Telemecanique Sensors
The essential guide of Detection

Simply easy!™

Telemecanique
Sensors

Telemecanique Sensors

Simply easy!™*

Founded over 90 years ago,
Telemecanique Sensors is specialized
in sensors and sensor-related technology.

As a global leader in the sensors
business,
we help our customers select the right
technology to get the best performance and
reliability from their machines.

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we have become experts in factory automation sensors as well as
specialists in demanding applications, making our customers' lives
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Detection

Telemecanique Sensors
Zoom on...

• Safety switches

◀ Preventa™ XUSL, the new safety Light Curtains, for an efficient protection of machine operators, for finger, hand and body

Preventa™ XY2CJ is the first emergency stop trip wire switch in compliance with NiSD certification according to the IEC 60947-5-5 standard.
Colour coded sections on the pull reset button make the visualization of switch status easy and allow a quick machine restart. ▶

◀ The dual pre-cabled safety rope switch is an easy way to increase safety all throughout the machine work zone.
Enabling a pre-cabled length up to 2x100m, you can protect your personnel and machines better with Preventa™ XY2CED.
emergency stop rope switch, easy to reach and trigger from everywhere in the work zone.

Preventa™ XCSR the new contactless safety switches RFID to secure the hazardous areas. High level of safety in a compact size, highly untamparable and easy to install. ▶

• Wireless limit switch

OsiSense™ XCKW enables wireless machine communication where cabling is difficult, expensive, or unwanted. It's also the perfect way to give mobile machines more freedom of movement.

To further simplify the installation process, the device comes in a plug & play kit, and is also offered in out-of-the-box compatible packs comprising anOsiSense™ XCKW limit switch and a receiver.

• Photo Electric sensors

OsiSense™ XUK9T is a sensor for distance measurement. Its anti-collision mode and tandem mode are ideal for overhead cranes applications. It operates according to the Time of Flight (TOF) principle: light measured by time of flight.

OsiSense™ XG RFID, the new Telemecanique Sensors reader XG RFID strengthens the machines safety via an innovative and easy-to-configure system. This new solution can be easily integrated into a control panel via a standard hole of 22mm. It will allow to differentiate the available functions in your machines depending on each user's profile.

• Inductive proximity sensors

OsiSense™ XS is the first product combining both SIL2 certification from the TÜV and E2 certification dedicated to mobile equipment.
Complementary outputs (NO+NC), combined with the high level of safety, guarantee the overall reliability of your installation, detecting instantly any failure (short cut, pre-cabled vulnerability, etc.).

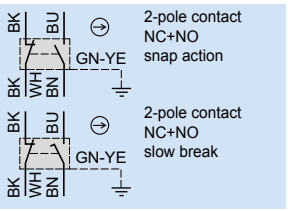
• Sensors for pressure control

Latest sensor in the XMLP family OsiSense™ XMLP low pressure combines compact size and high reliability
Combining any OsiSense™ XMLP sensor with OsiSense™ ZMLP
display is an easy and economical way:
• to get a pressure switch function
• to have an on-device or remote pressure display delivering a clear view of accurate pressure information even if the conduit runs in a hard to access location.

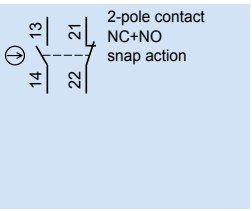
Limit switches

Compact and miniature, complete switches (variable composition, see pages 6-7)

XCMD



XCKT



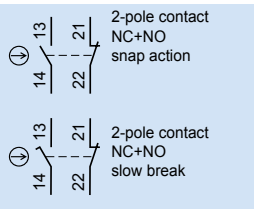
Miniature XCMD metal, Pre-cabled; fixing by the body or by the head

Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	M12 head metal end plunger
Mechanical durability (millions of operating cycles)		10	10	10	10	10	10
Actuation speed (in m/s)		0,5	0,5	1,5	1,5	1,5	0,5
Switches conforming to standard IEC 947-5-1 section 3 ⊖		⊖	⊖	⊖	⊖	⊖	⊖
Product certification		CE, UL, CSA, CCC					
Degree of protection conforming to IEC 60529		IP66 and IP67					
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15 ; B 300 (Ue = 240 V, Ie = 1,5 A) / DC 13 ; R 300 (Ue = 250 V, Ie = 0,1 A)					
Fixing centres (mm)		20					M12 x 1
Body dimensions (mm) W x D x H		30 x 16 x 50					
Connection	Pre-cabled	Pre-cabled, adjustable direction, length = 1 m (other lengths available on request)					
Complete switch	2-pole NC+NO snap action	XCMD2110L1	XCMD2102L1	XCMD2115L1	XCMD2116L1	XCMD2145L1	XCMD21F0L1
	2-pole NC+NO break before make, slow break	XCMD2510L1	XCMD2502L1	XCMD2515L1	XCMD2516L1	XCMD2545L1	XCMD25F0L1
	Connector	M12					
Complete switch	NO+NC snap action (M12 - 5-pins)	XCMD2110C12	XCMD2102C12	XCMD2115C12	XCMD2116C12	XCMD2145C12	XCMD21F0C12
	1C/O snap action (M12 - 4-pins) (1)	XCMD2110M12	XCMD2102M12	XCMD2115M12	XCMD2116M12	XCMD2145M12	XCMD21F0M12

(1) Although their design is identical to the Pre-cabled switches, the switches incorporating an M12 4-pin connector cannot be marked ⊖ he symbol because they are single-pole C/O.

ISO entry (to EN 50262)

XCKP/XCKD



Compact XCKD metal and XCKP plastic conforming to standard EN 50047

Type of operator		Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	M18 head metal end plunger	M18 head steel roller plunger
Mechanical durability (millions of operating cycles)		15	10	15	10	10
Actuation speed (in m/s)		0,5	0,5	1	0,5	0,5
Switches conforming to standard IEC 947-5-1 section 3 ⊖		⊖	⊖	⊖	⊖	⊖
Product certification		CE, CSA, CCC, EAC				
Degree of protection conforming to IEC 60529		IP66 and IP67				
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)				
Pre-cabled entry		1 tapped entry for ISO M16 x 1.5 pre-cabled gland (3) or M12 connector				
Fixing centres (mm)		20	20	20	M18 x 1	M18 x 1
Body dimensions (mm) W x D x H		31 x 30 x 65				
Metal switches						
Complete switch	2-pole NC+NO snap action	XCKD2110P16	XCKD2102P16	XCKD2121P16	XCKD21H0P16	XCKD21H2P16
	2-pole NC+NO break before make, slow break	XCKD2510P16	XCKD2502P16	XCKD2521P16	XCKD25H0P16	XCKD25H2P16
	2-pole NC+NO snap action (M12-5-pins)	XCKD2110M12	XCKD2102M12	XCKD2121M12	XCKD21H0M12	XCKD21H2M12
Plastic, double insulated switches						
Complete switch	2-pole NC+NO snap action	XCKP2110P16	XCKP2102P16	XCKP2121P16	XCKP21H0P16	XCKP21H2P16
	2-pole NC+NO break before make, slow break	XCKP2510P16	XCKP2502P16	XCKP2521P16	XCKP25H0P16	XCKP25H2P16
	2-pole NC+NO snap action (M12-4-pins)	XCKP2110M12	XCKP2102M12	XCKP2121M12	XCKP21H0M12	XCKP21H2M12

(3) For Pg 11 pre-cabled entries, replace P16 by G11. Example: XCKD2110P16 becomes XCKD2110G11.
For other pre-cabled entries, see customised assembly on page 7.

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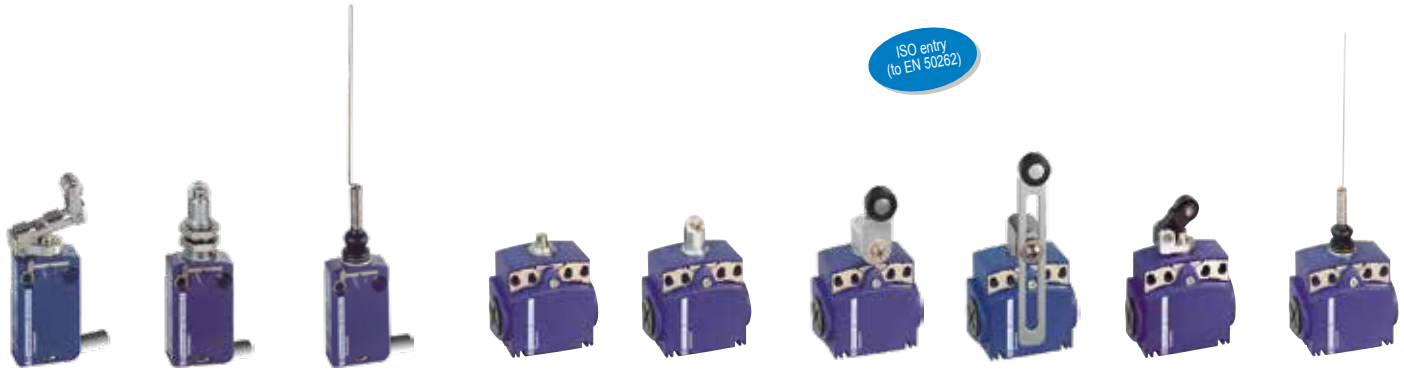
Other versions: please consult our Customer Care Centre.



Compact XCKT plastic, 2 cable entries

Retractable steel roller lever plunger	M12 head steel roller plunger	"Cat's whisker"	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Thermoplastic roller lever plunger, horizontal actuation in 1 direction	"Cat's whisker"
10	10	5	15	10	10	10	15	5
0,5	0,1	1	0,5	0,5	1,5	1.5	1	1
⊖	⊖	–	⊖	⊖	⊖	⊖	⊖	–
			CE, CSA, CCC, EAC					
			IP66 and IP67					
			AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)					
20	M12 x 1	20	20 ou 40					
			58 x 30 x 51					
			2 tapped entries for ISO M16 x 1.5 pre-cabled gland (2)					
XCMD2124L1	XCMD21F2L1	XCMD2106L1	XCKT2110P16	XCKT2102P16	XCKT2118P16	XCKT2145P16	XCKT2121P16	XCKT2106P16
XCMD2524L1	XCMD25F2L1	XCMD2506L1	–	–	–	–	–	–
XCMD2124C12	XCMD21F2C12	XCMD2106C12	–	–	–	–	–	–
XCMD2124M12	XCMD21F2M12	XCMD2106M12	–	–	–	–	–	–

(2) For Pg 11 pre-cabled entries, replace P16 by G11. Example: XCKT2110P16 becomes XCKT2110G11.

Application - XCPR and XCDR with manual reset

Thermoplastic roller lever	Variable length Thermoplastic roller lever	Thermoplastic roller lever Ø 50 mm	"Cat's whisker"	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
10	10	10	5	1	1	1	1	1
1.5	1.5	1.5	1	0.5	0.5	1	1	1.5
⊖	⊖	⊖	–	⊖	⊖	⊖	⊖	⊖
				CE, CSA, CCC, EAC				
				IP66 and IP67				
				AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)				
				1 tapped entry for ISO M20 x 1.5 pre-cabled gland (4)				
20	20	20	20	20	20	20	20	20
				31 x 30 x 95				
XCKD2118P16	XCKD2145P16	XCKD2139P16	XCKD2106P16	XCDR2110P20	XCDR2102P20	XCDR2121P20	XCDR2127P20	XCDR2118P20
XCKD2518P16	XCKD2545P16	XCKD2539P16	XCKD2506P16	XCDR2510P20	XCDR2502P20	XCDR2521P20	XCDR2527P20	XCDR2518P20
XCKD2118M12	XCKD2145M12	XCKD2139M12	XCKD2106M12	–	–	–	–	–
XCKP2118P16	XCKP2145P16	XCKP2139P16	XCKP2106P16	XCPR2110P20	XCPR2102P20	XCPR2121P20	XCPR2127P20	XCPR2118P20
XCKP2518P16	XCKP2545P16	XCKP2539P16	XCKP2506P16	XCPR2510P20	XCPR2502P20	XCPR2521P20	XCPR2527P20	XCPR2518P20
XCKP2118M12	XCKP2145M12	XCKP2139M12	XCKP2106M12	–	–	–	–	–

(4) For Pg 13.5 pre-cabled entries, replace P20 by G13. Example: XCDR2110P20 becomes XCDR2110G13.
For other pre-cabled entries, see customised assembly on page 7.

Limit switches

Customised assembly of miniature and compact

Heads - common to miniature and compact bodies

Metal plunger and multi-directional heads

Description	Metal end plunger	Metal end plunger with protective elastomer boot	Steel roller plunger	Retractable steel roller lever plunger	Thermoplastic roller lever plunger, horizontal actuation
					
Reference	⊖ ZCE10	⊖ ZCE11	⊖ ZCE02	⊖ ZCE24 (2)	⊖ ZCE21

Metal rotary heads and levers

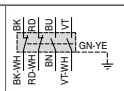
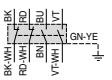
Description	Rotary head without lever, spring return, for actuation from LH and RH side	Thermoplastic roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Steel roller lever, track: 24/31 mm (ZCMD) 29/36 mm (ZCD/P/T)	Thermoplastic roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)	Steel roller lever, track: 16/39 mm (ZCMD) 21/44 mm (ZCD/P/T)
					
Reference	⊖ ZCE01	⊖ ZCY15 (2)	⊖ ZCY16 (2)	⊖ ZCY25 (2)	⊖ ZCY26 (2)

(1) Recommended for use with bodies:: ZCD... / ZCP... / ZCT... (2) Recommended for use with bodies: : ZCMD...

Bodies

Miniature




Type of contact		 2-pole NO+NC Snap action	 3-pole 2NC+1NO Snap action	 2-pole NC+NO Slow break	 3-pole 2NC+1NO Slow break	 3-pole 2NC+1NO Slow break	 2-pole NO+NC Snap action	 2-pole NC+NO Snap action Connector 5-pins	 1-pole 1C/O Snap action Connector 4-pins	 4-pole 2NC+2NO Snap action
Reference of metal body		ZCMD21	ZCMD39	ZCMD25	ZCMD37	ZCMD4D	–	ZCMD21C12	ZCMD21M12	–
Pre-cabled	L = 1 m	–	–	–	–	–	ZCMD21L1 (3)	–	–	ZCMD41L1
	L = 2 m	–	–	–	–	–	ZCMD21L2 (3)	–	–	ZCMD41L2
	L = 5 m	–	–	–	–	–	ZCMD21L5 (3)	–	–	ZCMD41L5

(3) For contact 2-pole NC+NO slow break, replace 21 by 25. Example: ZCMD21L1 becomes ZCMD25L1

(4) For contact 2NC+NO or 2NC+2NO, replace 21 by 37, 39 or 4D. Example ZCMD21L1 becomes ZCMD4DL1

Connection of miniature bodies

Specific Pre-cabled connection components	 for ZCMD21	 for ZCMD39	 for ZCMD25	 for ZCMD37	 for ZCMD4D	Option : PUR pre-wired M12 connector, L = 2 m (1) 5-pin 	4-pin 
L = 1 m	ZCMC21L1	ZCMC39L1	ZCMC25L1	ZCMC37L1	ZCMC4DL1		
L = 2 m	ZCMC21L2	ZCMC39L2	ZCMC25L2	ZCMC37L2	ZCMC4DL2		
L = 5 m	ZCMC21L5	ZCMC39L5	ZCMC25L5	ZCMC37L5	ZCMC4DL5	XZCP1164L2	XZCP1141L2

⊖ Positive opening operation.

