Limit switches
OsiSense XC Standard

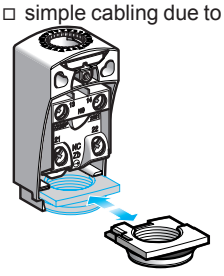
Design		"Classic" format		EN 50041 format	Industrial EN50041 format
		Metal, 3 cable entries	Metal, 1 cable entry	Plastic, 1 cable entry	Metal, 1 cable entry or connector
					
Enclosure		Metal		Plastic, double insulated	Metal
Modularity		Head, body and operator modularity			
Conformity/Certifications		UL, CSA, CCC (XCKM), GOST		CENELEC EN 50041 UL, CSA, CCC, GOST	
Body dimensions (w x h x d) in mm		63 x 64 x 30	52 x 72 x 30	40 x 72.5 x 36	40 x 77 x 44 42.5 x 84 x 36
Head		Linear movement (plunger) Rotary movement (lever) Rotary movement, multidirectional			
Contact blocks					
2 electrically separate contacts	snap action with positive opening operation	•	•	•	•
	slow break with positive opening operation	•	•	•	•
2 same polarity contacts	snap action	–	–	–	•
	slow break	–	–	–	–
3 electrically separate contacts	snap action with positive opening operation	•	•	•	•
	slow break with positive opening operation	•	•	•	•
4 electrically separate contacts	snap action with positive opening operation	–	–	–	–
	slow break with positive opening operation	–	–	–	–
4 contacts (2 x 2 same polarity contacts)	snap action	–	–	•	•
Degree of protection IP/IK		IP 66, IK 06		IP 65, IK 03	IP 66, IK 07
Operating temperature		- 25°C... + 70°C			- 25°C... + 70°C - 40°C or + 120°C depending on model
Connection	**Screw terminals (entry for cable gland)**	3 entries for ISO M20 or Pg 11 cable gland or 1/2" NPT	1 entry incorporating cable gland or tapped 1/2" NPT	1 entry for ISO M20 or Pg 13.5 cable gland	1 entry for ISO M20 or Pg 13.5 cable gland or 1/2" NPT
	Connector	–			Integral M12 or 7/8"-16UN
Type reference		**XCKM**	**XCKL**	**XCKS**	**XCKJ**
Pages		1/74	1/74	1/90	1/102

Limit switches
OsiSense XC
Variable composition: **s**implicity through **i**nnovation

Principle (continued)

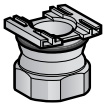
Cable entries

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



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

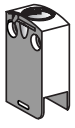
□ ISO M16 x 1.5
□ Pg 11



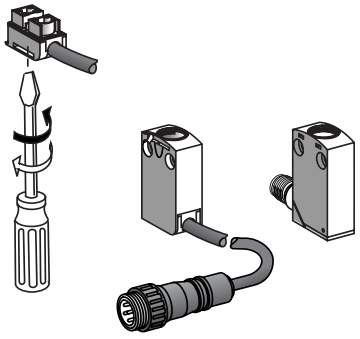
□ ISO M20 x 1.5
□ Pg 13.5
□ 1/2" NPT
□ PF 1/2 (G 1/2)

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

Connection components

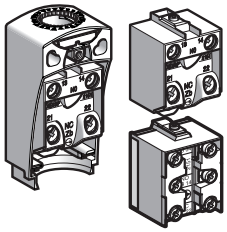


■ The miniature XCMD range allows interchanging of these pre-cabled connection components:
□ a 1/4 of a turn is all that is required for removing the connection component on XCMD bodies with 2 and 3 contacts,
□ 6 alternative cable lengths are available as standard.

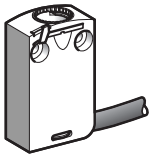


■ The miniature XCMD range also includes an integral or remote connector solution.

Contact block or bodies with contact



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

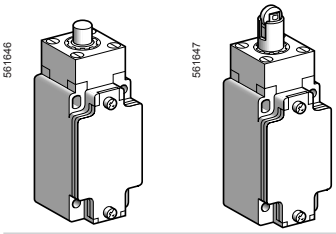


■ For the miniature design XCMD range, the contacts are an integral part of the body:
□ 2 and 3 snap action and slow break contacts, with positive opening operation, and interchangeable connection component,
□ 4 snap action contacts, with positive opening operation, with monolithic body and connection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

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

■ XCKJ
fixed body with 1 cable entry

□ With head for linear movement (plunger)



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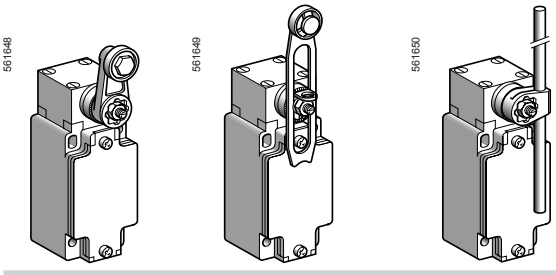
□ With head for rotary movement (lever)



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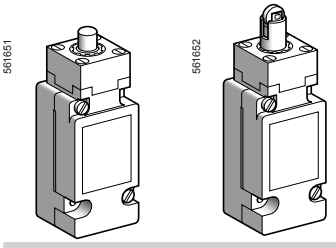
■ XCKJ
plug-in body with 1 cable entry

□ With head for linear movement (plunger)



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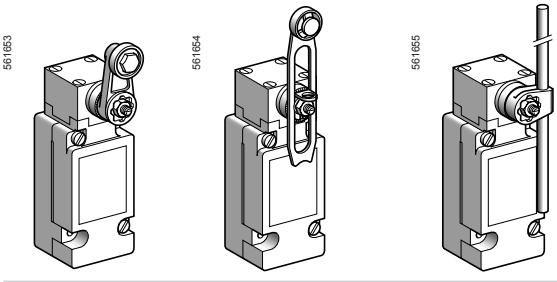
□ With head for rotary movement (lever)



