52, ZCKY53, ZCKY59



ZCKY81



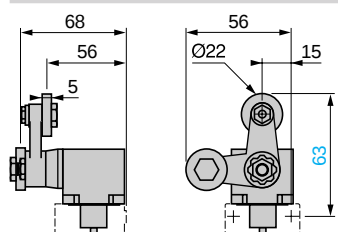
ZCKY91



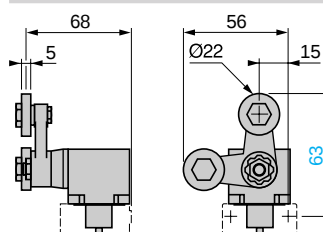
	J	J1	K max.	K1	Ø
ZCKY51	20	49	137	123	Ø 3
ZCKY52	20	49	137	125	Ø 3
ZCKY53	20	49	137	125	Ø 3
ZCKY59	26.2	48	212	200	Ø 6

Rotary head ZCKE09 with operating lever

ZCKY61

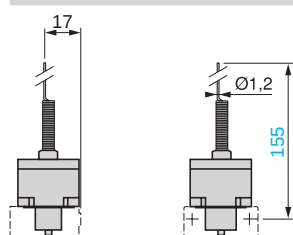


ZCKY71

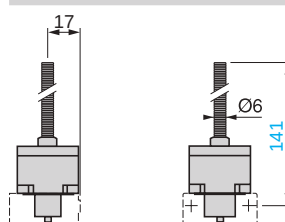


Multi-directional heads

ZCKE06

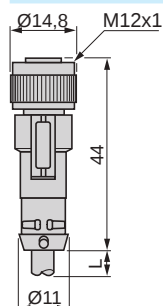


ZCKE08



Note: operating lever spindle threaded M6.

Pre-wired connectors XZCP1164L●



L = 2, 5 or 10 mm.

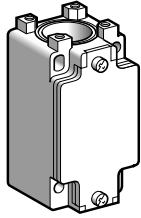
Limit switches

OsiSense XC Standard, industrial format EN 50041

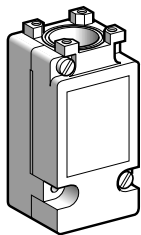
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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



ZCKJ1

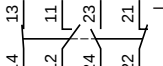
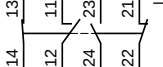


ZCKJ11

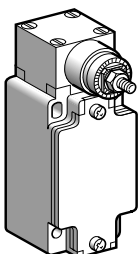
Bodies with contacts For plunger or rotary head

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
				1/2" NPT	ZCKJ5H7	0.310
	2-pole NO + NC make before break, slow break (XE2NP2161)			Pg 13.5	ZCKJ6	0.310
				ISO M20 x 1.5	ZCKJ6H29	0.310
				1/2" NPT	ZCKJ6H7	0.310
	2-pole NC + NC simultaneous, slow break (XE2NP2141)			Pg 13.5	ZCKJ7	0.310
				ISO M20 x 1.5	ZCKJ7H29	0.310
1/2" NPT				ZCKJ7H7	0.310	
2-pole NO + NO simultaneous, slow break (XE2NP2131)		-	Pg 13.5	ZCKJ8	0.310	
			ISO M20 x 1.5	ZCKJ8H29	0.310	
			1/2" NPT	ZCKJ8H7	0.310	
2-pole NC + NC snap action (XE2SP2141)			Pg 13.5	ZCKJ9	0.310	
			ISO M20 x 1.5	ZCKJ9H29	0.310	
			1/2" NPT	ZCKJ9H7	0.310	
2 step	Double-pole 2 CO staggered, snap action (XESP2031)		-	Pg 13.5	ZCKJ4	0.310
				ISO M20 x 1.5	ZCKJ4H29	0.310
				1/2" NPT	ZCKJ4H7	0.310
Plug-in bodies						
1 step	Single-pole CO snap action		-	Pg 13.5	ZCKJ11	0.300
				ISO M20 x 1.5	ZCKJ11H29	0.300
				1/2" NPT	ZCKJ11H7	0.300
	Double-pole 2 CO simultaneous snap action		-	Pg 13.5	ZCKJ21	0.300
				ISO M20 x 1.5	ZCKJ21H29	0.300
				1/2" NPT	ZCKJ21H7	0.300
2 step	Double-pole 2 CO staggered, snap action		-	Pg 13.5	ZCKJ41	0.300
				ISO M20 x 1.5	ZCKJ41H29	0.300
				1/2" NPT	ZCKJ41H7	0.300

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

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

(1) : head assuring positive opening operation.