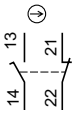
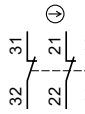
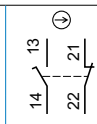
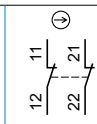
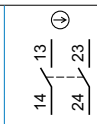
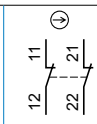
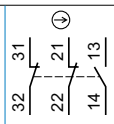
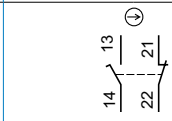
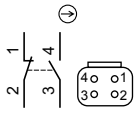
(1) For PVC cable see page 47

Thermoplastic roller lever plunger, vertical actuation	M12 head metal end plunger	M18 head metal end plunger	M12 head steel roller plunger	M18 head steel roller plunger	Spring rod	Spring rod with plastic end	"Cat's whisker"
							
→ ZCE27	→ ZCEF0 (2)	→ ZCEH0 (1)	→ ZCEF2 (2)	→ ZCEH2 (1)	ZCE08	ZCE07	ZCE06

Thermoplastic roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Steel roller lever, track: 20/36 mm (ZCMD) 24/40 mm (ZCD/P/T)	Ceramic roller lever	Variable length thermoplastic roller lever	Round, glass fibre rod lever Ø 3 mm L = 125 mm	Metal spring-rod lever	Thermoplastic roller lever Ø 50 mm	Adjustable ther-moplastic roller lever Ø 50 mm
							
→ ZCY18 (1)	→ ZCY19 (1)	→ ZCY22	→ ZCY45	ZCY55	ZCY91	→ ZCY39	→ ZCY49

Compact




Type of contact	 2-pole NC+NO Snap action	 3-pole 2NC+1NO Snap action	 2-pole NC+NO Slow break	 2-pole NC+NC Slow break	 2-pole NO+NO Slow break	 2-pole NC+NC Snap action	 3-pole 2NC+1NO Slow break	 2-pole NC+NO - Snap action	 2-pole NC+NO - Snap action
								Connector 5-pin	Connector 4-pin	Deutsh male connector 4-Pin
Ref. metal body	ZCD21	ZCD39	ZCD25	ZCD27	ZCD28	ZCD29	ZCD37	ZCD21M12	–	–
Ref. plastic body	ZCP21	ZCP39	ZCP25	ZCP27	ZCP28	ZCP29	ZCP37	–	ZCP21M12	ZCP21D44

Connection of compact bodies

Interchangeable outlet for cable gland						
Description	For ISO M16 cable gland	For ISO M20 cable gland	For Pg 11 cable gland	For Pg 13.5 cable gland	For 1/2" NPT cable gland	For PF 1/2 (G12) cable gland
Metal	ZCDEP16	ZCDEP20	ZCDEG11	ZCDEG13	ZCDEN12	ZCDEF12
Plastic	ZCPEP16	ZCPEP20	ZCPEG11	ZCPEG13	ZCPEN12	ZCPEF12

L = 2 m (1)

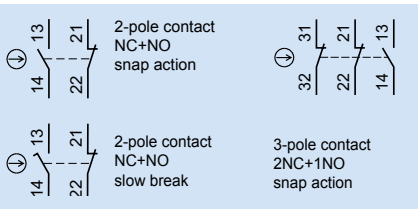
5-pin	4-pin
	
XZCP1164L2	XZCP1141L2

(1) For PVC cable see page 47

Limit switches

Classic - XCKM, XCKL, complete switches

XCKM



ISO entry (to EN 50262)

Type XCKM metal, 3 cable entries, XCKL metal, 1 cable entry

Type of operator		Metal end plunger	Steel roller plunger	Roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)		20	20	20	15	10
Actuation speed (in m/s)		0,5	0,5	1,5	1,5	0,5
Product certification		CE, UL, CSA, CCC, EAC, C-TICK, BV				
Degree of protection conforming to IEC 60529		IP66				
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)				
Cable entry (1)	XCKM	3 tapped entries for ISO M20 x 1.5 cable gland (2 entries fitted with blanking plugs)				
	XCKL	1 cable entry with cable gland				
Fixing centres (mm)		41				
Body dimensions (mm) W x D x H	XCKM / XCKL	64 x 30 x 64 / 52 x 30 x 72				

Complete switch	XCKM					
	2-pole NC+NO snap action	⊖ XCKM110H29	⊖ XCKM102H29	⊖ XCKM121H29	⊖ XCKM115H29	XCKM106H29
	2-pole NC+NO, break before make, slow break	⊖ XCKM510H29	⊖ XCKM502H29	⊖ XCKM521H29	⊖ XCKM515H29	–
Complete switch	XCKL					
	2-pole NC+NO snap action	⊖ XCKL110	⊖ XCKL102	⊖ XCKL121	⊖ XCKL115	XCKL106

1) For Pg 11 pre-cabled entries delete the reference suffix H29. Example : XCKM110H29 becomes XCKM110

Classic - XCKM, XCKL,
Customised assembly - Body/contact sub-assemblies

Type XCKM metal, 3 pre-cabled entries

Type of contact

	2-pole NC+NO snap action	2-pole NC+NO slow break	3-pole 2NC+1NO snap action	3-pole 2NC+1NO slow break
Reference of body with contact block	⊖ ZCKM1H29	⊖ ZCKM5H29	⊖ ZCKMD39H29	⊖ ZCKMD37H29
XCKL reference of body with contact block (2)	⊖ ZCKL1	⊖ ZCKL5	–	–
Reference of contact block only	⊖ XE2SP2151	⊖ XE2NP2151	⊖ XE3SP2141	⊖ XE3NP2141

(2) For cable entry 1/2" NPT, add H7. Example: XCKL1 becomes XCKL1H7. ⊖ Positive opening operation.

Operating heads, complete or for customer assembly

Complete switch =  Body/contact assembly +  Head +  Lever

Rotary or multi-directional heads

	metal head with thermoplastic roller lever	metal head with steel roller lever	with variable length thermoplastic roller lever (2)	with Ø 6 mm thermoplastic rod L = 200 mm (3)	with thermoplastic roller lever (3) for actuation from left AND right or left OR right	with "Cat's whisker"	with spring rod
							
Reference	ZCKD15	ZCKD16	ZCKD41	ZCKD59	ZCKD31	ZCKD06	ZCKD08

Plunger heads

	with metal end plunger	with metal end plunger and protective boot	with steel roller plunger	with steel roller plunger and protective boot	with thermoplastic roller lever plunger, horizontal actuation in 1 direction	with steel roller lever plunger, horizontal actuation in 1 direction
						
Reference	ZCKD10	ZCKD109	ZCKD02	ZCKD029	ZCKD21	ZCKD23

Rotary heads and separate levers

	spring return, for actuation from left AND right or left OR right	lever with thermoplastic roller (2)	lever with steel roller (2)	variable length lever with thermoplastic roller (2)	variable length lever with steel roller (2)	rod, Ø 6 mm thermoplastic L = 200 mm (3)
						
Reference	ZCKD05	ZCKY31	ZCKY33	ZCKY41	ZCKY43	ZCKY59

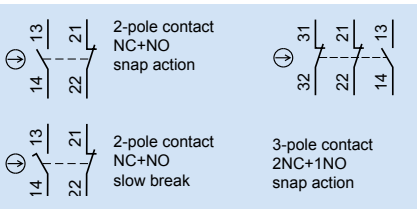
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

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

Limit switches

Industrial - XCKJ, complete switches

XCKJ



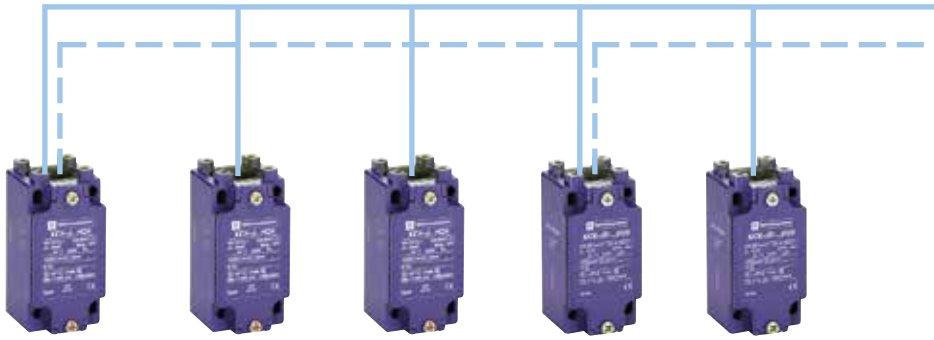
Type XCKJ metal, fixed body, conforming to standard EN 50041

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	30	25	30	30	30	30
Actuation speed (in m/s)	0,5	1	1,5	1,5	1,5	1,5
Product certification	CE, UL, CSA, CCC, EAC, C-TICK, BV					
Degree of protection conforming to IEC 60529	IP 66					
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A).					
Cable entry (1)	1 tapped entry for ISO M20 x 1.5 cable gland					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	40 x 44 x 77					

Complete switch	M20	2-pole NC+NO snap action	⊖ XCKJ161H29	⊖ XCKJ167H29	⊖ XCKJ10511H29	⊖ XCKJ10513H29	XCKJ10541H29	XCKJ10559H29
		2-pole NC+NO break before make, slow break	⊖ XCKJ561H29	⊖ XCKJ567H29	⊖ XCKJ50511H29	⊖ XCKJ50513H29	XCKJ50541H29	XCKJ50559H29
	1/2" NPT	2-pole NC+NO snap action	⊖ XCKJ161H7	⊖ XCKJ167H7	⊖ XCKJ10511H7	⊖ XCKJ10513H7	XCKJ10541H7	XCKJ10559H7
	M12 5P	2-pole NC+NO snap action	⊖ XCKJ161D	⊖ XCKJ167D	⊖ XCKJ10511D	⊖ XCKJ10513D	XCKJ10541D	XCKJ10559D

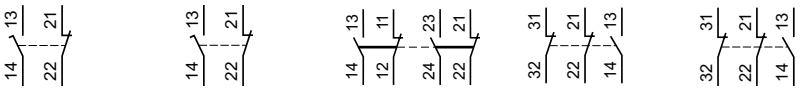
(1) For Pg 13.5 pre-cabled entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161. ⊖ Positive opening operation.

Industrial - XCKJ,
Customised assembly - Body/contact sub-assemblies



Type XCKJ metal, 1 cable entry

Type of contact



		2-pole NC+NO snap action	2-pole NC+NO slow break	2 C/O snap action Simultaneous	3-pole 2NC+1NO snap action	3-pole 2NC+1NO slow break
Cable entry (1)		1 tapped entry for ISO M20 x 1.5 cable gland				
Reference of body with contact block	M20	⊖ ZCKJ1H29	⊖ ZCKJ5H29	ZCKJ2H29	⊖ ZCKJD39H29	⊖ ZCKJD37H29
	Pg13	⊖ ZCKJ1	⊖ ZCKJ5	ZCKJ2	–	–
	1/2" NPT	⊖ ZCKJ1H7	⊖ ZCKJ5H7	ZCKJ2H7	–	–
	M12 (5-pins)	⊖ ZCKJ1D	⊖ ZCKJ5D	–	–	–
Reference of contact block only		⊖ XE2SP2151	⊖ XE2NP2151	–	⊖ XE3SP2141	⊖ XE3NP2141

Operating heads, complete or for customer assembly


Complete switch

=


Body/contact assembly

+


Head

+


Lever

Plunger or multi-directional heads

	with reinforced steel roller end plunger	with metal end plunger	with thermoplastic roller lever plunger, 1 direct. of actuation	with steel roller lever plunger, 1 direct. of actuation	with steel roller end plunger	with steel ball bearing end plunger	End steel roller plunger with protective boot
							
Reference	ZCKE67	ZCKE61	ZCKE21	ZCKE23	ZCKE62	ZCKE66	ZCKE629

	with metal side plunger	Side steel roller plunger, horizontal	Side steel roller plunger, vertical	with spring rod	with “Cat’s whisker”
					
Reference	ZCKE63	ZCKE64	ZCKE65	ZCKE08	ZCKE06

Separate rotary heads and levers

	spring return for actuation from left AND right or left OR right	lever with thermoplastic roller (2)	lever with steel roller (2)	variable length lever with thermoplastic roller (2)	variable length lever with steel roller (2)	rod, Ø 6 mm thermoplastic L = 200 mm (2)	square rod lever, steel, U 3 mm L = 125 mm (2)	round rod lever, steel, Ø 3 mm L = 125 mm (2)	spring lever with thermoplastic end (3)	spring-metal rod lever
										
Reference	ZCKE05	ZCKY11	ZCKY13	ZCKY41	ZCKY43	ZCKY59	ZCKY51	ZCKY53	ZCKY81	ZCKY91

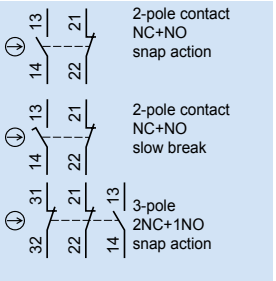
	stay put for actuation from left AND right	forked arm lever with thermoplastic rollers, 1 track (2)	forked arm lever with thermoplastic rollers, 2 track (2)
			
Reference	ZCKE09	ZCKY71	ZCKY61

(2) Adjustable throughout 360° in 5° steps, or in 45° steps by reversing the lever mounting.
(3) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

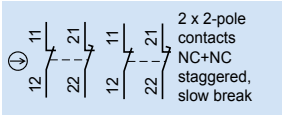
Limit switches

Classic - XCKS, complete switches

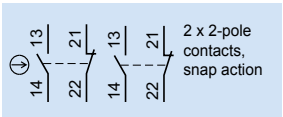
XCKS



XCKMR



XCR



Type XCKS plastic, double insulated, conforming to standard EN 50041

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Rubber roller lever Ø 50 mm	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	25	15	20	20	20	20
Actuation speed (in m/s)	0,5	0,5	1,5	1,5	1	1
Product certification	CE, UL, CSA, CCC, EAC					
Degree of protection conforming to IEC 60529	IP65 / IP67					
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)					
Cable entry	1 tapped entry for ISO M20 x 1.5 pre-cabled gland (1)					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	XCKS : 40 x 37 x 78 / ZCKS: 40 x 36 x 73					

Complete switch	2-pole NC+NO snap action	⊖ XCKS101H29	⊖ XCKS102H29	⊖ XCKS131H29	⊖ XCKS141H29	XCKS139H29	XCKS159H29
	2-pole NC+NO break before make, slow break	⊖ XCKS501H29	⊖ XCKS502H29	⊖ XCKS531H29	⊖ XCKS541H29	XCKS539H29	XCKS559H29
Corps	2-pole NC+NO snap action	⊖ ZCKS1H29	⊖ ZCKS1H29	⊖ ZCKS1H29	⊖ ZCKS1H29	⊖ ZCKS1H29	⊖ ZCKS1H29
	2-pole NC+NO break before make, slow break	⊖ ZCKS5H29	⊖ ZCKS5H29	⊖ ZCKS5H29	⊖ ZCKS5H29	⊖ ZCKS5H29	⊖ ZCKS5H29
	3-pole 2NC+1NO snap action	⊖ ZCKSD39H29	⊖ ZCKSD39H29	⊖ ZCKSD39H29	⊖ ZCKSD39H29	⊖ ZCKSD39H29	⊖ ZCKSD39H29
Associated head (including operator)		⊖ ZCKD01	⊖ ZCKD02	⊖ ZCKD31	⊖ ZCKD41	ZCKD39	ZCKD59
Operating lever for rotary head		–	–	⊖ ZCKY31	⊖ ZCKY41	ZCKY39	ZCKY59
Complete switch	Snap-action 2-pole 2X (1 NC + 1 NO) contact						
	Both contacts act in each direction of actuation	–	–	–	–	–	–
	1 contact operates in each direction	–	–	–	–	–	–
Complete switch	2 C/O staggered snap action contacts	–	–	–	–	–	–
	2 x 2 pole NC+NC staggered, slow break contacts	–	–	–	–	–	–

⊖ Positive opening operation. ZCKS have different designs (1) For Pg 13.5 Cable entry delete the reference suffix H29. Example: XCKS131H29 becomes XCKS131.

Wireless battery-less limit swithces XCKW

Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Variable length thermoplastic roller lever	Rubber roller lever Ø 50 mm	Variable length rubber Ø 50 mm roller lever	Polyamide Ø 6 mm rod lever
References of plastic body	XCKW101	XCKW102	XCKW131	XCKW141	XCKW139	XCKW149	XCKW159
Communication protocol	Zigbee (Green Power) to 2.4 Ghz (IEEE 802.15.4)						
Sensing distance	100 m free field / 300 m with relay antenna ZBRA1 / 25 m with receiver in metallic enclosure						
Product certification	EN/IEC 60947-5-1, EC directive 2004/108/EC, R&TTE directive 1999/5/EC, EAC, conformity to CE marking						
Radio agreement	FCC, IC						
Max switching operation / hour	3600/h						
Max force for set actuation	5 daN		0,5 N.m				
Fixing dimensions	30 x 70 mm						
Ambiant temperature operating // storage	-25°C + 55°C // -40°C + 70°C						
IP degree of protection IEC	IP66, IP67 according to IEN/IEC 60529						

Telemecanique Sensors

Other versions: please consult our Customer Care Centre.

