





Limit Switches

Selection Guide

Osiswitch® Universal

Design	Miniature		Compact	
				
Catalog number	XCMD	XCKD	XCKP	XCKT
Enclosure	Metal		Plastic, double insulated	
Features	Mounting by the body or by the head			
Modularity	Head, body and connection modularity			Head and body modularity
CENELEC conformity	—	EN 50047	EN 50047 compatible	
Body dimensions (w x h x d), mm (in.)	30 x 50 x 16 (1.18 x 1.97 x 0.63)	31 x 65 x 30 (1.22 x 2.56 x 1.18)	58 x 51 x 30 (2.28 x 2.01 x 1.18)	
Head	Linear movement (plunger) Rotary movement (lever) Rotary movement, multi-directional Same heads for ranges XCMD, XCKD, XCKP and XCKT			
Contact blocks	2 snap action contacts with positive opening operation	N/C + N/O; N/C + N/C		N/C + N/O
	3 snap action contacts with positive opening operation	N/C + N/C + N/O	N/C + N/C + N/O; N/C + N/O + N/O	
	4 snap action contacts with positive opening operation	N/C + N/C + N/O + N/O	—	
	2 slow break contacts with positive opening operation	N/C + N/O break before make	N/C + N/O break before make; N/O + N/C make before break; N/C + N/C simultaneous	
	2 slow break contacts	—	N/O + N/O simultaneous	
	3 slow break contacts with positive opening operation	N/C + N/C + N/O break before make	N/C + N/C + N/O break before make; N/C + N/O + N/O break before make	
Insulation voltage (Ui) / thermal current (Ithe)	Pre-cabled 2 contacts: 400 V/6 A 3 contacts: 400 V/4 A 4 contacts: 400 V/3 A	Screw terminal 2 contacts: 500 V/10 A 3 contacts: 400 V/6 A		Screw terminal 2 contacts: 500 V/10 A
Connector	Integral M12, 4-pin: 250 V/3 A Integral M12, 5-pin: 60 V/4 A Remote 7/8" 16UN: 250 V/6 A	Integral M12, 5-pin: 60 V/4 A	Integral M12, 4-pin: 250 V/3 A	—
Degree of protection	NEMA Types 1, 2, 4X, 6, 12 IP 66, IP 67, IP 68, IK 06	NEMA Types 1, 2, 4, 6, 12, 13 IP 66, IP 67, IK 06	NEMA Types 1, 2, 4, 6, 6P, 12, 13 IP 66, IP 67, IK 04	NEMA Types 1, 2, 4, 6, 12, 13 IP 66, IP 67, IK 04
Connection	Screw terminals	—	1 entry for ISO M16 or M20, PG 11, PG 13 conduit thread or 1/2" NPT, PF 1/2	2 entries for ISO M16 or PG 11 conduit thread or 1/2" NPT (using adapter)
	Pre-cabled	Integral: No Remote: Yes	—	
	Connector	Integral or remote M12 or remote 7/8" 16UN	Integral M12	
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Limit Switches

Osiswitch® Compact

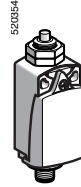
Universal, XCKP and XCKT Plastic / XCKD Metal

■ **XCKP, XCKD**
with 1 cable entry
Conforming to CENELEC EN 50047

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



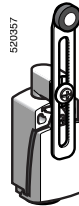
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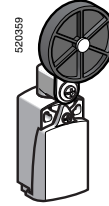
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□ With head for rotary movement (lever) or multi-directional. Mounting by the body.
XCKD **XCKP**



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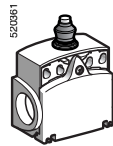


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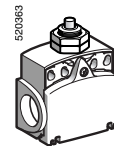
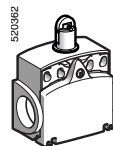


■ **XCKT**
with 2 cable entries
Tripping/resetting points and mounting centers conform to CENELEC EN 50047

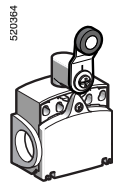
□ With head for linear movement (plunger). Mounting by the head or by the body.
XCKT



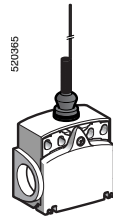
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□ With head for rotary movement (lever) or multi-directional. Mounting by the body.
XCKT



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Environmental characteristics