ZCKJ4046

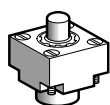
Limit switches

OsiSense XC Standard, industrial format EN 50041

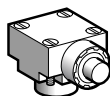
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

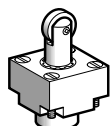
Adaptable sub-assemblies for low temperature applications (- 40°C)



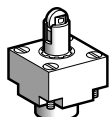
ZCKE616



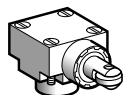
ZCKE636



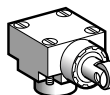
ZCKE626



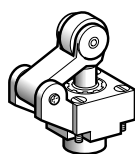
ZCKE676



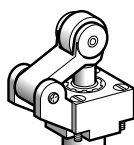
ZCKE646



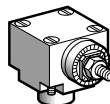
ZCKE656



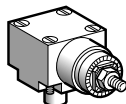
ZCKE216



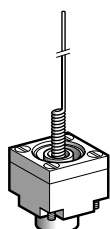
ZCKE236



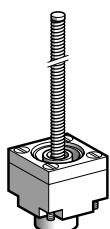
ZCKE056



ZCKE096



ZCKE066



ZCKE086

Plunger heads

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

Rotary heads (without operating lever)

Type	Compatible bodies	Maximum actuation speed	Positive operation (1)	Reference	Weight kg
Spring return, for actuation from left AND right or from left OR right (see page 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

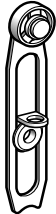
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

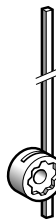
Adaptable sub-assemblies for low temperature applications (- 40°C)



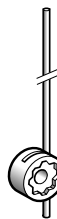
ZCKY1●



ZCKY4●



ZCKY51



ZCKY5●



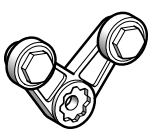
ZCKY59



ZCKY81



ZCKY91



ZCKY71



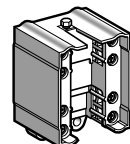
ZCKY61



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	–	XE2SP2021	0.045
2 CO staggered, snap action		ZCKJ4	–	XE2SP2031	0.045
NC + NO make before break, slow break		ZCKJ6	⊕	XE2NP2161	0.020
NC + NC simultaneous, slow break		ZCKJ7	⊕	XE2NP2141	0.020
NO + NO simultaneous, slow break		ZCKJ8	–	XE2NP2131	0.020
NC + NC snap action		ZCKJ9	⊕	XE2SP2141	0.020

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

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

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

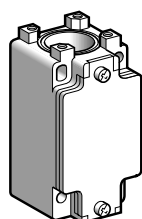
Limit switches

OsiSense XC Standard, industrial format EN 50041

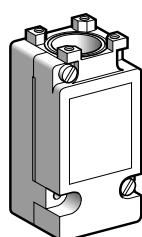
Metal, conforming to CENELEC EN 50041, XCKJ

Fixed or plug-in body

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



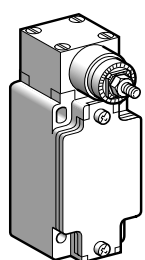
ZCKJ1



ZCKJ15

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



ZCKJ4045

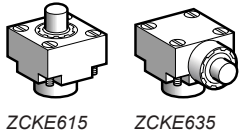
Limit switches

OsiSense XC Standard, industrial format EN 50041

Metal, conforming to CENELEC EN 50041, XCKJ

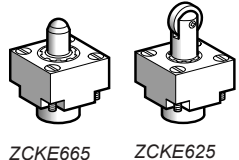
Fixed or plug-in body

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



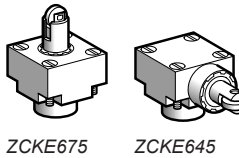
ZCKE615

ZCKE635



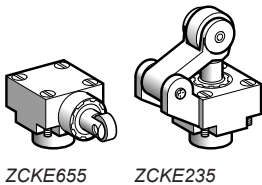
ZCKE665

ZCKE625



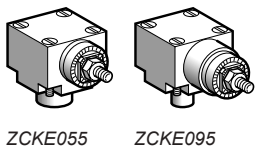
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ZCKE645



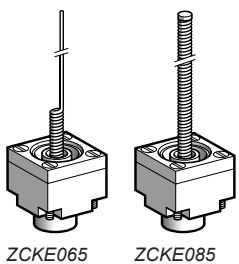
ZCKE655

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)