Severe duty for hoisting and materials handling applications
XCKMR et XCR, complete switches

Types XCKMR and XCR “Application - hoisting, materials handling, conveying”

Square rod levers U 6 mm, “crossed”	Square rod levers U 6 mm, “crossed”	Square rod lever U 6 mm	Large roller rod lever Ø 50 mm	Square rod levers U 6 mm, “crossed” or “T”	Conveyor belt shift monitoring switches		
					Galvanised steel operating lever	Stainless steel operating lever	
2	1	10	10	10	0,3	0,3	
1,5	1,5	1,5	1,5	1,5	1,5	1,5	
CE, CSA, CCC, EAC							
IP66	IP65	IP54			IP66		
AC 15 ; A 300 (Ue = 240 V, Ie = 3 A) / DC 13 ; Q 300 (Ue = 250 V, Ie = 0,27 A)							
3 x ISO M20 x 1.5 entries	1x ISO M20x1.5 entry & 2 holes for ISO M20 cable gland	1 tapped entry for n° 13 pre-cabled gland (for ISO M20 x 1.5, adaptor DE9RA1620 must be ordered separately)					
61,5		85 x 75				105 x 70	
118 x 59 x 77	116 x 66 x 77	85 x 75 x 95				85 x 87 x 146	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	–	–	–	–	–	
–	–	⊖ XCRA11(2)	⊖ XCRA15	⊖ XCRE18(2)	–	–	
–	–	⊖ XCRB11(2)	–	⊖ XCRF17(3)	–	–	
–	–				XCRT115	XCRT315 (4)	
XCKMR54D1H29 (2)	XCKVR54D1H29 (2)(5)	–	–	–	–	–	

(2) Steel rods, L = 200 mm (3) Steel “T” rods, L = 200 mm, W = 300 mm. (4) Polyester enclosure² (5) Plastic enclosure

Receivers for wireless limit switches

Reference	XZBWR2STT24	ZBRRC	ZBRRD	ZBRN1/2
Number of emitters	2	32	32	60
Number and Output type	2 x PNP +2 for diagnostic	4 x PNP	2 x relay RT	60 modbus TCP protocol and serial line
Supply voltage supply	24VDC (-15...+ 15%)		24...240V AC/DC (-10...+ 10%)	
Nominal current and voltage of output	0.2A / 24V DC		0.3A / 48V DC 3A / 120V AC according to IEC 90947-5-1 3A / 250V AC according toUL 508 & CSA C22.14	
Product and radio certification	EN/IEC 60947-5-1 conformity to CE marking	EN/IEC 60947-5-1, UL508, CSA C22.2 n° 14, CCC, EAC FCC, RSS, C-stick, ANATEL, SRRC conformity to CE marking		
Ambiant temperature operating // storage	-25°C +55°C // -40°C + 70°C			

OsiSense XM

Sensors for pressure control

Electronic sensors XMLP Low pressure

For industrial applications
(hydraulic circuits, water pumping)

Pressure range (bar) (1)		-1…0	0…0,5	0…1	0…2,5	0…4	0…6	-1…+1	-1…+5
Fluids controlled		Hydraulic oils, air, fresh water							
Ambient air temperature		- 30…+ 85°C							
Degree of protection		IP65 (EN175301-803-A), IP65, IP67, IP69K (M12 connector)							
Product certification		CE, cULus conforming to UL 61010-1, NSF61							
Voltage limits (V) (V)		7...33 Vdc for 4…20 mA, 12…33 Vdc for 0…10 V							
Dimensions (mm) H x W x D		26 x 34,3 (M12), 26 x 55 (EN175301-803-A)							
Fluid connection (2)		G1/4A (male)							
Electrical connection (3)		M12 4-pin, EN175301-803-A							
Output type (4)		4…20 mA 2-wires technique, 0…10V 3-wires technique							
Analogue output 4...20 mA	M12 4-pins	XMLPM00GD21F	XMLP500MD21F	XMLP001GD21F	XMLP2D5GD21F	XMLP004GD21F	XMLP006GD21F	XMLPM01GD21F	XMLPM05GD21F
	EN175301-803-A	XMLPM00GC21F	XMLP500MC21F	XMLP001GC21F	XMLP2D5GC21F	XMLP004GC21F	XMLP006GC21F	XMLPM01GC21F	XMLPM05GC21F
Analogue output 0…10 V	M12 4-pins	XMLPM00GD71F	XMLP500MD71F	XMLP001GD71F	XMLP2D5GD71F	XMLP004GD71F	XMLP006GD71F	XMLPM01GD71F	XMLPM05GD71F
	EN175301-803-A	XMLPM00GC71F	XMLP500MC71F	XMLP001GC71F	XMLP2D5GC71F	XMLP004GC71F	XMLP006GC71F	XMLPM01GC71F	XMLPM05GC71F

1) Also available with psi range (2) Also available with 1/4"-18NPT male or 7/16-20UNF female (3) Also available with 3-pins packard connector (4) Also available with 0.5…4.5 V ratiometric output Available in bulk packs for selling in lots of 25 pcs. Add Q suffix to the reference, ex: XMLP001GD21F becomes XMLP001GD21FQ

Electronic sensors XMLP High pressure

For industrial applications
(hydraulic circuits, HVAC)

Pressure range (bar) (1)		-1…+9	0…10	0…16	0…25	0…60	0…100	0…250	0…400
Fluids controlled		Hydraulic oils, air, fresh water, gas, refrigeration fluids from - 30…+ 135°C							
Ambient air temperature		- 30…+ 85°C							
Degree of protection (IEC 60529)		IP65 (EN175301-803-A), IP65, IP67 and IP69K (connector M12)							
Product certification		CE, cULus conforming to UL61010-1, NSF61							
Voltage limits (V)		7...33 V DC for 4…20 mA, 12...33 V DC for 0…10 V							
Dimensions (mm) Ø x L		26 x 38 (M12), 26 x 60,5 (EN175301-803-A)							
Fluid connection (2)		G 1/4 A (male)							
Electrical connection (3)		connector M12 4-pins, EN 175301-803-A							
Output type (4)		4…20 mA, technique 2-wires, 0…10V, technique 3-wires							
Analogue output 4…20 mA	M12 4-pins	XMLPM09BD21F	XMLP010BD21F	XMLP016BD21F	XMLP025BD21F	XMLP060BD21F	XMLP100BD21F	XMLP250BD21F	XMLP400BD21F
	EN175301-803-A	XMLPM09BC21F	XMLP010BC21F	XMLP016BC21F	XMLP025BC21F	XMLP060BC21F	XMLP100BC21F	XMLP250BC21F	XMLP400BC21F
Analogue output 0…10 V	M12 4-pins	XMLPM09BD71F	XMLP010BD71F	XMLP016BD71F	XMLP025BD71F	XMLP060BD71F	XMLP100BD71F	XMLP250BD71F	XMLP400BD71F
	EN175301-803-A	XMLPM09BC71F	XMLP010BC71F	XMLP016BC71F	XMLP025BC71F	XMLP060BC71F	XMLP100BC71F	XMLP250BC71F	XMLP400BC71F

(1) Also available with psi range (2) Also available with 1/4"-18NPT male or 7/16-20UNF female (3) Also available with 3-pins packard connector (4) Also available with 0.5…4.5 V ratiometric output. Available in bulk packs for selling in lots of 25 pcs. Add Q suffix to the reference, ex: XMLP001GD21F becomes XMLP001GD21FQ

Switch with display ZMLP

Only usable with 4-20mA analogue output pressure transmitter

Type of switching mode		Hysteresis	Windows
Displayed value range		-14,5 to 6000 with 27 selectable value ranges	
Degree of protection		IP65, IP67 and IP69K	
Product certification		CE cULus	
Supply voltage		24 VDC (17 ... 33 VDC)	
Electrical connection		Input: M12 female, 4-pins. Output: M12 male, 4-pins	
Analogue output	Switching output		
4…20 mA	PNP	ZMLPA1P2SH	ZMLPA1P2SW
4…20 mA	NPN	ZMLPA1N2SH	ZMLPA1N2SW
–	2 PNP	ZMLPA2P0SH	–
–	2 PNP	ZMLPA2N0SH	–

Accessories

Quick fixing bracket

Horizontal plan
XMLPZLH01

Vertical plan or pipe
XMLPZLV01

Electronic sensors XMLK

Electrical connection by EN 175301-803-A connector, M12 connector

For pumping applications

Pressure range (bar) (1)		0…6	0…10	0…16	0…25	0…6	0…10	0…16	0…25
Fluids controlled		air, fresh water							
Ambient air temperature		0…+ 80°C							
Degree of protection (IEC 60529)		IP65							
Product certification		CE, UL, CSA							
Voltage limits (V)		8…33 V DC for 4…20 mA, 16,2…33V DC for 0…10 V							
Dimensions (mm) Ø x L		36 x 67,5 (not including connector)							
Fluid connection (2)		G 1/4" A (male)							
Electrical connection (3)		EN 175301-803-A				M12 3-pins male			
Output type (4)		4…20 mA, 2-wires technique, 0…10V, 3-wires technique							
Analogue output	4…20 mA	XMLK006B2C21	XMLK010B2C21	XMLK016B2C21	XMLK025B2C21	XMLK006B2D21	XMLK010B2D21	XMLK016B2D21	XMLK025B2D21
	0…10 V	XMLK006B2C71	XMLK010B2C71	XMLK016B2C71	XMLK025B2C71	XMLK006B2D71	XMLK010B2D71	XMLK016B2D71	XMLK025B2D71

(1) Also available with psi range. psi (2) Also available with ¼"-18NPT male fluid entry. 3) Also available with 3-pins packard connector. (4) Other types of output; 0…5 V, 0…10 V, etc. Available in bulk packs for selling in lots. Add TQ suffix to the reference, ex: XMLK006B2C21 becomes XMLK006B2C21TQ.

Electronic sensors XMLR

Electronic + Display

Adjustable pressure range (bar) (1)		-1…0	0…1	0…2,5	0…10	0…16	0…25	0…40	0…250	0…400
Fluids controlled		Hydraulic oils, air, fresh water, refrigerant fluids, gas								
Ambient air temperature		- 20…+ 80°C								
Degree of protection (conforming to IEC 60529)		IP65, IP67 conforming to EN/IEC 60529								
Product certification		CE, cULus conforming to UL 61010-1, NSF61								
Voltage limits (V)		17...33 Vdc								
Dimensions (mm) H x W x D		93 x 41 x 42							88 x 41 x 42	
Fluid connection (2)		G1/4A (female)								
Electrical connection		M12 connector 4-pins or 5-pins								
Configurable with 4-digit display										
Analogue output	4...20 mA	XMLRM01G0T25	XMLR001G0T25	XMLR2D5G0T25	XMLR010G0T25	XMLR016G0T25	XMLR025G0T25	XMLR040G0T25	XMLR250M0T25	XMLR400M0T25
	0...10 V	XMLRM01G0T75	XMLR001G0T75	XMLR2D5G0T75	XMLR010G0T75	XMLR016G0T75	XMLR025G0T75	XMLR040G0T75	XMLR250M0T75	XMLR400M0T75
Analogue output + commutation	4...20 mA	XMLRM01G1P25	XMLR001G1P25	XMLR2D5G1P25	XMLR010G1P25	XMLR016G1P25	XMLR025G1P25	XMLR040G1P25	XMLR250M1P25	XMLR400M1P25
PNP - NO/NC programmable	0...10 V	XMLRM01G1P75	XMLR001G1P75	XMLR2D5G1P75	XMLR010G1P75	XMLR016G1P75	XMLR025G1P75	XMLR040G1P75	XMLR250M1P75	XMLR400M1P75
2 switching outputs PNP - NO/NC prog.		XMLRM01G2P05	XMLR001G2P05	XMLR2D5G2P05	XMLR010G2P05	XMLR016G2P05	XMLR025G2P05	XMLR040G2P05	XMLR250M2P05	XMLR400M2P05
Analogue+2 switching outputs	4...20 mA	XMLRM01G2P25			XMLR010G2P25	XMLR016G2P25		XMLR040G2P25	XMLR250M2P25	XMLR400M2P25
Possible differential (bar)	Min.	0.03		0.08	0.3	0.48	0.8	1.2	7.5	12
(pressure switches)	Max.	0.95		2.38	9.5	15	23.8	38	238	380
Maximum permissible accidental pressure		3	7.5	12	40	62	100	150	750	1200

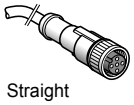
(1) For other pressure ranges consult our web site. (2) Also available with ¼"-18NPT female fluid entry.

Suitable female plug-in connectors

PUR Pre-wired connectors, L = 5 m (without LED) (1)

(1) For PVC cable see page 47

Elbowed — XZCP1241L5



Straight — XZCP1141L5

Other connectors

Screw terminal — XZCC12FCM40B

EN 175301-803-A — XZCC43FCP40B

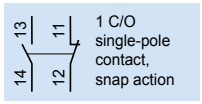
OsiSense XM

Sensors for pressure control

Electromechanical pressure and vacuum switches

XMLA and XMLB

ISO entry (to EN 50262)



1 C/O single-pole contact, snap action

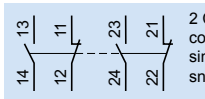
Size (bar)	-1	5	1	2.5
Environmental characteristics	Ambient air temperature (°C) : -25…+70 Degree of protection (conforming to IEC 60529) : IP66			
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC-15 ; B300 (Ue = 240V, Ie = 1,5A - Ue = 120V, Ie = 3A) / DC-13 ; R300 (Ue = 250V, Ie = 0,1A)			
Product certification	CE, UL, CSA, CCC, BV, LROS, EAC			
Fluid connection	G 1/4" (female) (other connections possible, please consult us)			
Electrical connection	Screw terminals (1), tapped entry for ISO M20 x 1.5 cable gland - For n° 13 (DIN Pg 13.5) cable gland			

Fluids controlled		Hydraulic oils, fresh water, air up to 70°C		Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, air to70°C
Type XMLA - fixed differential, single threshold detection					
Setting range (bar) of upper limit (PH): pressure switches		– 0,28…- 1 (4)	–	0,03…1	0,15…2,5
Dimensions (mm) H x W x D		113 x 35 x 75	113 x 35 x 75	162 x 110 x 110	158 x 55 x77,5
With setting scale	1 C/O single-pole, snap action contact	XMLAM01V2S12	–	XMLA001R2S12	XMLA002A2S12
Natural differential (bar)	at low setting	0,24 (2)	–	0,02	0,13
subtract from PH to give PB	at high setting	0,24 (2)	–	0,04	0,13
Type XMLB - adjustable differential, regulation between 2 thresholds					
Setting range (bar) of upper limit (PH): pressure switches		– 0,14...– 1 (4)	– 0,5...5	0,05...1	0,3...2,5
With setting scale	1 C/O single-pole, snap action contact	XMLBM02V2S12	XMLBM05A2S12	XMLB001R2S12	XMLB002A2S12
Possible differential (bar)	Min. at low setting	0,13 (3)	0,5	0,04	0,16
subtract from PH to give PB	Min. at high setting	0,13 (3)	0,5	0,06	0,21
	Max. at high setting	0,8 (3)	6	0,75	1,75

XMLC et XMLD

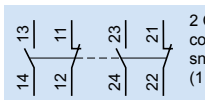
ISO entry (to EN 50262)

XMLC



2 C/O single-pole contacts, simultaneous snap action

XMLD



2 C/O single-pole contacts, snap action (1 per stage)

Fluids controlled		Hydraulic oils, fresh water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, air up to 160°C
Type XMLC - adjustable differential, regulation between 2 thresholds				
Setting range (bar) of upper limit (PH): pressure switches		0,14...– 1 (4)	0,05...1	0,3...2,5
Dimensions (mm) H x W x D		113 x 46 x 85	175 x 110 x 110	158 x 55 x 90
With setting scale	2 C/O single-pole, snap action contacts	XMLCM02V2S12	XMLC001R2S12	XMLC002B2S12
Possible differential (bar)	Min. at low setting	0,13 (4)	0,03	0,13
subtract from PH to give PB	Min. at high setting	0,14 (4)	0,04	0,17
	Max. at high setting	0,8 (4)	0,8	2
Type XMLD - fixed differential, dual stage, for detection at each threshold				
Setting range	2nd stage switching point (PB2)	– 0,12...– 1 (4)	–	–
(bar)	1st stage switching point (PB1)	– 0,10...– 0,98	–	–
	Spread between 2 stages (PB2 – PB1)	– 0,02...– 0,88	–	–
Without setting scale 2 C/O single-pole, snap action contacts (1 per stage)		XMLDM02V1S12	–	–
Natural differential (bar)	at low setting	0,1 (2)	–	–
Subtract PH 1/2 to give PB 1/2	at high setting	0,1 (2)	–	–

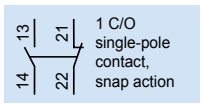
	4	10	20	35	70	160	300	500
conforming to IEC 947-5-1 Annexe A, En 60 947-5-1								
tapped entry, replace the last number of the reference (2) by 1 (example: XMLA010A2S12 becomes XMLA010A2S11)								
	Hydraulic oils, fresh water, air up to 70°C				Hydraulic oils up to 160°C			
	0,4…4	0,6…10	1…20	1,5…35	5…70	10…160	20…300	30…500
	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75	113 x 35 x 75
	XMLA004A2S12	XMLA010A2S12	XMLA020A2S12	XMLA035A2S12	XMLA070D2S12	XMLA160D2S12	XMLA300D2S12	XMLA500D2S12
	0,35	0,5	0,4	1,25	3	5,5	16,5	20
	0,35	0,5	1	1,25	7,5	18	35	45
	0,25...4	0,7...10	1,3...20	3,5...35	7...70	10...160	22...300	30...500
	XMLB004A2S12	XMLB010A2S12	XMLB020A2S12	XMLB035A2S12	XMLB070D2S12	XMLB160D2S12	XMLB300D2S12	XMLB500D2S12
	0,02	0,57	1	1,7	4,7	9,3	19,4	23
	0,25	0,85	1,6	2,55	8,8	20,8	37	52,6
	2,4	7,5	11	20	50	100	200	300

(1) For electrical connection DIN 43650A (IP65), replace the suffix “S12” in the reference by“C11”. Example XMLB010A2S12 becomes XMLB010A2C11
(2) For vacuum switch: natural differential to be added to PB to give PH.
(3) For vacuum switch: possible differential to be added to PB to give PH.
(4) Setting range (bar) of lower limit (PB): vacuum switch.