Conforming 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	Operation	- 25...+70 °C (-13...+158 °F)
	Storage	- 40...+70 °C (-40...+158 °F)
Vibration resistance	Conforming to IEC 60068-2-6	25 gn (10...500 Hz) except switch with head ZCE 24: 20 gn
Shock resistance	Conforming to IEC 60068-2-27	50 gn (11 ms) except heads 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 integral connector	Depending on model	Either: tapped entry for PG 11 or PG 13 conduit thread, tapped ISO M16 x 1.5 or ISO M20 x 1.5, tapped 1/2" NPT, tapped PF 1/2 (G1/2) or integral M12 connector
Materials		XCKD : Zamak® bodies and heads, XCKP and XCKT : plastic bodies, Zamak heads

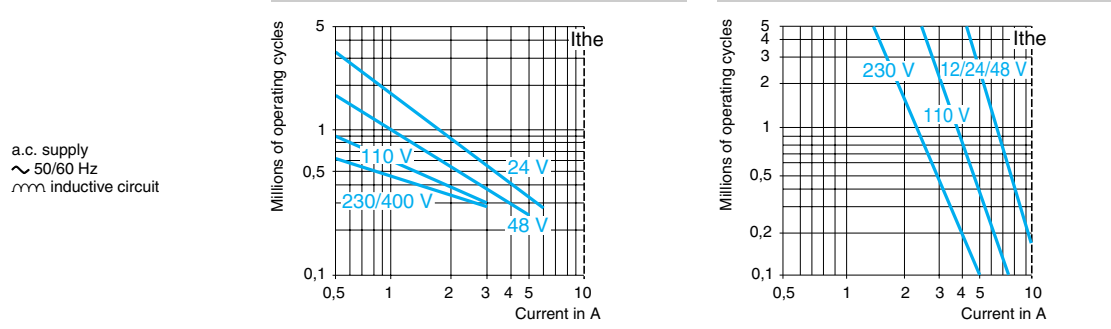
Limit Switches

Osiswitch® Compact

Universal, XCKP and XCKT Plastic / XCKD Metal

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)	N/C contacts with positive opening operation conforming to IEC 60 947-5-1 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)
Cabling (screw clamp terminals)	XE2SP•151 and XE2SP2141 Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
	XE2NP21•1 and XE2NP31•1 Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XE3NP and XE3SP Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed (for head with end plunger)	XE2SP•151, XE2SP2141 and XE3SP: 0.01 m/minute (0.03 ft/minute)
	XE2NP21•1, XE2NP31•1 and XE3NP: 6 m/minute (19.68 ft/minute)
Electrical durability	<ul style="list-style-type: none"> Conforming to IEC 60947-5-1 Appendix C Utilization categories AC-15 and DC-13 Maximum operating rate: 3600 operating cycles/hour Load factor: 0.5

XE2SP•151, XE2SP2141	XE2NP21•1, XE2NP31•1
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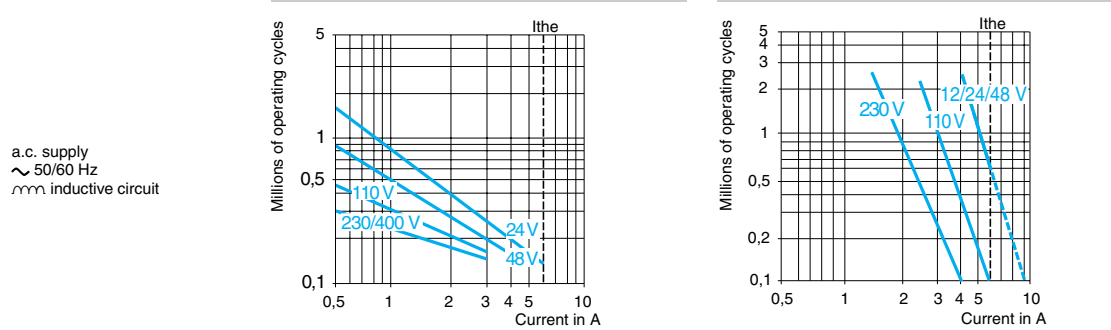


Power switched in W for 5 million operating cycles.				
Voltage	V	24	48	120
∞	W	10	7	4

Power switched in W for 5 million operating cycles.				
Voltage	V	24	48	120
∞	W	13	9	7

For XE2SP•151 on ~ or ≡, N/C and N/O contacts simultaneously loaded to the values shown with reverse polarity.

