

Limit switches

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

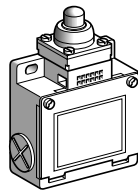
1

■ **XCKM**,
with 3 cable entries

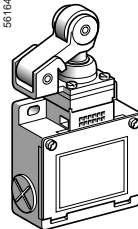
□ With head for linear movement
(plunger)

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

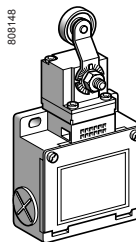
561643



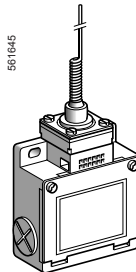
561644



808148



561645



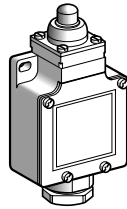
Page 1/76

■ **XCKL**,
with 1 cable entry

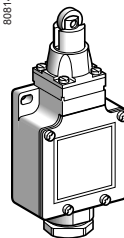
□ With head for linear movement
(plunger)

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

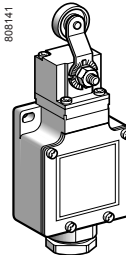
808140



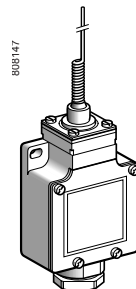
808145



808141



808147



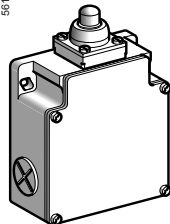
Page 1/78

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

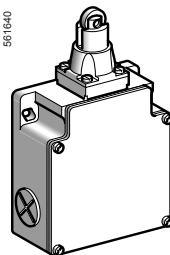
□ With head for linear movement
(plunger)

□ With head for rotary movement
(lever)

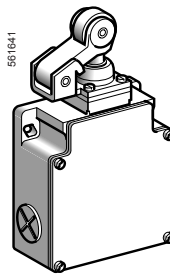
561639



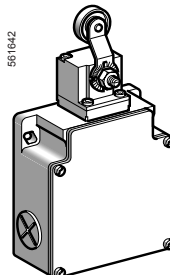
561640



561641



561642



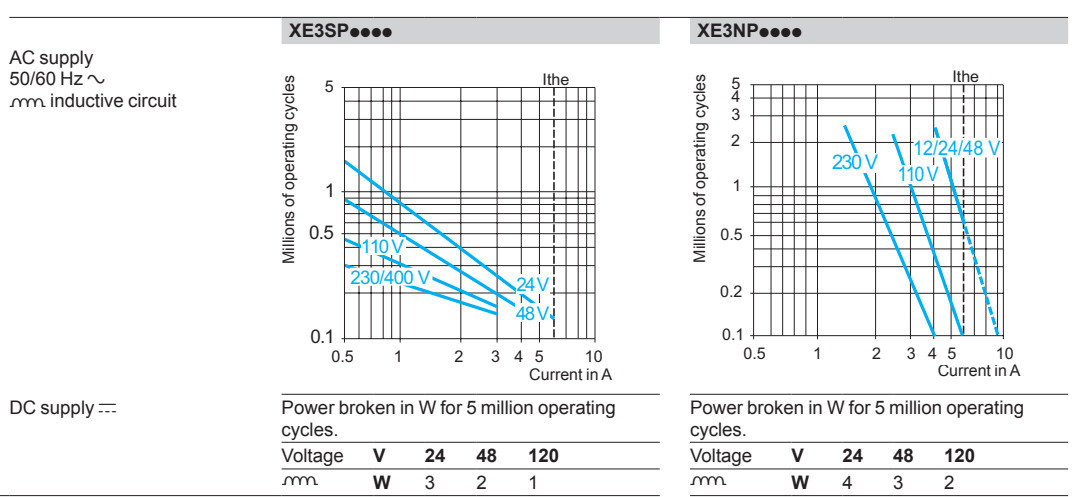
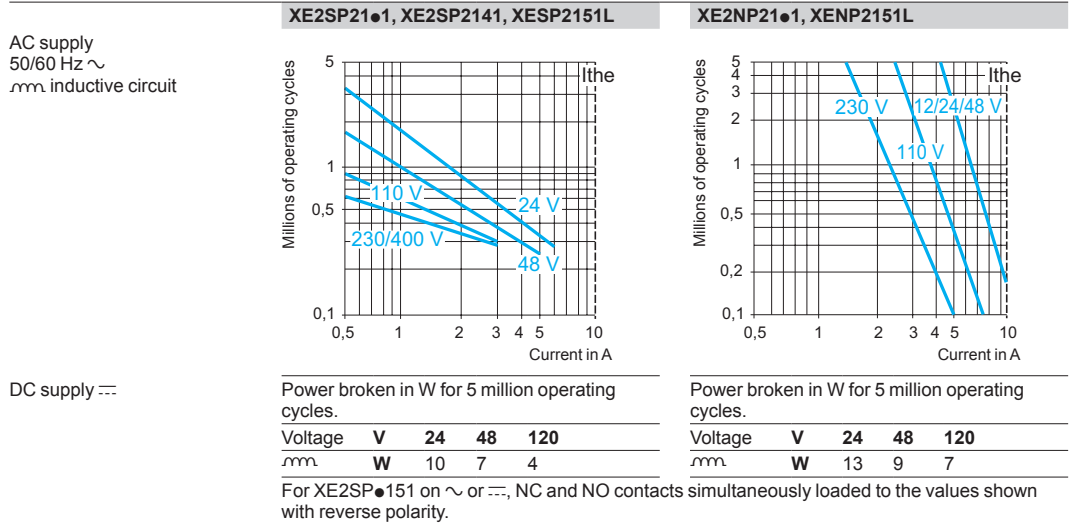
Page 1/80