	Hydraulic oils, fresh water, air up to 160°C				Hydraulic oils up to 160°C			
	0,3...4	0,7...10	1,3...20	3,5...35	7...70	12...160	22...300	30...500
	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85
	XMLC004B2S12	XMLC010B2S12	XMLC020B2S12	XMLC035B2S12	XMLC070D2S12	XMLC160D2S12	XMLC300D2S12	XMLC500D2S12
	0,15	0,45	0,7	1	4,5	9	16	19
	0,17	0,7	1	1,5	8,9	21	35	52
	2,5	8	11	22	60	110	240	340
	0,40...4	1,2...10	2,14...20	4,4...35	9,4...70	16,5...160	36...300	41...500
	0,19...3,79	0,52...9,32	0,9...18,76	1,9...32,5	6,6...67,2	10,5...154	25...289	25...484
	0,21...2,18	0,68...5,8	1,24...9,55	2,5...20,4	2,8...46	6...83	11...189	16...244
	XMLD004B1S12	XMLD010B1S12	XMLD020B1S12	XMLD035B1S12	XMLD070D1S12	XMLD160D1S12	XMLD300D1S12	XMLD500D1S12
	0,15	0,45	0,7	1,5	5	8,8	17	21
	0,19	0,6	1,3	2,6	9,5	20	42	65

Sensors for pressure control

Electromechanical pressure switches XMX, XMA

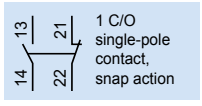


1 C/O single-pole contact, snap action

Setting range of upper limit (PH) (bar)	1…6	1,3…12	3,5…25
Fluids controlled	Air, water (fresh water, sea water) from 0…+70°C		
Ambient air temperature	-25…+70°C		
Degree of protection (conforming to IEC 60529)	IP54		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC-15 ; B300 (Ue = 240 V, Ie = 1,5 A - Ue = 120 V, Ie = 3 A) / DC-13 ; R300 (Ue = 250 V, Ie = 0,1 A)		
Product certification	CE, UL, CSA, CCC, EAC		
Dimensions (mm) H x W x D	106 x 57 x 98		126 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		

Type XMX-with internal setting screw

Without setting scale, screw terminal connections				
1 C/O single-pole, snap action contact		XMXA06L2135	XMXA12L2135	XMXA25L2135
Possible differential (bar)	Min. at low setting	0,8	1	3,4
subtract from PH to give PB	Min. at high setting	1,2	1,7	4,5
	Max. at high setting	4,2	8,4	20



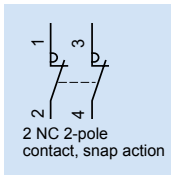
1 C/O single-pole contact, snap action

Setting range of upper limit (PH) (bar)	1…6	1,3…12	3,5…25
Fluids controlled	Air, water (fresh water, sea water) from 0…+70°C		
Ambient air temperature	-25…+70°C		
Degree of protection (conforming to IEC 60529)	IP54		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC-15 ; B300 (Ue = 240 V, Ie = 1,5 A - Ue = 120 V, Ie = 3 A) / DC-13 ; R300 (Ue = 250 V, Ie = 0,1 A)		
Product certification	CE, UL, CSA, CCC, EAC		
Dimensions (mm) H x W x D	113 x 57 x 98		133 x 57 x 98
Fluid connection	1/4" BSP female		
Electrical connection	Screw terminals, tapped entry for n° 13 (DIN Pg 13.5) cable gland		

Type XMA with external setting screw (transparent cover)

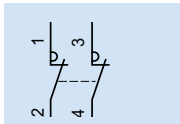
Without setting scale, screw terminal connections				
1 C/O single-pole, snap action contact		XMAV06L2135	XMAV12L2135	XMAV25L2135
Possible differential (bar)	Min. at low setting	0,8	1	3,4
subtract from PH to give PB	Min. at high setting	1,2	1,7	4,5
	Max. at high setting	4,2	8,4	20

Electromechanical pressure switches for power circuits, adjustable differential for regulation between 2 thresholds

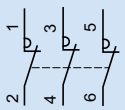


2 NC 2-pole contact, snap action

Degree of protection			IP 20			IP65		
Size (bar)			4,6	7	10,5	4,6	7	10,5
Setting range of upper limit (PH) (bar)			1,4…4,6	2,8…7	5,6…10,5	1,4…4,6	2,8…7	5,6…10,5
Fluids controlled			Water (fresh water, sea water) from 0…+55°C					
Electrical connection			Screw terminals, 2 cable entries with grommetl			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		
Product certification			CE, EAC					
Ambient air temperature			For operation : 0…+50°C. For storage: - 30…+80°C					
Rated operational characteristics (conforming to EN/IEC 60947-5-1)			Ie = 10 A, Ue = 250 V AC					
Power rating of controlled motors	110 V	AC 2-pole, single-phase	0,75 kW (1 HP)			0,75 kW (1 HP)		
		AC 2-pole, 3-phase	1,1 kW (1,5 HP)			1,1 kW (1,5 HP)		
	230 / 400 V	AC 2-pole, single-phase	1,5 kW (2 HP)			1,5 kW (2 HP)		
		AC 2-pole, 3-phase	2,2 kW (3 HP)			2,2 kW (3 HP)		
Dimensions (mm) H x W x D			96/105 x 72 x 102	94 x 72 x 102		115 x 72 x 106	115 x 72 x 106	
Connection hydraulique	G 1/4 (BSP female)		FSG2	FYG22	FYG32	FSG2NE	FYG22NE	FYG32NE
	R 1/4 (BSP male)		FSG9	FYG29	FYG39	–	–	–
	G 3/8 (BSP female) rotating nut		–	–	–	FSG2NEG	–	–
Possible differential (bar) subtract from PH to give PB		At low setting	1 min. - 2,1 max.	1,2 min. - 2,3 max.	1,9 min. - 3 max.	1 min. - 2,1 max.	1,2 min. - 2,3 max.	1,9 min. - 3 max.
		At middle setting	1,1 min. - 2,2 max.	1,4 min. - 2,5 max.	2,1 min. - 3,2 max.	1,1 min. - 2,2 max.	1,4 min. - 2,5 max.	2,1 min. - 3,2 max.
		At high setting	1,2 min. - 2,3 max.	1,6 min. - 2,7 max.	2,3 min. - 3,4 max.	1,2 min. - 2,3 max.	1,6 min. - 2,7 max	2,3 min. - 3,4 max.



2 NC 2-pole contact, snap action

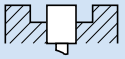


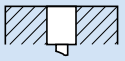
3 NC 3-pole contact, snap action

Size (bar)			6		12		25
Setting range of upper limit (PH) (bar)			1…6		1,3…12		3,5…25
Fluids controlled			Air, water (fresh water, sea water) from 0…+70°C				
Ambient air temperature			For functionnement : -25…+70°C. For stockage : -40…+70°C				
Decompression valve / ONOff knob			without	with	without	with	without
Fluid connection			G 1/4 (BSP female)	4xG 1/4 (BSP female)	G 1/4 (BSP female)	4xG 1/4 (BSP female)	G 1/4 (BSP female)
Electrical connection			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland				
Degree of protection			IP 54		IP 54		IP 54
Product certification			CE, EAC				
Rated insulation voltage			Ui = 500 V				
Electrical durability	Power	1,5 kW	400 V AC 3-phase : 1 000 000 operating cycles				
			230 VAC 3-phase : 600 000 operating cycles				
		2,2 kW	400 V AC 3-phase : 700 000 operating cycles				
		3 kW	400 V AC 3-phase : 500 000 operating cycles				
Dimensions (mm) H x W x D			106 x 57 x 97,5	138 x 57 x 97,5	106 x 57 x 97,5	138 x 57 x 97,5	126 x 57 x 97,5
Type of contacts	2 NC 2-pole, snap action contact		XMPA06B2131	–	XMPA12B2131	XMPE12B2431	XMPA25B2131
	3 NC 3-pole, snap action contact		XMPA06C2131	XMPE06C2431	XMPA12C2131	XMPE12C2431	XMPA25C2131
Possible differential (bar) subtract from PH to give PB		Min. at low setting	0,8	0,8	1	1	3,4
		Min. at high setting	1,2	1,2	1,7	1,7	4,5
		Max. at high setting	4,2	4,2	8,4	8,4	20

Inductive proximity sensors

Cylindrical metal


No flush mountable


Flush mountable

			Flush standard and increased range			
			M8		M12	
Nominal sensing distance Sn			1,5 mm	2,5 mm	2 mm	4 mm
Usable sensing distance S (mm) flush mountable / No flush mountable			0 … 1,2	0 … 2	0…1,6	0 … 3,2
Temperature range (°C)			- 25 … + 70			
Product certification			CE, UL, CSA, CCC, C-TICK, E2 (2)			
Degree of protection (conforming to IEC 60529)			IP67		Pre-cabled: IP 69K conforming to DIN 40050, IP 68	

Sensors for DC applications

Output function		NO	A	A	A	A	
		NC	B	B	B	B	
Dimensions (mm) Ø x L Cable / Connector			M8 x 33 / M8 x 42		M12 x 35 / M12 x 50		
3-wires	PNP	Cable (2 m)	XS508B1P A L2	XS108B3P A L2	XS512B1P A L2	XS112B3P A L2	
		Connector M8 / M12	XS508B1P A M8	XS108B3P A M8	XS512B1P A M12	XS112B3P A M12	
	NPN	Cable (2m)	XS508B1N A L2	XS108B3N A L2	XS512B1N A L2	XS112B3N A L2	
		Connector M8 / M12	XS508B1N A M8	XS108B3N A M8	XS512B1N A M12	XS112B3N A M12	
2-wires	No	Cable (2 m)	XS508BSC A L2	XS608B3C A L2	XS512BSD A L2	XS612B3D A L2	
	polarised (1)	Connector M12	XS508BSC A L01M12	XS608B3C A L01M12	XS512BSD A M12	XS612B3D A M12	
Supply voltage limits, min./max. (V) including ripple			10…36	10…36	10…36	10…36	
Switching capacity, max. (mA) 3-wires / 2-wires			200 / 100	200 / 100	200 / 100	200 / 100	
Overload and short-circuit protection (□) / LED output state indicator (□)			g / □	g / □	g / □	g / □	
Residual current, open state (mA)			≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	
Voltage drop, closed state (V) at I nominal 3-wires / 2-wires			≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wires / 2-wires			5000 / 4000	2500 / 3000	5000 / 4000	2500 / 2000	
Dimensions (mm) Ø x L Pre-cabled / Connector			M8 x 51 / M8 x 62		M12 x 53 / M12 x 62		
3-wires	PNP	Cable (2 m)	XS508BLP A L2	XS608B1P A L2	XS512BLP A L2	XS612B1P A L2	
		Connector M12	XS508BLP A M12	XS608B1P A M12	XS512BLP A M12	XS612B1P A M12	
	NPN	Cable (2 m)	XS508BLN A L2	XS608B1N A L2	XS512BLN A L2	XS612B1N A L2	
		Connector M12	XS508BLN A M12	XS608B1N A M12	XS512BLN A M12	XS612B1N A M12	
2-wires	No	Cable (2 m)	XS508B1D A L2	XS608B1D A L2	XS512B1D A L2	XS612B1D A L2	
	polarised	Connector M12	XS508B1D A M12	XS608B1D A M12	XS512B1D A M12	XS612B1D A M12	
Supply voltage limits, min./max. (V) including ripple			10…58	10…58	10…58	10…58	
Switching capacity, max. (mA) 3-wires / 2-wires			200 / 100	200 / 100	200 / 100	200 / 100	
Overload and short-circuit protection (□) / LED output state indicator (□)			g / □	g / □	g / □	g / □	
Residual current, open state (mA) 2-wires			≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	
Voltage drop, closed state (V) at I nominal 3-wires / 2-wires			≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wires / 2-wires			5000 / 4000	2500 / 3000	5000 / 4000	2500 / 2000	

Multi-current/multi-voltage sensors for AC/DC applications

Dimensions (mm) Ø x L Cable / Connector			–	–	M12 x 53 / M12 x 62	
2-wires		Cable (2 m)	–	–	XS512B1M A L2	XS612B1M A L2
		Connector 1/2"-20 UNF	–	–	XS512B1M A U20	XS612B1M A U20
Supply voltage limits, min./max. (V) including ripple			–	–	20…264	20…264
Switching capacity, max (mA)			–	–	200	200
LED output state indicator (□)			–	–	□	□
Residual current, open state (mA)			–	–	≤ 0,8	≤ 0,8
Voltage drop, closed state (V) at I nominal			–	–	≤ 5,5	≤ 5,5
Switching frequency (Hz)			–	–	25 AC / 1000 DC	25 AC / 1000 DC

(1) polariseds for M8 short

(2) E2 E2 depending on the version, more details on tesensors.com

Accessories

Fixing for cylindrical sensors

Fixing clamp with indexing pin for cylindrical sensors

M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130

Suitable female plug-in connectors

M8	Straight	Elbowed
Metal ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4-pins)		
Metal ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B

Other versions: please consult our Customer Care Centre.