XE3NP••••	XE3SP••••
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
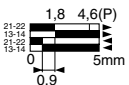
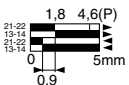
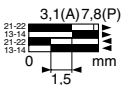
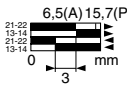
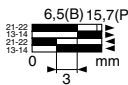
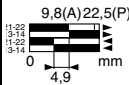

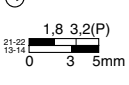
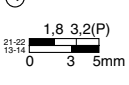
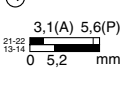
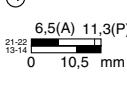
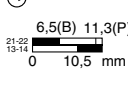
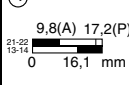




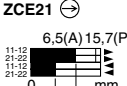
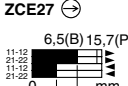


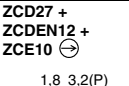
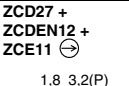
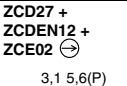
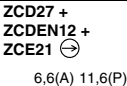
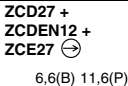
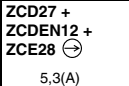

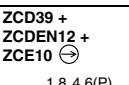
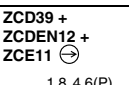
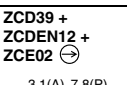
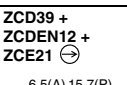
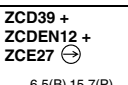
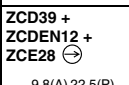






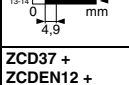



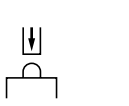
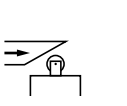
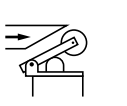

Power switched in W for 5 million operating cycles.				
Voltage	V	24	48	120
∞	W	3	2	1

Power switched in W for 5 million operating cycles.				
Voltage	V	24	48	120
∞	W	4	3	2

Limit Switches

Osiswitch® Compact, Metal

Universal, XCKD—Complete Units with 1/2" NPT Cable Entry

Type of head	Plunger (mounting 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
Catalog Numbers (2) (3)						
 2-pole N/C + N/O snap action (XE2S P2151)	XCKD2110N12 	XCKD2111N12 	XCKD2102N12 	XCKD2121N12 	XCKD2127N12 	XCKD2128N12 
 2-pole N/C + N/O break before make, slow break (XE2N P2151)	XCKD2510N12 	XCKD2511N12 	XCKD2502N12 	XCKD2521N12 	XCKD2527N12 	XCKD2528N12 
 2-pole N/C + N/C snap action (XE2S P2141)	ZCD29 + ZCDEN12 + ZCE10 	ZCD29 + ZCDEN12 + ZCE11 	ZCD29 + ZCDEN12 + ZCE02 	ZCD29 + ZCDEN12 + ZCE21 	ZCD29 + ZCDEN12 + ZCE27 	ZCD29 + ZCDEN12 + ZCE28 
 2-pole N/C + N/C simultaneous, slow break (XE2N P2141)	ZCD27 + ZCDEN12 + ZCE10 	ZCD27 + ZCDEN12 + ZCE11 	ZCD27 + ZCDEN12 + ZCE02 	ZCD27 + ZCDEN12 + ZCE21 	ZCD27 + ZCDEN12 + ZCE27 	ZCD27 + ZCDEN12 + ZCE28 
 3-pole N/C + N/C + N/O snap action (XE3SP2141)	ZCD39 + ZCDEN12 + ZCE10 	ZCD39 + ZCDEN12 + ZCE11 	ZCD39 + ZCDEN12 + ZCE02 	ZCD39 + ZCDEN12 + ZCE21 	ZCD39 + ZCDEN12 + ZCE27 	ZCD39 + ZCDEN12 + ZCE28 
 3-pole N/C + N/C + N/O break before make, slow break (XE3N P2141)	ZCD37 + ZCDEN12 + ZCE10 	ZCD37 + ZCDEN12 + ZCE11 	ZCD37 + ZCDEN12 + ZCE02 	ZCD37 + ZCDEN12 + ZCE21 	ZCD37 + ZCDEN12 + ZCE27 	ZCD37 + ZCDEN12 + ZCE28 
Weight, kg (lb)	0.180 (0.397)	0.180 (0.397)	0.185 (0.408)	0.195 (0.430)	0.190 (0.419)	0.195 (0.430)
Contact operation	 contact closed  contact open		(A)(B) = cam displacement (P) = positive opening point		 N/C contact with positive opening operation, when properly mounted and using a conforming operator	
Characteristics						
Switch actuation	On end			By 30° cam		
Type of actuation						
Maximum actuation speed	0.5 m/s (1.64 ft/s)			1 m/s (3.28 ft/s)		
Minimum force or torque	For tripping		15 N (3.37 lb)		12 N (2.70 lb)	
	For positive opening		45 N (10.12 lb)		36 N (8.09 lb)	
For positive opening					18 N (4.05 lb)	
Cable entry (3)	1 entry tapped M16 x 1.5 mm for ISO cable entry, clamping capacity 4 to 8 mm (0.16 to 0.31 in.)					