Environment characteristics

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

Contact block characteristics		
Rated operational characteristics	XE2●P	~ AC-15; A300 (Ue = 240 V, Ie = 3 A); Ithe = 10 A --- DC-13; Q300 (Ue = 250 V, Ie = 0.27 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
	XE3●P	~ AC-15; B300 (Ue = 240 V, Ie = 1.5 A); Ithe = 6 A --- DC-13; R300 (Ue = 250 V, Ie = 0.1 A), conforming to IEC 60947-5-1 Appendix A, EN 60947-5-1
Rated insulation voltage	XE2●P	Ui = 500 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
	XE3●P	Ui = 400 V degree of pollution 3 conforming to IEC 60947-1 Ui = 300 V conforming to UL 508, CSA C22-2 n° 14
Rated impulse withstand voltage	XE2●P	U imp = 6 kV conforming to IEC 60947-1, IEC 60664
	XE3●P	U imp = 4 kV conforming to IEC 60947-1, IEC 60664
Positive operation (depending on model)		NC contacts with positive opening operation conforming to IEC 60947-5-1 Appendix K, EN 60947-5-1
Resistance across terminals		≤ 25 mΩ conforming to IEC 60255-7 category 3
Short-circuit protection	XE2●P	10 A cartridge fuse type gG (gl)
	XE3●P	6 A cartridge fuse type gG (gl)
Connection (screw clamp terminals)	XE2SP21●1	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ²
	XE2NP21●1	Clamping capacity, min: 1 x 0.5 mm ² , max: 2 x 2.5 mm ²
	XESP2151L and XENP2151L	Clamping capacity, min: 1 x 0.34 mm ² , max: 2 x 1.5 mm ² or 1 x 2.5 mm ²
	XE3NP and XE3SP	Clamping capacity, min: 1 x 0.34 mm ² , max: 1 x 1 mm ² or 2 x 0.75 mm ²
Minimum actuation speed		XE2SP21●1, XESP2151L and XE3SP: 0.01 m/minute XE2NP21●1, XENP2151L and XE3NP: 6 m/minute

- Electrical durability**
- 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