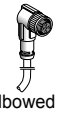




M18		M30		No flush increased range M12	M18	M30
5 mm	8 mm	10 mm	15 mm	7/8 mm	12/15 mm	22/30 mm
0…4	0…6,4	0…8	0…12	0...5.6/0…6.4	0…9.6/0...12	0...17.6 / 0…24
- 25…+ 70				- 25…+ 70		
				CE, UL , CSA , CCC, C-TICK, E2 (2)		
(with connector: IP67)				Pre-cabled: IP 69K conforming to DIN 40050, IP 68 (with connector: IP67)		
A B	A B	A B	A B	A B	A B	A B
M18 x 39 / M18 x 50		M30 x 43 / M30 x 55		M12 x 37 / M12 x 51	M18 x 41 / M18 x 51	
XS518B1PAL2	XS118B3PAL2	XS530B1PAL2	XS130B3PAL2	XS212B4PAL2	XS218B4PAL2	
XS518B1PAM12	XS118B3PAM12	XS530B1PAM12	XS130B3PAM12	XS212B4PAM12	XS218B4PAM12	
XS518B1NAL2	XS118B3NAL2	XS530B1NAL2	XS130B3NAL2	XS212B4NAL2	XS218B4PAL2	
XS518B1NAM12	XS118B3NAM12	XS530B1NAM12	XS130B3NAM12	XS212B4NAM12	XS218B4PAM12	
XS518BSDAL2	XS618B3DAL2	XS530BSDAL2	XS630B3DAL2			
XS518BSDAM12	XS618B3DAM12	XS530BSDAM12	XS630B3DAM12			
10…36	10…36	10…36	10…36	10…36	10…36	
200 / 100	200 / 100	200 / 100	200 / 100	200	200	
g / □	g / □	g / □	g / □	g / □	g / □	
≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	≤ 0.5	≤ 0.5	
≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2	≤ 2	
2000 / 3000	1000 / 1000	1000 / 2000	500 / 500	2500	1000	
M18 x 62 / M18 x 74		M30 x 62		M12 x 55 / M12 x 65	M18 x 62 / M18 x 74	M30 x 66 / M30 x 74
XS518BLPAL2	XS618B1PAL2	XS530BLPAL2	XS630B1PAL2	XS612B4PAL2	XS618B4PAL2	XS630B5PAL2
XS518BLPAM12	XS618B1PAM12	XS530BLPAM12	XS630B1PAM12	XS612B4PAM12	XS618B4PAM12	XS630B5PAM12
XS518BLNAL2	XS618B1NAL2	XS530BLNAL2	XS630B1NAL2	XS612B4NAL2	XS618B4NAL2	XS630B5NAL2
XS518BLNAM12	XS618B1NAM12	XS530BLNAM12	XS630B1NAM12	XS612B4NAM12	XS618B4NAM12	XS630B5NAM12
XS518B1DAL2	XS618B1DAL2	XS530B1DAL2	XS630B1DAL2	–	–	–
XS518B1DAM12	XS618B1DAM12	XS530B1DAM12	XS630B1DAM12	–	–	–
10…58	10…58	10…58	10…58	10…58	10…58	10…58
200 / 100	200 / 100	200 / 100	200 / 100	200 / –	200 / –	200 / –
g / □	g / □	g / □	g / □	g / □	g / □	g / □
≤ 0,5	≤ 0,5	≤ 0,5	≤ 0,5	–	–	–
≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / –	≤ 2 / –	≤ 2 / –
2000 / 3000	1000 / 1000	1000 / 2000	500 / 500	2500 / –	1000 / –	500 / –
M18 x 62 / M18 x 73		M30 x 62 / M30 x 73		–	M18 x 60 / M18 x 72	M30 x 63 / M30 x 74
XS518B1MAL2	XS618B1MAL2	XS530B1MAL2	XS630B1MAL2	–	XS618B4MAL2	XS630B4MAL2
XS518B1MAU20	XS618B1MAU20	XS530B1MAU20	XS630B1MAU20	–	XS618B4MAU20	XS630B4MAU20
20…264	20…264	20…264	20…264	–	20…264	20…264
300 AC / 200 DC	300 AC / 200 DC	300 AC / 200 DC	300 AC / 200 DC	–	300 AC / 200 DC	300 AC / 200 DC
□	□	□	□	–	□	□
≤ 0,8	≤ 0,8	≤ 0,8	≤ 0,8	–	≤ 0.8	≤ 0.8
≤ 5,5	≤ 5,5	≤ 5,5	≤ 5,5	–	≤ 5.5	≤ 5.5
25 AC / 1000 DC	25 AC / 1000 DC	25 AC / 500 DC	25 AC / 500 DC	–	25 AC / 1000 DC	25 AC / 300 DC

PUR pre-wired connectors (1)


Straight


Elbowed

(1) For PVC cable see page 47

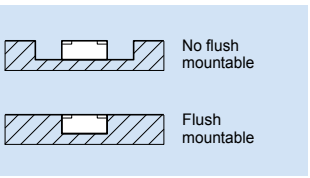
M8 (3-pins)		
	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2
5 m	XZCP0566L5	XZCP0666L5
10 m	XZCP0566L10	XZCP0666L10

1/2"		
	Straight	Elbowed
2 m	XZCP1865L2	XZCP1965L2
5 m	XZCP1865L5	XZCP1965L5
10 m	XZCP1865L10	XZCP1965L10

M12 (4-pins)			
	Straight	Elbowed	Elbowed PNP LED
2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10

Inductive proximity sensors

Rectangulars plastic



	U 8 x 22 x 8	U 15 x 32 x 8	U 26 x 26 x 13	U 40 x 40 x 15	U 80 x 80 x 26
Nominal sensing distance Sn	2.5 mm	5 mm	10 mm	15 mm	40 mm
Operating zone (mm)	0...2	0...4	0…8	0…12	0…32
Fine adjustment zone (mm) flush mountable / No flush mountable	–	–	–	–	–
Suitability for flush mounting(metal environment)	flush mountable	flush mountable	flush mountable	flush mountable	flush mountable
Temperature range (°C)	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70
Product certification	CE	CE, UL, CSA, C-TICK			
Degree of protection (conforming to IEC 60529)	pre-cabled : IP68 (with connector : IP67)				

Sensors for DC applications

Connection				Pre-cabled PvR (2 m)				
2-wires (No polarised)		NO or NC	programmable	–	–	–	–	–
2-wires	No polarised	NO function		XS7J1A1DAL2	XS7F1A1DAL2	XS7E1A1DAL2 (3)	XS7C1A1DAL2 (3)	XS7D1A1DAL2 (3)
		NC function		XS7J1A1DBL2	XS7F1A1DBL2	XS7E1A1DBL2 (3)	XS7C1A1DBL2 (3)	XS7D1A1DBL2 (3)
4-wires	PNP	NO + NC	complementary outputs	–	–	–	–	–
	NPN	NO + NC	complementary outputs	–	–	–	–	–
3-wires	PNP	NO function		XS7J1A1PAL2	XS7F1A1PAL2	XS7E1A1PAL2 (3)	XS7C1A1PAL2 (3)	XS7D1A1PAL2 (3)
		NC function		XS7J1A1PBL2	XS7F1A1PBL2	XS7E1A1PBL2 (3)	XS7C1A1PBL2 (3)	XS7D1A1PBL2 (3)
	NPN	NO function		XS7J1A1NAL2	XS7F1A1NAL2	XS7E1A1NAL2 (3)	XS7C1A1NAL2 (3)	XS7D1A1NAL2 (3)
		NC function		XS7J1A1NBL2	XS7F1A1NBL2	XS7E1A1NBL2 (3)	XS7C1A1NBL2 (3)	XS7D1A1NBL2 (3)
Connection				M8				M12
2-wires	No polarised	NO function		XS7J1A1DAL01M8 (1)	XS7F1A1DAL01M8 (1)	XS7E1A1DAM8 (3)	XS7C1A1DAM8 (3)	XS7D1A1DAM12 (3)
		NC function		XS7J1A1DBL01M8 (1)	XS7F1A1DBL01M8 (1)	XS7E1A1DBM8 (3)	XS7C1A1DBM8 (3)	XS7D1A1DBM12 (3)
3-wires	PNP	NO function		XS7J1A1PAL01M8 (1)	XS7F1A1PAL01M8 (1)	XS7E1A1PAM8 (3)	XS7C1A1PAM8 (3)	XS7D1A1PAM12 (3)
		NC function		XS7J1A1PBL01M8 (1)	XS7F1A1PBL01M8 (1)	XS7E1A1PBM8 (3)	XS7C1A1PBM8 (3)	XS7D1A1PBM12 (3)
	NPN	NO function		XS7J1A1NAL01M8 (1)	XS7F1A1NAL01M8 (1)	XS7E1A1NAM8 (3)	XS7C1A1NAM8 (3)	XS7D1A1NAM12 (3)
		NC function		XS7J1A1NBL01M8 (1)	XS7F1A1NBL01M8 (1)	XS7E1A1NBM8 (3)	XS7C1A1NBM8 (3)	XS7D1A1NBM12 (3)
Supply voltage limits, min./max. (V) including ripple				10…36	10…36	10…36	10…36	10…36
Switching capacity, max (mA)				100	100	100	100	100
Short-circuit protect. (□) / LED output state indicator (□)				g / □ / –	g / □ / –	g / □ / –	g / □ / –	g / □ / –
Voltage drop, closed state (V) at I nominal cable / Connector				≤ 4 / ≤ 2	≤ 4 / ≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz) cable / Connector				4000 / 2000	5000 / 2000	1000	1000	100

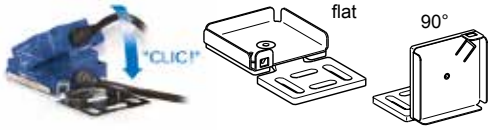
Multi-current/multi-voltage sensors for AC/DC applications

Connection								
2-wires		AC/DC	NO function	–	–	–	–	–
			NC function	–	–	–	–	–
		AC	NO or NC programmable	–	–	–	–	–
		AC/DC	NO or NC programmable	–	–	–	–	–
Connection								
2-wires		AC/DC	NO function	–	–	–	–	–
			NC function	–	–	–	–	–
Supply voltage limits, min./max. (V) including ripple				–	–	–	–	–
Switching capacity, max (mA)				–	–	–	–	–
Short-circuit protect. (□) / LED output state indicator (□)				–	–	–	–	–
Residual current, open state (mA)				–	–	–	–	–
Voltage drop, closed state (V) at I nominal				–	–	–	–	–
Switching frequency (Hz)				–	–	–	–	–

(1) M8 connector on flying lead L = 0,15m

Accessories

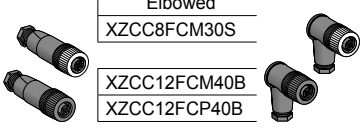
Fixing for flat sensors



	flat	90°
8x22x8	XSZBJ00	XSZBJ90
15x32x8	XSZBF00	XSZBF90
26x26x13	XSZBE00	XSZBE90
40x40x15	XSZBC00	XSZBC90

Suitable female plug-in connectors

M8	Straight	Elbowed
Metal ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4-pins)		
Metal ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B



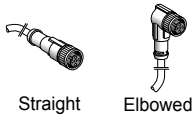
Other versions: please consult our Customer Care Centre.




U 40 x 40 x 70		U 40 x 40 x 117		U 26 x 26 x 13	U 40 x 40 x 15	U 80 x 80 x 26
20 mm	40 mm	20 mm	40 mm	15 mm	25 mm	60 mm
0…16	0…32	0…16	0…32	0…8 / 0...12	0…12 / 0...20	0…32 / 0...48
				5...10 / 5...15	8...15 / 8...25	20...40 / 20...60
flush mountable	No flush mountable	flush mountable	No flush mountable	flush mountable or No flush mountable via teach mode		
- 25…+ 70				- 25…+ 70		
CE, UL, CSA, CCC, C-TICK, E2, for PNP versions: TUV Sil 2				CE, UL, CSA, CCC, C-TICK		
IP67 and IP69K				pre-cabled : IP68 (with connector : IP67)		
M12		Screw terminals (2)		Pre-cabled (2m)		
–	–	XS8C4A1DPP20	XS8C4A4DPP20	–	–	–
XS8C2A1DAM12	XS8C2A4DAM12	–	–	–	–	–
XS8C2A1DBM12	XS8C2A4DBM12	–	–	–	–	–
XS8C2A1PCM12	XS8C2A4PCM12	XS8C4A1PCP20	XS8C4A4PCP20	–	–	–
XS8C2A1NCM12	XS8C2A4NCM12	XS8C4A1NCP20	XS8C4A4NCP20	–	–	–
–	–	–	–	XS8E1A1PAL2 (3)	XS8C1A1PAL2 (3)	XS8D1A1PAL2 (3)
–	–	–	–	XS8E1A1PBL2 (3)	XS8C1A1PBL2 (3)	XS8D1A1PBL2 (3)
–	–	–	–	XS8E1A1NAL2 (3)	XS8C1A1NAL2 (3)	XS8D1A1NAL2 (3)
–	–	–	–	XS8E1A1NBL2 (3)	XS8C1A1NBL2 (3)	XS8D1A1NBL2 (3)
				M8		M12
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	XS8E1A1PAM8 (3)	XS8C1A1PAM8 (3)	XS8D1A1PAM12 (3)
–	–	–	–	XS8E1A1PBM8 (3)	XS8C1A1PBM8 (3)	XS8D1A1PBM12 (3)
–	–	–	–	XS8E1A1NAM8 (3)	XS8C1A1NAM8 (3)	XS8D1A1NAM12 (3)
–	–	–	–	XS8E1A1NBM8 (3)	XS8C1A1NBM8 (3)	XS8D1A1NBM12 (3)
12…48				10…36	10…36	10…36
4-wires version = 200 – 2-wires version = 1.5…100				100	200	200
4-wires version = g / □ / □ – 2-wires version = g / □ / –				g / □ / □	g / □ / □	g / □ / □
4-wires version = ≤ 2 – 2-wires version = ≤ 4				≤ 2	≤ 2	≤ 2
flush mountable : 300 - No flush version : 200				2000	1000	150
1/2" - 20 UNF connector		Screw terminals (2)		Pre-cabled (2m)		
XS8C2A1MAU20	XS8C2A4MAU20	–	–	XS8E1A1MAL2	XS8C1A1MAL2	XS8D1A1MAL2
XS8C2A1MBU20	XS8C2A4MBU20	–	–	XS8E1A1MBL2	XS8C1A1MBL2	XS8D1A1MBL2
–	–	–	–	–	–	–
–	–	XS8C4A1MPP20	XS8C4A4MPP20	–	–	–
				1/2" - 20 UNF connector		
–	–	–	–	XS8E1A1MAL01U20 (3)	XS8C1A1MAL01U20 (3)	XS8D1A1MAU20 (3)
–	–	–	–	XS8E1A1MBL01U20 (3)	XS8C1A1MBL01U20 (3)	XS8D1A1MBU20 (3)
20…264				20…264	20…264	20…264
AC/DC version = 300 / 200				200 AC ou DC	300 AC / 200 DC	300 AC / 200 DC
– / □ / –				– / □ / □	– / □ / □	– / □ / □
AC/DC version = ≤ 1.5				≤ 1.5	≤ 1.5	≤ 1.5
≤ 5.5				≤ 5.5	≤ 5.5	≤ 5.5
25 AC / 50 DC				2000	1000	150

(2) Sensors supplied without cable gland. Suitable cable gland: M20. Also available in13P, 1/2" NPT output and M12, 7/8" connectors. (3) ECOLAB certified

PUR pre-wired connectors (1)



Straight Elbowed

(1) For PVC cable see page 47

M8 (3-pins)		
	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2
5 m	XZCP0566L5	XZCP0666L5
10 m	XZCP0566L10	XZCP0666L10

1/2"		
	Straight	Elbowed
2 m	XZCP1865L2	XZCP1965L2
5 m	XZCP1865L5	XZCP1965L5
10 m	XZCP1865L10	XZCP1965L10

M12 (4-pins)			
	Straight	Elbowed	Elbowed PNP LED
2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10

Other versions: please consult our Customer Care Centre.