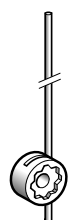
ZCKY1●



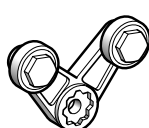
ZCKY43



ZCKY51



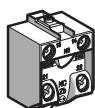
ZCKY5●



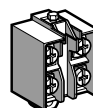
ZCKY715



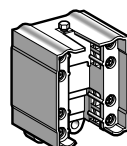
ZCKY615



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
	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		XCKD2549P16	53	XCKML510	94	XCKP2121M12	50	XCKZ09	100
AB1R11	100	XCKD25H0P16	53	XCKML510H29	94	XCKP2121P16	46	XCMD2101C12	39
D		XCKD25H2P16	53	XCKML515	94	XCKP2127M12	50	XCMD2101L1	39
DE9RA1012	64	XCKJ10511A	124	XCKML515H29	94	XCKP2127P16	46	XCMD2101M12	39
	78	XCKJ10511D	122	XCKML521	94	XCKP2128M12	50	XCMD2102C12	26
	79	XCKJ10511H29	118	XCKML521H29	94	XCKP2128P16	46	XCMD2102L1	20
	85	XCKJ10513A	124	XCKN2102P20	76	XCKP2139M12	51	XCMD2102M12	26
DE9RA1212	113	XCKJ10513D	122	XCKN2103P20	76	XCKP2139P16	47	XCMD2106C12	27
DE9RA2012	113	XCKJ10513H29	118	XCKN2106P20	77	XCKP2145M12	51	XCMD2106L1	21
X		XCKJ10541A	124	XCKN2108P20	77	XCKP2145P16	47	XCMD2106M12	27
XALZ09	64	XCKJ10541D	122	XCKN2110P20	76	XCKP2149M12	51	XCMD2110C12	26
XCDR2102P20	70	XCKJ10541H29	118	XCKN2118P20	77	XCKP2149P16	47	XCMD2110L1	20
XCDR2110P20	70	XCKJ10559A	124	XCKN2121P20	76	XCKP21H0M12	51	XCMD2110M12	26
XCDR2118P20	70	XCKJ10559D	122	XCKN2127P20	76	XCKP21H0P16	47	XCMD2111C12	26
XCDR2119P20	70	XCKJ10559H29	118	XCKN2139P20	77	XCKP21H2M12	51	XCMD2111L1	20
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XCDR2127P20	70	XCKJ110513H29	120	XCKN2149P20	77	XCKP2501G11	64	XCMD2115C12	27
XCDR2502P20	70	XCKJ110541H29	120	XCKN2502P20	76	XCKP2501P16	64	XCMD2115L1	21
XCDR2510P20	70	XCKJ110559H29	120	XCKN2503P20	76	XCKP2502P16	46	XCMD2115M12	27
XCDR2518P20	70	XCKJ1161H29	120	XCKN2506P20	77	XCKP2506P16	47	XCMD2116C12	27
XCDR2519P20	70	XCKJ1167H29	120	XCKN2508P20	77	XCKP2510P16	46	XCMD2116L1	21
XCDR2521P20	70	XCKJ161A	124	XCKN2510P20	76	XCKP2511P16	46	XCMD2116M12	27
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XCKD2528P16	52	XCKML502	94	XCKP2118M12	51	XCKT2501G11	64	XCMN2159L1	43
XCKD2539P16	53	XCKML502H29	94	XCKP2118P16	47	XCKT2501P16	64	XCMN21F0L1	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
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XCNR2110P20	84	XCPR2118P20	68		113	ZCE02	59	ZCKD21	90
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XCNT2503P16	78		113	XZCP1764L10	122		52	ZCKE178	142
XCNT2503P16	78		132	XZCP1764L2	124		56	ZCKE179	139
XCNT2506P16	79		140	XZCP1764L5	124	ZCE24	58	ZCKE180	142
XCNT2508P16	79		143		30		22	ZCKE181	118
XCNT2510P16	78	XE2NP2151	65	XZCP1771L10	30		28	ZCKE182	142
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XCNT2539P16	79		140				56	ZCKJ0134	1

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ZCKJ134H29	130	ZCKJ521H29	130	ZCKL1H7	98		112	ZCMC25L10	38
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	138	ZCKJ5D	131	ZCKL6	98	ZCKS9	112	ZCMC29L2	38
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	138	ZCKJ5H7	128	ZCKL7H7	98	ZCKSD31	112	ZCMC29L7	38
	141		138	ZCKL8	98	ZCKSD31H29	112	ZCMC29L10	38
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	138	ZCKJ6	128	ZCKLD31	99	ZCKSD35H29	112	ZCMC37L1	38
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	138		141	ZCKLD35	99	ZCKSD37H29	107	ZCMC37L5	38
ZCKJ215	141	ZCKJ6D	131	ZCKLD35H7	99		112	ZCMC39L1	38
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ZCKJ215H7	141		138		99	ZCKSD39H29	107	ZCMC39L5	38
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	138	ZCKJ6H7	128	ZCKLD39	92	ZCKY11	118	ZCMC4DL2	38
ZCKJ21H7	129		138		99		140	ZCMC4DL5	38
	138		141	ZCKLD39H7	99	ZCKY115	143	ZCMD21	36
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ZCKJ2H29	128	ZCKJ7D	131	ZCKM5	98		143		29
	138	ZCKJ7H29	118	ZCKM5H29	98	ZCKY41	118	ZCMD21L08U78	28
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	138		141	ZCKM6	98	ZCKY415	143	ZCMD21L1	37
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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
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