Limit switches

OsiSense XC Special

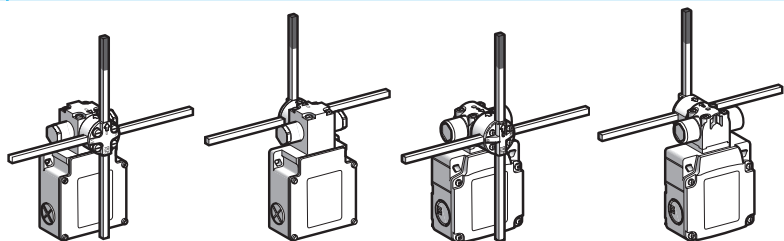
For hoisting and material handling applications

XCKMR and XCKVR

Complete switches with 3 cable entries

1

Type of operating head	Rotary
-------------------------------	---------------



Material	Metal		Plastic	
Type of operator	With cruciform metal rods	With cruciform metal rods, reversed head	With cruciform metal rods	With cruciform metal rods, reversed head

References

“By pass” switches

	2 x 2-pole NC+NO break before make, slow break (XE2NP2151)	XCKMR24SR1H29	-	XCKVR24SR1H29	-
--	--	---------------	---	---------------	---

“Single speed” switches

	2 x 2-pole NC+NO break before make, slow break (XE2NP2151)	XCKMR44D1H29	XCKMR44D2H29	XCKVR44D1H29	XCKVR44D2H29
--	--	--------------	--------------	--------------	--------------

“Double speed” switches (⊖ NC contact with positive opening operation on contacts 21-22)

	2 x 2-pole NC+NC break before make, slow break (non interchangeable contacts)	XCKMR54D1H29 (1)	XCKMR54D2H29 (1)	XCKVR54D1H29	XCKVR54D2H29
--	---	------------------	------------------	--------------	--------------

Weight (kg)	0.684	0.684	0.320	0.320
--------------------	-------	-------	-------	-------

Complementary characteristics

Switch actuation	Horizontal	Horizontal
Permissible actuation area on the rods	Between 65 and 95 mm from the axis of the fixing screws on the body	
Minimum actuation speed	0.1 m/mn	0.1 m/mn
Maximum actuation speed (2)	1.5 m/s	1.5 m/s
Minimum force or torque	For tripping	0.5 N.m
	For positive opening	0.75 N.m
Mechanical durability		2 million operating cycles
		1 million operating cycles
Setting up	Rods included with the switch: for customer assembly	

References of separate components

	Description	Reference	Weight kg
XCRZ03	Rod \varnothing 6 mm, L = 200 mm	XCRZ03	0.020
	Rod \varnothing 6 mm, L = 200 mm with red mark	XCRZ03R	0.020
	Plastic cable gland ISO M20	DE9PEM20010	0.010

DE9PEM20010

(1) For complete switches with entry for Pg 13.5 cable gland, delete H29 from the end of the reference. Example: XCKMR54D1H29 becomes XCKMR54D1.

(2) For an actuation point on the rod between 65 and 95 mm from the axis of the fixing screws on the body.