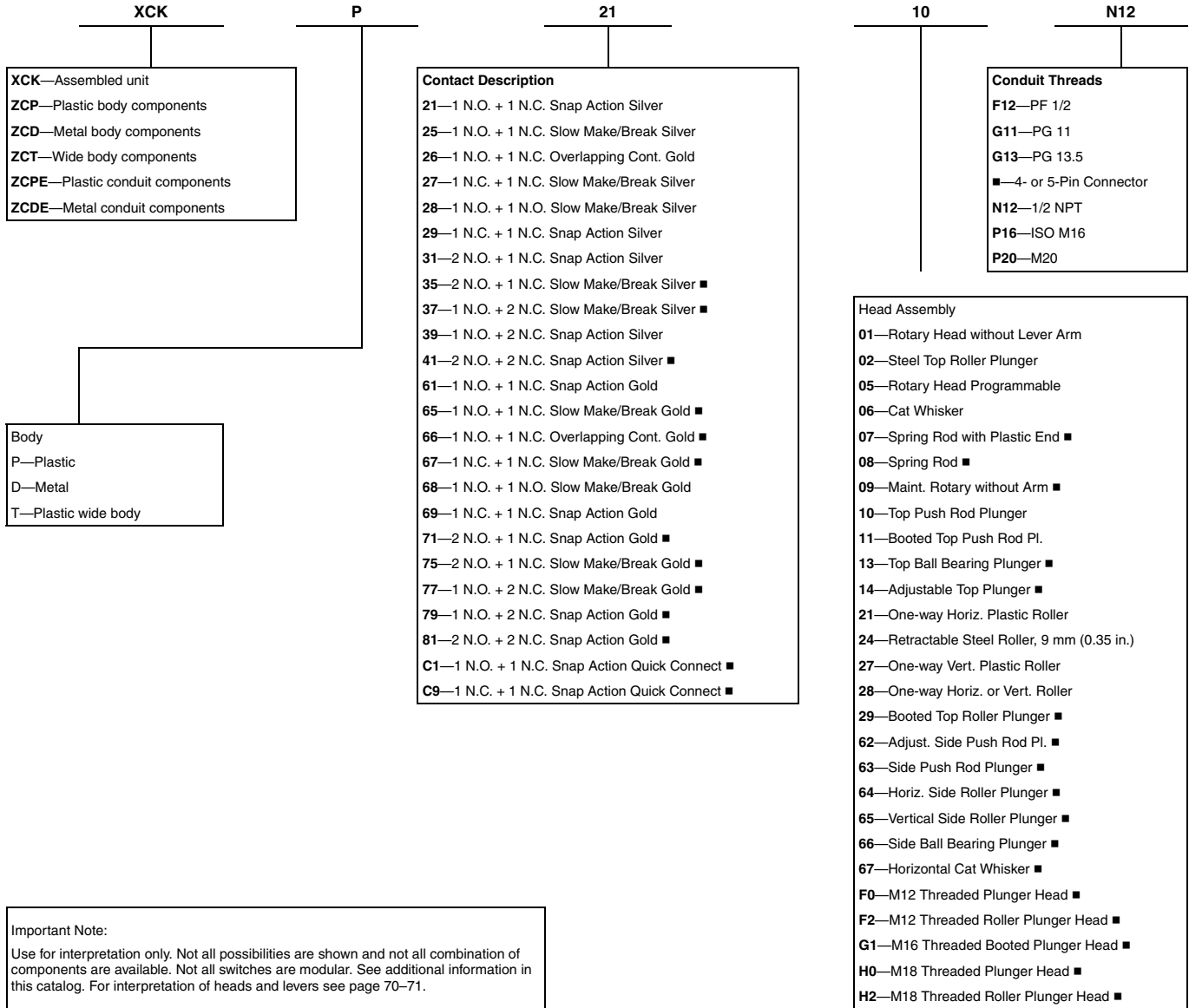
- Form conforming to EN 50047. See page 22.
- Switches with gold contacts or ring type connections: please consult your local sales office.
- For an entry tapped for a PG 11 conduit thread, replace N12 in the catalog number with **G11**. Examples: XCKD2110N12 becomes **XCKD2110G11**, ZCDEN12 becomes **ZCDEG11**.

Limit Switches

Osiswitch® Compact, Metal and Plastic Universal, XCKD, XCKP, and XCKT

Catalog Number Interpretation

For Interpretation of the Catalog Number Only



■ Call your local field sales office for availability.