Inductive proximity sensors

Cylindrical Plastic

	M8	M12	M18	M30
Nominal sensing distance Sn	2,5 mm	4 mm	8 mm	15 mm
Operating zone (mm)	0…2	0…3,2	0…6,4	0…12
Suitability for flush mounting(metal environment)	Non flush mountable			
Temperature range (°C)	- 25…+ 70			
Product certification	CE, UL, CSA, CCC, C-TICK, ECOLAB			
Degree of protection (conforming to IEC 60529)	IP67	pre-cabled : IP68 (with connector : IP67)		

Sensors for DC applications

Connection			Pre-cabled PvR (2 m)			
Dimensions (mm) Ø x L			M8 x 33	M12 x 33	M18 x 33,5	M30 x 40,5
3-wires	PNP	NO function	XS4P08PA340	XS4P12PA340	XS4P18PA340	XS4P30PA340
		NC function	XS4P08PB340	XS4P12PB340	XS4P18PB340	XS4P30PB340
	NPN	NO function	XS4P08NA340	XS4P12NA340	XS4P18NA340	XS4P30NA340
		NC function	XS4P08NB340	XS4P12NB340	XS4P18NB340	XS4P30NB340
Connection			M8	M12		
Dimensions (mm) Ø x L			M8 x 42	M12 x 48	M18 x 48	M30 x 50
3-wires	PNP	NO function	XS4P08PA340S	XS4P12PA340D	XS4P18PA340D	XS4P30PA340D
		NC function	XS4P08PB340S	XS4P12PB340D	XS4P18PB340D	XS4P30PB340D
	NPN	NO function	XS4P08NA340S	XS4P12NA340D	XS4P18NA340D	XS4P30NA340D
		NC function	XS4P08NB340S	XS4P12NB340D	XS4P18NB340D	–
Supply voltage limits, min./max. (V) including ripple			10…38	10…38	10…38	10…38
Switching capacity, max (mA)			200	200	200	200
Short-circuit protect. (□) / LED output state indicator (□) / Power on LED (□)			g / □	g / □	g / □	g / □
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2
Switching frequency (Hz)			5000	5000	2000	1000

Multi-current/multi-voltage sensors for AC/DC applications

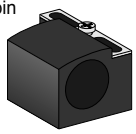
Connection			Pre-cabled PvR (2 m)			
Dimensions (mm) Ø x L			M8 x 50	M12 x 50	M18 x 60	M30 x 60
2-wires	AC/DC	NO function	XS4P08MA230	XS4P12MA230	XS4P18MA230	XS4P30MA230
not short-circuit protected (1)		NC function	XS4P08MB230	XS4P12MB230	XS4P18MB230	XS4P30MB230
Connection			1/2"			
Dimensions (mm) Ø x L			M8 x 61	M12 x 61	M18 x 70	M30 x 70
2-wires	AC/DC	NO function	XS4P08MA230K	XS4P12MA230K	XS4P18MA230K	XS4P30MA230K
not short-circuit protected (1)		NC function	XS4P08MB230K	XS4P12MB230K	XS4P18MB230K	XS4P30MB230K
Supply voltage limits, min./max. (V) including ripple			20…264	20…264	20…264	20…264
Switching capacity, max (mA)			100	200	300 AC / 200 DC	300 AC / 200 DC
LED output state indicator (□)			□	□	□	□
Residual current, open state (mA)			≤ 0,6	≤ 0,6	≤ 0,6	≤ 0,6
Voltage drop, closed state (V) at I nominal			≤ 5,5	≤ 5,5	≤ 5,5	≤ 5,5
Switching frequency (Hz)			25 AC / 3000 DC	25 AC / 3000 DC	25 AC / 2000 DC	25 AC / 1000 DC

(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Accessories

Fixing for cylindrical sensors

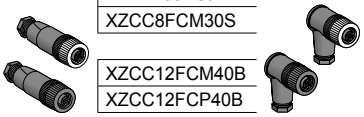
Fixing clamp with indexing pin for cylindrical sensors



M4	XSZB104	M12	XSZB112
M5	XSZB105	M18	XSZB118
M6.5	XSZB165	M30	XSZB130
M8	XSZB108		

Suitable female plug-in connectors

M8	Straight	Elbowed
Metal ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4-pins)		
Metal ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B



Miniature cylindrical metal (assembly)

			Ø 4	M5	Ø 6,5	
Nominal sensing distance Sn			1 mm	1 mm	1,5 mm	2,5 mm
Operating zone (mm)			0…0,8	0…0,8	0…1,2	0…2
Suitability for flush mounting(metal environment)			flush mountable			
Temperature range (°C)			- 25…+ 70			
Product certification			CE, UL, CSA, CCC, C-TICK			
Degree of protection (conforming to IEC 60529)			IP67			
Sensors for DC applications						
Dimensions (mm) Ø x L			Ø 4 x 29	M5 x 29	Ø 6,5 x 33	
Connection			Pre-cabled PvR (2 m)			
3-wires	PNP	NO function	XS1L04PA310	XS1N05PA310	XS506B1PAL2	XS106B3PAL2
		NC function	–	–	XS506B1PBL2	XS106B3PBL2
	NPN	NO function	XS1L04NA310	XS1N05NA310	XS506B1NAL2	XS106B3NAL2
		NC function	–	–	XS506B1NBL2	XS106B3NBL2
2-wires (polarised)		NO function	–	–	XS506BSCAL2	XS606B3CAL2
		NC function	–	–	XS506BSCBL2	XS606B3CBL2
Dimensions (mm) Ø x L			Ø 4 x 41	M5 x 41	Ø 6,5 x 42	
Connection			M8			
3-wires	PNP	NO function	XS1L04PA310S	XS1N05PA311S (1)	XS506B1PAM8	XS106B3PAM8
		NC function	–	–	XS506B1PBM8	XS106B3PBM8
	NPN	NO function	XS1L04NA310S	XS1N05NA311S (1)	XS506B1NAM8	XS106B3NAM8
		NC function	–	–	XS506B1NBM8	XS106B3NBM8
Connection			M12			
2-wires (polarised)		NO function	–	–	XS506BSCAL01M12	XS606B3CAL01M12
Supply voltage limits, min./max. (V) including ripple			5…30	5…30	10…36	
Switching capacity, max. (mA) 3-wires / 2-wires			100 / –	100 / –	200 / 100	
Short-circuit protect. (□) / LED output state indicator (□) / Power on LED (□)			g / □	g / □	g / □	
Voltage drop, closed state (V) at I nominal 3-wires / 2-wires			≤ 2 / –	≤ 2 / –	≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wires / 2-wires			5000 / –	5000 / –	5000 / 4000	2500 / 3000

(1) Stainless steel sensors, Sn = 0,8 mm

PUR pre-wired connectors (1)

Straight Elbowed

(1) For PVC cable see page 47

M8 (3-pins)		
	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2
5 m	XZCP0566L5	XZCP0666L5
10 m	XZCP0566L10	XZCP0666L10

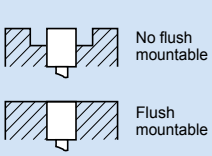
1/2"		
	Straight	Elbowed
2 m	XZCP1865L2	XZCP1965L2
5 m	XZCP1865L5	XZCP1965L5
10 m	XZCP1865L10	XZCP1965L10

M12 (4-pins)			
	Straight	Elbowed	Elbowed PNP LED
2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10

Other versions: please consult our Customer Care Centre.

Inductive proximity sensors

Multi-voltage with short-circuit protection



		M 12	M 18	M 30
Nominal sensing distance Sn	flush	2 mm	5 mm	10 mm
	No flush or increased flush	4 mm	8 mm	15 mm
Operating zone (mm)	flush	0…1,6	0…4	0…8
	No flush or increased flush	0…3,2	0…6,4	0…12
Suitability for flush mounting(metal environment)		Flush mountable ou No flush mountable depending on model		
Case M (metal) P (plastic)		M		
Temperature range (°C)		- 25…+ 70		
Degree of protection (conforming to IEC 60529)		IP68 (with connector : IP67)		
Product certification		CE, UL, CSA, CCC, C-TICK		
Dimensions (mm) Ø x L Cable (Connector)		M12 x 55 (M12 x 66)	M18 x 60 (M18 x 72)	M30 x 60 (M30 x 72)

Sensors for DC applications

Connection						
4-wires	PNP	NO + NC	Flush	–	–	–
			increased flush			
			No flush	–	–	–
	NPN	NO + NC	Flush	–	–	–
			No flush	–	–	–
	PNP+NPN programmable	NO/NC	Flush (metal)	–	–	–
			No flush (metal)	–	–	–
			No flush (plastic)	–	–	–
Connection						
4-wires	PNP	NO + NC	Flush	–	–	–
			increased flush			
			No flush	–	–	–
	NPN	NO + NC	Flush	–	–	–
			No flush	–	–	–
	PNP+NPN programmable	NO/NC	Flush (metal)	–	–	–
			No flush (metal)	–	–	–
			No flush (plastic)	–	–	–
Supply voltage limits, min./max. (V) including ripple				–	–	–
Switching capacity, max (mA)				–	–	–
Short-circuit protection (□) / LED output state indicator (□)				–	–	–
Voltage drop, closed state (V) at I nominal				–	–	–
Switching frequency (Hz)				–	–	–

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled PvR (2 m)		
2-wires AC/DC	NO function	Flush	XS1M12MA250	XS1M18MA250	XS1M30MA250
		No flush	XS2M12MA250	XS2M18MA250	XS2M30MA250
	NC function	Flush	XS1M12MB250	XS1M18MB250	XS1M30MB250
		No flush	XS2M12MB250	XS2M18MB250	XS2M30MB250
Connection			1/2”-20UNF		
2-wires AC/DC	NO function	Flush	XS1M12MA250K	XS1M18MA250K	XS1M30MA250K
		No flush	XS2M12MA250K	XS2M18MA250K	XS2M30MA250K
	NC function	Flush	XS1M12MB250K	XS1M18MB250K	XS1M30MB250K
		No flush	–	XS2M18MB250K	XS2M30MB250K
Supply voltage limits, mini/maxi (V) 50-60 Hz			20…264		
Switching capacity, max (mA)			5…200	5…200 AC, 5…300 DC	
LED output state indicator (□) / Power on LED (□)			□ / □		
Residual current, open state (mA)			≤ 1,5		
Voltage drop, closed state (V) at I nominal			≤ 5,5		
Switching frequency (Hz)			25 AC, 4000 DC	25 AC, 2000 DC	25 AC, 2000 DC (1)

(1) 25 AC, 1000 DC for non flush Ø 30 mm.

PNP or NPN
NO + NC Complementary outputs

PNP + NPN outputs,
NO or NC programmable

	M 8	M 12	M 18	M 30	M 12	M 18	M 30
	1,5 mm	2 mm	5 mm	10 mm	2 mm	5 mm	10 mm
	2,5 mm	4 mm	8 mm	15 mm	4 mm	8 mm	15 mm
	0…1,2	0…1,6	0…4	0…8	0…1,6	0…4	0…8
	0…2	0…3,2	0…6,4	0…12	0…3,2	0…6,4	0…12
	flush mountable or no flush mountable depending on model				flush mountable or no flush mountable depending on model		
	M				M ou P depending on model		
	- 25…+ 70				- 25…+ 70		
	IP67	IP68 (with connector : IP67)			IP68 (with connector : IP67)		
	CE, UL, CSA, CCC, C-TICK, E2 - for versions PNP : TÜV SIL2 (SIL2 only for M12, M18, M30)				CE, UL, CSA, CCC, C-TICK		
	M8 x 50 (M8 x 61)	M12 x 33 (M12 x 48)	M18 x 36.5 (M18 x 49)	M30 x 40.5 (M30 x 53)	M12 x 50 (M12 x 61)	M18 x 60 (M18 x 72)	M30 x 60 (M30 x 72)
	Pre-cabled PvR (2 m)				Pre-cabled PvR (2 m)		
	XS1M08PC410	XS1N12PC410	XS1N18PC410	XS1N30PC410	–	–	–
	–	XS112B3PCL2	XS118B3PCL2	XS130B3PCL2			
	XS2M08PC410	–	–	–	–	–	–
	XS1M08NC410	XS1N12NC410	XS1N18NC410	XS1N30NC410	–	–	–
	XS2M08NC410	XS2N12NC410	XS2N18NC410	XS2N30NC410	–		
	–	–	–	–	XS1M12KP340	XS1M18KP340	XS1M30KP340
	–	–	–	–	XS2M12KP340	XS2M18KP340	XS2M30KP340
	–	–	–	–	XS4P12KP340	XS4P18KP340	XS4P30KP340
	M12				M12		
	XS1M08PC410D	XS1N12PC410D	XS1N18PC410D	XS1N30PC410D	–	–	–
	–	XS112B3PCM12	XS118B3PCM12	XS130B3PCM12			
	XS2M08PC410D	–	–	–	–	–	–
	XS1M08NC410D	XS1N12NC410D	XS1N18NC410D	XS1N30NC410D	–	–	–
	XS2M08NC410D	XS2N12NC410D	XS2N18NC410D	XS2N30NC410D	–	–	–
	–	–	–	–	XS1M12KP340D	XS1M18KP340D	XS1M30KP340D
	–	–	–	–	XS2M12KP340D	XS2M18KP340D	XS2M30KP340D
	–	–	–	–	XS4P12KP340D	XS4P18KP340D	XS4P30KP340D
	10…36	9…36 for PNP version			10…36		
	200				200		
	□ / □				□ / –		
	≤ 2				≤ 2,6		
	5000	5000	2000	1000	5000	2000	1000

Accessories

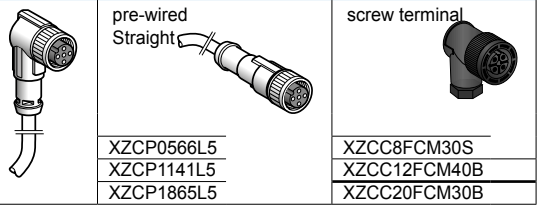
Fixing clamps

With indexing pin for cylindrical sensors

M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130

Suitable female plug-in connectors, including PUR pre-wired versions (1)

length 5 m without LED	pre-wired Elbowed	pre-wired Straight	screw terminal
M8 (ou S)	XZCP0666L5	XZCP0566L5	XZCC8FCM30S
M12 (ou D)	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
1/2" (ou K)	XZCP1965L5	XZCP1865L5	XZCC20FCM30B

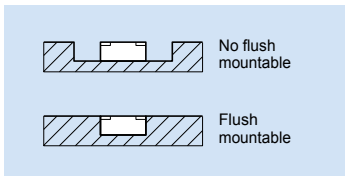


(1) For PVC cable see page 47

Inductive proximity sensors - Application

Rotation control

Fixed sensing distance
(for ferrous or no ferrous materials)



	26 x 26 x 13	40 x 40 x 15	M30	M18	M30
Nominal sensing distance Sn	10 mm	15 mm	10 mm	5 mm	10 mm
Operating zone (mm)	0...8	0...12	0...8	0...4	0...8
Suitability for flush mounting(metal environment)	flush mountable			flush mountable	
Case M (metal) P (plastic)	P	P	M	M	M
Temperature range (°C)	– 25…+ 60			0…+ 50	
Degree of protection (conforming to IEC 60529)	IP67			pre-cabled : IP68 (with connector : IP67)	
Product certification	CE, UL, CSA, CCC, C-TICK			CE, UL, CSA, CCC, C-TICK	
Dimensions (mm) Ø x L or W x H x D Cable (Connector)	26 x 26 x 13	40 x 40 x 15	M30 x 81	M18 x 60 (M18 x 70)	M30 x 60
Maximum speed of passing object (impulses / min)	48000	48000	6000...48000 (1)	–	–
Adjustable frequency range (impulses / min)	6...6000	6...6000	6...150 / 120...3000 (1)	–	–

Sensors for DC applications

Connection			Pre-cabled PvR (2 m)				
4 wires	PNP/NPN NO/NC	programmable	–	–	–	XS1M18KPM40	XS1M30KPM40
3-wires	PNP NC function	slow version	–	–	XSAV11373	–	–
		fast version	–	–	XSAV12373	–	–
	Output 0…10 V	plastic	–	–	–	–	–
	Output 4…20 mA	metal flush mountable	–	–	–	–	–
		plastic flush mountable	–	–	–	–	–
		plastic no flush mountable	–	–	–	–	–
Connection par connector			M8 ou M12				M12 déporté L = 0,8 m
4 wire	PNP/NPN NO/NC	programmable	–	–	–	XS1M18KPM40D	XS1M30KPM40LD
3-wires	PNP NC function		XS9E11RPBL01M12 (3)	XS9C11RPBL01M12 (3)	–	–	–
	Output 0…10 V		–	–	–	–	–
	Output 4…20 mA		–	–	–	–	–
Supply voltage limits, min./max. (V) including ripple			10...36	10...36	10...58	10...38	
Switching capacity, max (mA)			100	200	200	200	
Short-circuit protect. (□) / LED output state indicator (□) / Power on LED (□)			□ / □ / □	□ / □ / □	□ / □ / –	□ / □ / –	
Linearity error			–	–	–	–	
Voltage drop, closed state (V) at I nominal			≤ 2	≤ 2	≤ 2	≤ 2,6	
Switching frequency (Hz)			–	–	–	1000	
Operating frequency (Hz)			–	–	–	–	

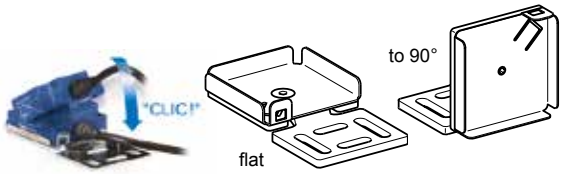
Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled PvR (2 m)				
2-wires	AC/DC NC function		XS9E11RMBL01U20 (5)	XS9C11RMBL01U20 (5)	–	–	–
not short-circuit protected (2)	NC function	slow version	–	–	XSAV11801	–	–
		fast version	–	–	XSAV12801	–	–
Supply voltage limits, mini/maxi (V) 50–60 Hz			20...264	20...264	20...264	–	–
Switching capacity, max (mA)			100	300 AC / 200 DC	300 AC / 200 DC	–	–
LED output state indicator (□) / Power on LED (□)			□ / □	□ / □	□ / –	–	–
Residual current, open state (mA)			≤ 1,5	≤ 1,5	≤ 1,5	–	–
Voltage drop, closed state (V) at I nominal			≤ 5,5	≤ 5,5	≤ 5,7	–	–
Switching frequency (Hz)			–	–	–	–	–

Accessories

Fixings

for flat sensors



	flat	90°	substitution of block type sensors XSE / XSC / XSD
8x22x8	XSZBJ00	XSZBJ90	–
15x32x8	XSZBF00	XSZBF90	XSZBE10
26x26x13	XSZBE00	XSZBE90	XSZBC10
40x40x15	XSZBC00	XSZBC90	XSZBD10

Fixing clamp with indexing pin for cylindrical sensors

M12	XSZB112
M18	XSZB118
M30	XSZB130

Telemecanique Sensors

Other versions: please consult our Customer Care Centre.