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Environment characteristics

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

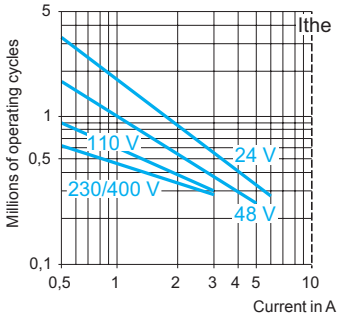
Limit switches
OsiSense XC Standard
Industrial format EN 50041
Metal, type XCK J
Conforming to CENELEC EN 50041

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 (gI)
	XE3●P	6 A cartridge fuse type gG (gI)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min:1 x 0.34 mm², max: 2 x 1.5 mm²
	XE2NP21●1	Clamping capacity, min:1 x 0.5 mm², max: 2 x 2.5 mm²
	XCKJ plug-in and XESP20●1	Clamping capacity, min:1 x 0.75 mm², max: 2 x 1.5 mm²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm², max: 1 x 1 mm² or 2 x 0.75 mm²
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

XE2SP21●1, XE2SP2141

AC supply
50/60 Hz ∼
⎓ inductive circuit

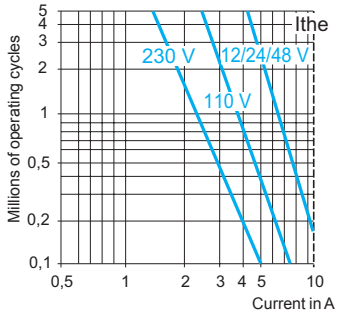


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	10	7	4

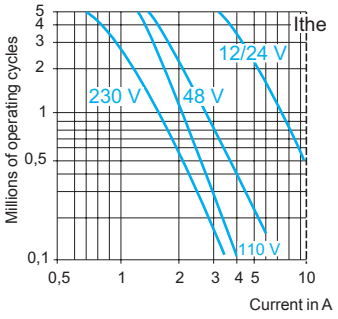
XE2NP21●1



Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	13	9	7

XCK J plug-in, XES P20●1



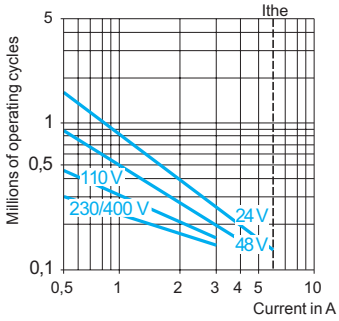
Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	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

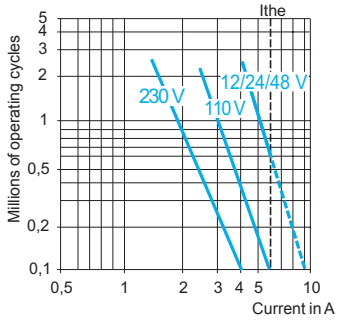


DC supply ⎓

Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	3	2	1

XE3NP●●●●

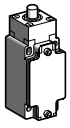
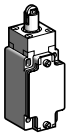
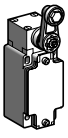
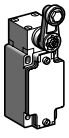
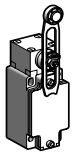
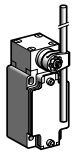
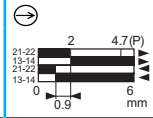
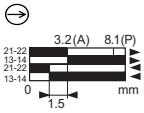
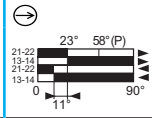
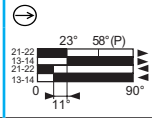
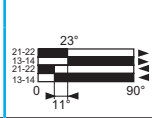
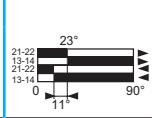
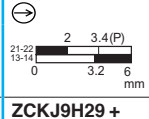
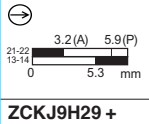
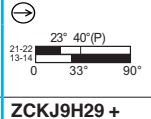
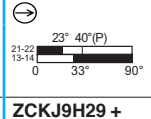
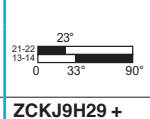
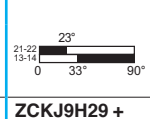
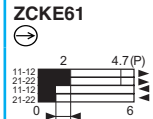
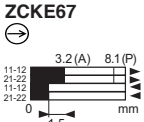
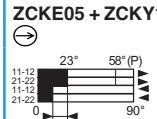
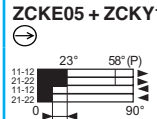
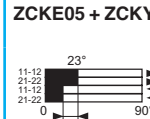
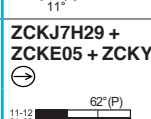
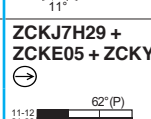
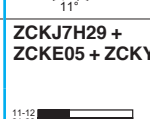
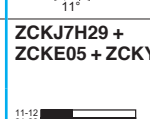
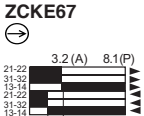
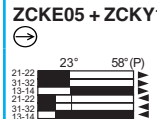
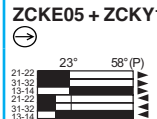


Power broken in W for 5 million operating cycles.

Voltage	V	24	48	120
⎓	W	4	3	2

Limit switches

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

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

Contact operation
- closed
- open

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

⊖ *NC contact with positive opening operation*

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

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

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

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

(1) Form conforming to EN 50041, see page 1/137.
(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.