Limit switches

OsiSense XC Special

For hoisting and material handling applications

XCKMR and XCKVR

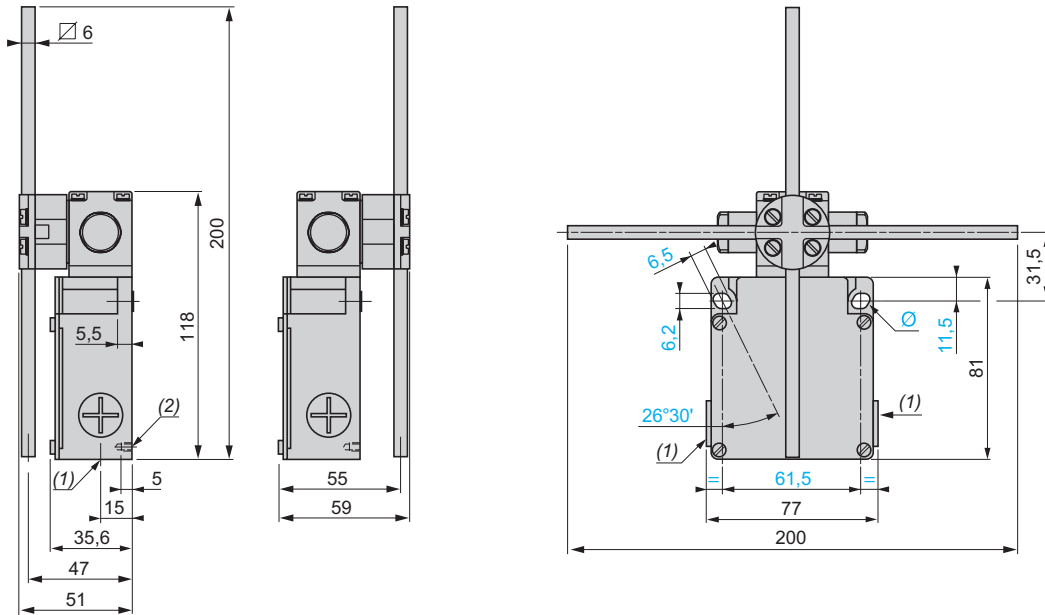
Complete switches with 3 cable entries

Dimensions

Metal limit switches

XCKMR24SR1H29,
XCKMR44D1H29 and
XCKMR54D1H29

XCKMR44D2H29 and XCKMR54D2H29



(1) XCKMR●●●H29 = 3 tapped entries ISO M20 x 1.5.

XCKMR●●● = 3 tapped entries for Pg 13.5 cable gland.

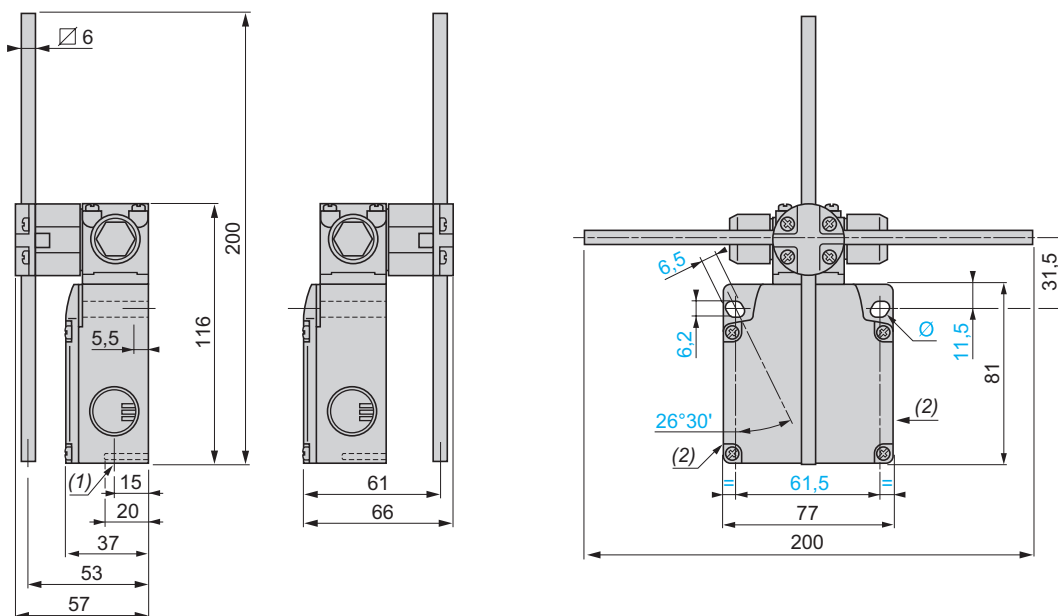
(2) 2 centring holes $\varnothing 3.9 \pm 0.2$, for cover fixing holes alignment.

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

Plastic limit switches

XCKVR24SR1H29,
XCKVR44D1H29 and
XCKVR54D1H29

XCKVR44D2H29 and XCKVR54D2H29



(1) 1 tapped entry ISO M20 x 1.5.

(2) 2 knock-out holes for ISO M20 cable gland (reference: DE9 PEM20010).

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