Analogue (Position control)

	8 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26	M12	M18	M30
	5 mm	10 mm	15 mm	40 mm	M: 2 mm / P: 4 mm	M: 5 mm / P: 8 mm	M: 10 mm / P: 15 mm
	1...4	1...10	2...15	5...40	M : 0,2…2 / P : 0,4…4	M : 0,5…5 / P : 0,8…8	M : 1…10 / P : 1,5…15
	flush mountable	flush mountable	flush mountable	flush mountable	flush / No flush mountable	flush / No flush mountable	flush / No flush mountable
	P	P	P	P	M ou P	M ou P	M ou P
	- 25…+ 60	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70
	Pre - cabled : IP68 (with connector: IP67)				IP67		
	CE, UL, CSA, CCC, C-TICK						
	15 x 32 x 8	26 x 26 x 13	40 x 40 x 15	80 x 80 x 26	Ø 12 x 50	Ø 18 x 50	Ø 30 x 52.5
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	XS9F111A1L2	XS9E111A1L2 (6)	XS9C111A1L2 (6)	XS9D111A1L2 (6)	XS4P12AB110	XS4P18AB110	XS4P30AB110
	–	–	–	–	XS1M12AB120	XS1M18AB120	XS1M30AB120
	XS9F111A2L2	XS9E111A2L2 (6)	XS9C111A2L2 (6)	XS9D111A2L2 (6)	–	–	–
	–	–	–	–	XS4P12AB120	XS4P18AB120	XS4P30AB120
	M8 ou M12						
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	XS9F111A1L01M8 (4)(6)	XS9E111A1L01M12 (4)(6)	XS9C111A1L01M12 (4)(6)	XS9D111A1M12 (6)	–	–	–
	XS9F111A2L01M8 (4)(6)	XS9E111A2L01M12 (4)(6)	XS9C111A2L01M12 (4)(6)	XS9D111A2M12 (6)	–	–	–
	15...36	15...36	15...36	15...36	10…36 for XS..AB110 / 15…58 for XS..AB120 (6)		
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	± 1 V for 0…10 V version / ± 2 mA for 4…20 mA version						
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	2000	1000	1000	100	1500	500	300

(1) 6...150 and 6000 impulses/min for XSAV11373 and XSAV11801 (slow version); 120...3000 and 48000 impulses/min for XSAV12373 and XSAV12801 (fast version).

(2) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

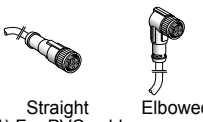
(3) Flying lead (L = 0.15 m) with end mounted remote control incorporating M12 connector.

(4) Flying lead (L = 0.15 m) with end connector.

(5) Flying lead (L = 0.15 m) with end mounted remote control incorporating 1/2"-20 UNF connector.

(6) ECOLAB certified.

PUR pre-wired connectors (1)



Straight Elbowed

(1) For PVC cable see page 47

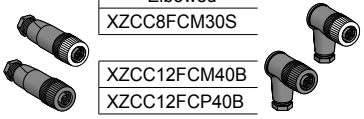
M8 (3-pins)		
	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2
5 m	XZCP0566L5	XZCP0666L5
10 m	XZCP0566L10	XZCP0666L10

1/2"		
	Straight	Elbowed
2 m	XZCP1865L2	XZCP1965L2
5 m	XZCP1865L5	XZCP1965L5
10 m	XZCP1865L10	XZCP1965L10

M12 (4-pins)			
	Straight	Elbowed	Elbowed PNP LED
2 m	XZCP1141L2	XZCP1241L2	XZCP1340L2
5 m	XZCP1141L5	XZCP1241L5	XZCP1340L5
10 m	XZCP1141L10	XZCP1241L10	XZCP1340L10

Suitable female plug-in connectors

M8	Straight	Elbowed
Steel ring	XZCC8FDM30S	XZCC8FCM30S
M12 (4-pins)		
Steel ring	XZCC12FDM40B	XZCC12FCM40B
Plastic ring	XZCC12FDP40B	XZCC12FCP40B



Inductive proximity sensors - Application

Food and beverage processing

Type			M12	M18	Ø 18 plain	M30
Nominal sensing distance Sn			7 mm	12 mm	12 mm	22 mm
Operating zone (mm)			0 …5,6	0 … 9,6	0 … 9,6	0 … 17,6
Suitability for flush mounting(metal environment)			No-flush mountable			
Case M (metal) (1)			M stainless steel 316 L			
Product certification			CE, UL, CSA, CCC, C-TICK			
Temperature range (°C)			- 25…+ 85°C			
Degree of protection (conforming to IEC 60529)			pre-cabled : IP68 (with connector : IP67) and IP69K conforming to DIN 40050			

Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled, No poisonous PVC (2 m)			
Dimensions (mm)			M12 x 55	M18 x 60	Ø 18 x 60	M30 x 62
3-wires	PNP	NO function	XS212SAPAL2	XS218SAPAL2	XS2L2SAPAL2	XS230SAPAL2
	NPN	NO function	XS212SANAL2	XS218SANAL2	XS2L2SANAL2	XS230SANAL2
Connection			par connector M12			
Dimensions (mm)			M12 x 61	M18 x 70	Ø 18 x 70	M30 x 70
3-wires	PNP	NO function	XS212SAPAM12	XS218SAPAM12	XS2L2SAPAM12	XS230SAPAM12
	NPN	NO function	XS212SANAM12	XS218SANAM12	XS2L2SANAM12	XS230SANAM12
Supply voltage limits, min./max. (V) including ripple			10…36			
Switching capacity, max (mA)			≤ 200			
Switching frequency (Hz)			2500	1000	1000	500
Short-circuit protection (□) / LED output state indicator (□)			□ / □	□ / □	□ / □	□ / □
Voltage drop, closed state (V) at I nominal			≤ 2			

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Pre-cabled, No poisonous (2 m)			
Dimensions (mm)			–	M18 x 60	–	M30 x 62
2-wires (2)	AC/DC	NO function	–	XS218SAMAL2	–	XS230SAMAL2
Connection			1/2"-20 UNF connector			
Dimensions (mm)			–	M18 x 72	–	M30 x 74
2-wires (2)	AC/DC	NO function	–	XS218SAMAU20	–	XS230SAMAU20
Supply voltage limits, min./max. (V) 50-60 HZ			–	20 … 264	–	20 … 264
Switching capacity, max (mA)			–	300 AC / 200 DC	–	300 AC / 200 DC
Switching frequency (Hz)			–	25 AC / 1000 DC	–	25 AC / 300 DC
LED output state indicator (□)			–	□	–	□
Voltage drop, closed state (V) at I nominal			–	≤ 5,5	–	≤ 5,5
Residual current, open state (mA)			–	≤ 0,8	–	≤ 0,8

(1) Plastic range available. M12, M18, M30: :
To order, replace the second letter S in the reference by A
(example: XS212SAPAL2 becomes XS212AAPAL2).

(2) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

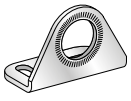
Accessories

Fixing clamps

Plastic — fixing centres 24.1 mm, with locking screw

for sensor	
Ø 18 plain	XUZB2005

Stainless steel



for sensor	
Ø 12	XSZBS12
Ø 18	XUZA118
Ø 30	XSZBS30

M12 pre-wired connector

female, 4-pin, stainless steel clamping ring

Straight connector

5 m	XZCPA1141L5

Elbowed connector

5 m	XZCPA1241L5

M12 jumper cable

male, 3-pins, stainless steel clamping ring

Straight connector	5 m	XZCRA151140A5

1/2" pre-wired connector

Straight	5 m	XZCP1865L5
Elbowed	5 m	XZCP1965L5

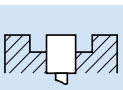
Telemecanique Sensors

Other versions: please consult our Customer Care Centre.

OsiSense XT

Capacitive proximity sensors

Detection of insulating materials or conductive materials



		Suitability for flush mtg.	M12	M18	M30	Ø 32	40 x 40
Nominal sensing distance Sn		flush mountable	2 mm	5 mm	10 mm	15 mm	15 mm
		No flush mountable	–	8 mm	15 mm	20 mm	–
Operating zone Sa (mm) (2)		flush mountable	0…1,44	0…3,6	0…7,2	0…11	0…11
		No flush mountable	–	0…5,8	0…11	0…15	–
Case M (metal) P (plastic)		flush mountable	M	M	M	M	P
		No flush mountable	–	P	P	P	–
Product certification			CE, CRTLus				CE, UL, CSA
Temperature range (°C)			- 25…+ 70				
Degree of protection (conforming to IEC 60529)			IP67				
Dimensions (mm) Ø x L or H x W x D			M12 x 70	M18 x 80	M30 x 80	M32 x 80	40 x 40 x 117

Sensors for DC applications

Connection				Pre-cabled PVC (2 m)				
3-wires	PNP	NO function	Flush mountable	XT112S1PAL2	XT118B1PAL2	XT130B1PAL2	–	–
			No flush mountable	–	XT218A1PAL2	XT230A1PAL2	–	–
		Function NO+NC	Flush mountable	XT112S1PCL2	XT118B1PCL2	XT130B1PCL2	–	–
			No flush mountable	–	–	–	–	–
	NPN	NO function	Flush mountable	XT112S1NAL2	XT118B1NAL2	XT130B1NAL2	–	–
			No flush mountable	–	XT218A1NAL2	XT230A1NAL2	–	–
Connection				M12				par vis et étriers
3-wires	PNP	Function NO+NC	Flush mountable	XT112S1PCM12	XT118B1PCM12	XT130B1PCM12	–	XT7C40PC440 (3)
			No flush mountable	–	XT218A1PCM12	XT230A1PCM12	–	–
	NPN	Function NO+NC	Flush mountable	–	–	–	–	XT7C40NC440 (3)
Supply voltage limits, min./max. (V) including ripple				10...38				
Switching capacity, max (mA)				200				
Short-circuit protection (□) / LED output state indicator (□)				□ / □				
Voltage drop, closed state (V) at I nominal				≤ 2				
Switching frequency (Hz)				300	100 (XT2) / 200 (XT1)	100 (XT2) / 150 (XT1)	–	100

Multi-current/multi-voltage sensors for AC applications

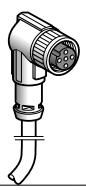
Connection			Pre-cabled PVC (2 m)				
2-wires AC (1)	NO function	Flush mountable	–	XT118B1FAL2	XT130B1FAL2	XT132B1FAL2	–
		No flush mountable	–	XT218A1FAL2	XT230A1FAL2	XT232A1FAL2	–
	NC function	Flush mountable	–	XT118B1FBL2	XT130B1FBL2	XT132B1FBL2	–
		No flush mountable	–	–	XT230A1FBL2	XT232A1FBL2	–
Connection			Screw terminals				
2-wires AC (1)	NO or NC programmable	Flush mountable	–	–	XT230A2MDB (4)	–	XT7C40FP262
Supply voltage limits, min./max.(V) 50-60 Hz			–	20…264	20…264	20…264	20…264
Switching capacity, max (mA)			–	300			350
LED output state indicator (□) / Power on LED (□)			□ / –				
Voltage drop, closed state (V) at I nominal			–	≤ 5,5	≤ 5,5	≤ 9	≤ 5,5
Switching frequency (Hz)			–	25	25	25	25

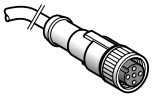
(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.
(2) The operating distance depends on the objet material.
(3) Only for detecting insulating materials.
(4) 24…240 VAC or 24 VDC supply (No flush mountable)

Accessories

Suitable female plug-in connectors, including PUR pre-wired versions (1)

long. 5 m without DEL	pre-wired Elbowed	pre-wired Straight	screw terminal
M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B

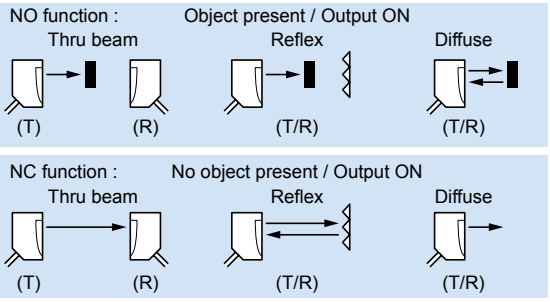




(1) For PVC cable see page 47

OsiSense XU — Photo-electric sensors

General Purpose



				M18 Metal (1) cable	M18 Metal (1) M12 connector	M18 Plastic cable	M18 Plastic M12 connector
Output function		NO		A	A	A	A
		NC		B	B	B	B
Diffuse		Sensing distance		0,6 m (2) (3)		0,6 m (2) (3)	
	Output type	DC3 NO	PNP	XUB5BP ANL2	XUB5BP ANM12	XUB5AP A NL2	XUB5AP ANM12
			NPN	XUB5BN ANL2	XUB5BN ANM12	XUB5AN ANL2	XUB5AN ANM12
		AC/DC 1C/O relay		–	–	–	–
Reflex Polarised		Sensing distance (4)		2 m		2 m	
	Output type	DC3 NO	PNP	XUB9BP ANL2	XUB9BP ANM12	XUB9AP ANL2	XUB9AP ANM12
			NPN	XUB9BN ANL2	XUB9BN ANM12	XUB9AN ANL2	XUB9AN ANM12
		AC/DC 1C/O relay		–	–	–	–
Reflex		Sensing distance (4)		4 m		4 m	
	Output type	DC3 NO	PNP	XUB1BP ANL2	XUB1BP ANM12	XUB1AP ANL2	XUB1AP ANM12
			NPN	XUB1BN ANL2	XUB1BN ANM12	XUB1AN ANL2	XUB1AN ANM12
		AC/DC 1C/O relay		–	–	–	–
Thru beam		Sensing distance		15 m		15 m	
	Output type	DC3 NO	PNP	XUB2BP ANL2R	XUB2BP ANM12R	XUB2AP ANL2R	XUB2AP ANM12R
			NPN	XUB2BN ANL2R	XUB2BN ANM12R	XUB2AN ANL2R	XUB2AN ANM12R
		AC/DC 1C/O relay		–	–	–	–
Thru beam Transmitter			DC	XUB2BKSNL2T	XUB2BKSNM12T	XUB2AKSNL2T	XUB2AKSNM12T
			AC/DC	–	–	–	–
Multimode		Sensing distance		Background suppression: : 0,12 m - Diffuse: 0,3 m Reflex polarised: : 3 m - Thru beam : 20 m			
	Output type	DC3 NO/NC	PNP	XUB0BPSNL2	XUB0BPSNM12	XUB0APSNL2	XUB0APSNM12
			NPN	XUB0BNSNL2	XUB0BNSNM12	XUB0ANSNL2	XUB0ANSNM12
			PNP/NPN	–	–	–	–
		AC/DC 1C/O relay		–	–	–	–
Thru beam Transmitter			DC	XUB0BKSNL2T	XUB0BKSNM12T	XUB0AKSNL2T	XUB0AKSNM12T
			AC/DC	–	–	–	–

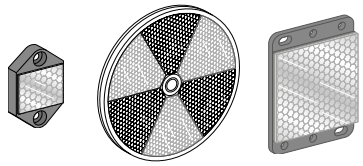
(1) Brass metal, available also in stainless steel, see page food/beverage processing series

(2) For a sensing distance 0,1 m without sensitivity adjustment, change digit 5 by 4 into the reference (ex: XUB5BPANL2 becomes XUB4BPANL2)

Fixing		M18 x1
Dimensions	pre-cabled / connectors	M18 x 64 mm / M18 x 78 mm
Product certifications		CE, UL, CSA, C-TICK
DC common characteristics		
Supply voltage limits, min./max. (V) including ripple		10…36 / 10…36
Switching frequency (Hz)		500 / 500
Common characteristics for DC versions		Switching capacity, max (mA) : 100 / Overload and short-circuit protection (□) / LED output state
AC/DC common characteristics		
Supply voltage limits, min./max. (V) including ripple		– / –
Switching frequency (Hz)		– / –
LED output state indicator (□) / power on LED (□)		– / –

Accessories

Reflectors

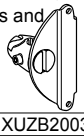


XUZC24 XUZC80 XUZC50

Reflectors (mm)	
Ø 21	XUZC21
24 x 21	XUZC24
11 x 33	XUZC08
Ø 39	XUZC39
Ø 80	XUZC80
50 x 50	XUZC50
100 x 100	XUZC100

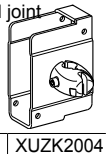
3D fixings with ball joint

Bracket with ball joint for sensors and reflector XUZC50



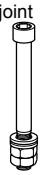
for	
XUB…	XUZB2003
XUM0…	XUZM2003
XUK…	XUZK2003
XUX…	XUZX2003

Protective housing with ball joint



for	
XUK…	XUZK2004
XUX…	XUZX2004

M12 rod for ball joint



XUZ2001

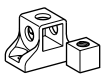
Telemecanique Sensors

Other versions: please consult our Customer Care Centre.

Miniature		Compact 50 x 50 mm		Compact 92 x 71 mm	
Cable	M8 connector	Cable	M12 connector	Screw terminal	M12 connector
NO ou NC	NO ou NC	A	A	A	A
		B	B	B	B
1 m (3)		1 m (3)		2,1 m (3)	
XUM5APCNL2	XUM5APCNM8	XUK5AP ANL2	XUK5AP ANM12	XUX5AP ANT16	XUX5AP ANM12
XUM5ANCNL2	XUM5ANCNM8	XUK5AN ANL2	XUK5AN ANM12	XUX5AN ANT16	XUX5AN ANM12
–	–	XUK5ARCNL2	–	XUX5ARCNT16	–
5 m (3)		5 m		11 m (3)	
XUM9APCNL2	XUM9APCNM8	XUK9AP ANL2	XUK9AP ANM12	XUX9AP ANT16	XUX9AP ANM12
XUM9ANCNL2	XUM9ANCNM8	XUK9AN ANL2	XUK9AN ANM12	XUX9AN ANT16	XUX9AN ANM12
–	–	XUK9ARCNL2	–	XUX9ARCNT16	–
–		7 m		14 m (3)	
–	–	XUK1AP ANL2	XUK1AP ANM12	XUX1AP ANT16	XUX1AP ANM12
–	–	XUK1AN ANL2	XUK1AN ANM12	XUX1AN ANT16	XUX1AN ANM12
–	–	XUK1ARCNL2	–	XUX1ARCNT16	–
15 m (3)(5)		30 m		40 m (3)	
XUM2APCNL2R	XUM2APCNM8R	XUK2AP ANL2R	XUK2AP ANM12R	XUX2AP ANT16R	XUX2AP ANM12R
XUM2ANCNL2R	XUM2ANCNM8R	XUK2AN ANL2R	XUK2AN ANM12R	XUX2AN ANT16R	XUX2AN ANM12R
–	–	XUK2ARCNL2R	–	XUX2ARCNT16R	–
XUM2AKCNL2T	XUM2AKCNM8T	XUK2AKSNL2T	XUK2AKSNM12T	XUX0AKSAT16T	XUX0AKSAM12T
–	–	XUK2ARCNL2T	–	XUX0ARCTT16T	–
Background suppression: : 0,1 m - Diffuse: 0,4 m Reflex Polarised : 3 m - Thru beam : 10 m		Background suppression: : 0,28 m - Diffuse: 0,8 m Reflex Polarised : 4 m - Thru beam : 30 m		Background suppression: : 1,3 m - Diffuse: 2 m Reflex Polarised : 11 m - Thru beam : 40 m	
XUM0APSAL2	XUM0APSAM8	–	–	–	–
XUM0ANSAL2	XUM0ANSAM8	–	–	–	–
–	–	XUK0AKSAL2	XUK0AKSAM12	XUX0AKSAT16	XUX0AKSAM12
–	–	XUK0ARCTL2	–	XUX0ARCTT16	–
XUM0AKSAL2T	XUM0AKSAM8T	XUK0AKSAL2T	XUK0AKSAM12T	XUX0AKSAT16T	XUX0AKSAM12T
–	–	XUK0ARCTL2T	–	XUX0ARCTT16T	–
(3) with sensitivity adjustment (4) with reflector XUZC50 to be ordered separatly		(5) Some references are available with Transmitter and Receiver together (ex: XUM2APCNL2)			
Direct fixing centres 25.5, M3 screws		Direct fixing centres 40 x 40, M4 screws		Direct fixing centres 30/38 to 40/50/74, M5 screws	
12 x 34 x 20		18 x 50 x 50		30 x 92 x 71	
CE, UL, CSA, C-TICK		CE, UL, CSA, CCC, C-TICK		CE, UL, CSA, CCC, C-TICK	
10…30		10…30		10…36	
1000		500		500	
LED output state indicator (□) : Yes / power on LED (□) : yes					
–		20…264		20…264	
–		20		20	
–		□ / □		□ / □	

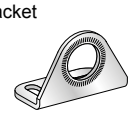
Simple fixings

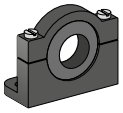
Fixing support for M12 rod



XUZ2003

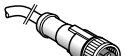
Single bracket





for	standard	with ball joint
XUB...	XUZA118 (stnls. steel)	XUZA218 (plastic)
XUM...	XUZAM02	–
XUK...	XUZA51	–
XUX...	XUZX2000	–

Suitable female plug-in connectors, including PUR pre-wired versions (1)

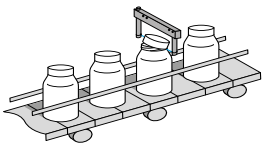
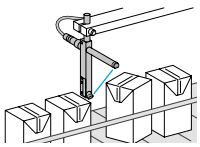


length. 5 m without LED	pre-wired Elbowed	pre-wired Straight	Screw terminal
M8	XZCP1041L5	XZCP0941L5	XZCC8FCM40S
M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B

(1) For PVC cable see page 47

Photo-electric sensors

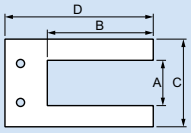
Optical forks without setting and frames

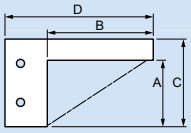



System			Thru-beam with modular red LED light source
Output function	NO		A
	NC		B
Sensing distance			30…150 mm
Minimum size of objet detected			0,8 mm
Case M (metal)			M
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 10…+ 60 / IP65 and IP67
Product certification			CE, cULus

Sensors for DC applications (solid-state output: transistor)

Connection				M8 connector 3-pins					Pre-cabled L = 2 m.				
Dimensions (mm)					A	B	C	D		A	B	C	D
Transmitter / Receiver	3-wires	NO function	PNP	XUVR0605P ANM8	50	60	74	77,5	XUVR0303PANL2	30	40	54	57,5
			NPN	XUVR0605N ANM8									
		NO function	PNP	XUVR0608P ANM8	80	60	104	77,5					
			NPN	XUVR0608N ANM8									
		NO function	PNP	XUVR1212P ANM8	120	120	144	142					
			NPN	XUVR1212N ANM8									
		NO function	PNP	XUVR1218P ANM8	180	120	204	142					
			NPN	XUVR1218N ANM8									
		NO function	PNP	XUVA0505P ANM8	44	44	71	71					
		NO function	PNP	XUVA0808P ANM8	74	74	101	101					
		NO function	PNP	XUVA1212P ANM8	112	112	142	142					
		NO function	PNP	XUVA1515P ANM8	142	142	172	172					
Supply voltage limits, min./max. (V) including ripple				10…30									
Switching capacity, max (mA) / Switching frequency (Hz)				100/4kHz									
Short-circuit protect. (□) / LED output state indicator (□)				□ / □									








System		Thru-beam with infrared emission				
Passageway dimensions		30 x 30 mm	60 x 60 mm	200 x 120 mm	200 x 180 mm	200 x 250 mm
Connection		M8 (4-pins)		M12 (4-pins)		
Minimum size of object to be detected	Ø 2 mm	XUVF30M8	XUVF60M8	–	–	–
	Ø 4 mm	–	–	XUVF120M12	XUVF180M12	XUVF250M12
	Ø 10 mm	–	–	XUYFRS120S	XUYFRS180S	XUYFRS250S
Type et Output function		4-wires, PNP and NPN Output function ON or OFF on passage of object, programmable				
Function type		Dynamic (XUVF30M8, XUVF60M8), Dynamic or static (XUVF120M12, XUVF180M12, XUVF250M12)				
Supply voltage limits, min./max. (V) including ripple		18…30				
Switching capacity, max (mA) / Switching frequency (Hz)		≤ 100 / 500 Hz				
Short-circuit protect. (□) / LED output state indicator (□)		□ / □				

Accessories

Suitable female PUR pre-wired plug-in connectors (1)


Straight


Elbowed

M8 (3-pins)		
For optical forks without setting		
	Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2
5 m	XZCP0566L5	XZCP0666L5

M8 (4-pins)		
For optical forks and frame with setting		
	Straight	Elbowed
2 m	XZCP0941L2	XZCP1041L2
5 m	XZCP0941L5	XZCP1041L5

M12 (4-pins)		
For frame with setting		
	Straight	Elbowed
2 m	XZCP1141L2	XZCP1241L2
5 m	XZCP1141L5	XZCP1241L5

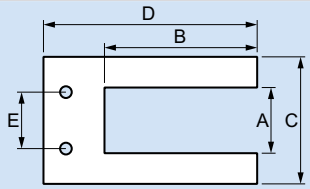
(1) For PVC cable see page 47

Other versions: please consult our Customer Care Centre.

Forks with teach mode (1)

System, with teach mode	Thru beam	Thru beam laser
Sensing distance	2…120 mm	2…120 mm
Fixings (mm)	(see column E below)	
Minimum size of objet detected	0,2 mm	0,05 mm
Case M (metal) / Setting-up assistance LEDs □	M / □	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	-25…+60 / IP65	
Product certification	CE, cULus	

Sensors for DC applications (solid-state output: transistor)

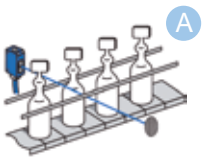
Connection	M8 connector - 4-pins													
Output type	3-wires PNP/NPN programmable NO / NC													
Dimensions (mm)		A	B	C	D	E		A	B	C	D	E		
Transmitter / Receiver 	XUYFANEP40002	2	42	32	57	14	XUYFALNEP40002	2	42	41	57	14		
	XUYFANEP60002	2	59		77		XUYFALNEP60002	2	59		77			
	XUYFANEP100002	2	95		110		XUYFALNEP100002	2	95		110			
	XUYFANEP40005	5	42	35	57	14	XUYFALNEP40005	5	42	44	57	14		
	XUYFANEP60005	5	59		77		XUYFALNEP60005	5	59		77			
	XUYFANEP100005	5	95		110		XUYFALNEP100005	5	95		110			
	XUYFANEP40015	15	42	45	57	27	XUYFALNEP40015	15	42	54	57	27		
	XUYFANEP60015	15	59		77		XUYFALNEP60015	15	59		77			
	XUYFANEP100015	15	95		110		XUYFALNEP100015	15	95		110			
	XUYFANEP40030	30	42	60	57	42	XUYFALNEP40030	30	42	69	57	42		
	XUYFANEP60030	30	59		77		XUYFALNEP60030	30	59		77			
	XUYFANEP100030	30	95		110		XUYFALNEP100030	30	95		110			
	XUYFANEP40050	50	42	80	57	40	XUYFALNEP40050	50	42	89	57	40		
	XUYFANEP60050	50	59		77		XUYFALNEP60050	50	59		77			
	XUYFANEP100050	50	95		110		XUYFALNEP100050	50	95		110			
	XUYFANEP40080	80	42	110	57	70	XUYFALNEP40080	80	42	119	57	70		
	XUYFANEP60080	80	59		77		XUYFALNEP60080	80	59		77			
	XUYFANEP100080	80	95		110		XUYFALNEP100080	80	95		110			
	XUYFANEP40120	120	42	150	57	110	XUYFALNEP40120	120	42	159	57	110		
	XUYFANEP60120	120	59		77		XUYFALNEP60120	120	59		77			
	XUYFANEP100120	120	95		110		XUYFALNEP100120	120	95		110			
Supply voltage limits, min./max. (V) including ripple	10…30						10…30							
Switching capacity, max (mA) / Switching frequency (Hz)	100/10kHz						100/10kHz							
Short-circuit protect. (□) / LED output state indicator (□)	□ / □						□ / □							

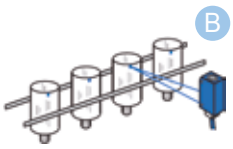
(1) To order a fork without teach mode, delete A of the reference. Ex: XUYFANEP40002 becomes XUYFNEP40002

System	Thru beam Ultrason Special transparent labels	Thru beam For all other opaque labels
Sensing distance 3 mm version	XUVU06M3PSNM8	XUVE04M3PSNM8
Switching frequency (Hz)	1500	10 000
Sensitivity adjustment	Numeric potentiometer (1)	Numeric potentiometer (1)
Connection	M8 (4-pins)	
Case M (metal) / Setting-up assistance LEDs □	M / □	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	+5…+55 / IP65	-20…+60 / IP65
Product certification	CE	CE, cULus

(1) remote adjustment available.

Photo-electric sensors - Application
Assembly series





Accurate detection or very long sensing distance

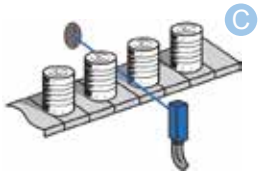
Robustness and compactness

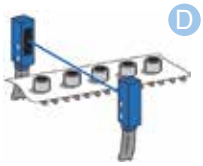
Application				A	B
System			Thru beam	Diffuse	Reflex	Diffuse contrast
Sensing distance			100 m (1)	0,07 m	10…1000 mm (2)	40…150 mm
Fixings (mm)			M18 x 1	M8 x 1	Directe, 2 trous M3, entraxe 24 mm	
Sensitivity adjustment			Teach mode	–	Teach mode	
Case M (metal) P (plastic) / Setting-up assistance LEDs □			P / □	M / –	P	
Temperature range (°C)			- 10…+ 45°C	- 25…+ 55	- 20…+ 60°C	
Degree of protection (conforming to IEC 60529)			IP67	IP67	IP67	
Product certification			CE, UL, CSA	CE, cULus	CE, cULus	
Dimensions (mm) Ø x L or H x W x D			Ø 18 x 64	Ø8 x 40	20 x 35,8 x 12	

Sensors for DC applications (solid-state output: transistor)

Connection		Pre-cabled		PVR (2 m)		
Transmitter / Receiver	3-wires PNP	NO function	–	XUAH0515	–	–
Connection		Connector	M 12	M 8 - 4-pins		
Transmitter / Receiver	3-wires PNP	NO function	–	XUAH0515S	–	–
	3-wires PNP	programmable NO / NC	XUBLAPCNM12	–	XUYBCO929LSP	XUYPCCO929LSP
	3-wires NPN	programmable NO / NC	XUBLANCNM12	–	–	–
Supply voltage limits, min./max. (V) including ripple			10…30	10…30	10…30	10…30
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 1500	100 / 700	100 / 1000	100 / 1000
Short-circuit protect. (□) / LED output state indicator (□)			□ / □	□ / □	□ / □	□ / □

(1) or min. size of object: 0.2 mm
(2) With specific reflector XUY1111, format 50 x 50 mm. To be ordered separately.





Miniature series sensors

compact 50x50mm

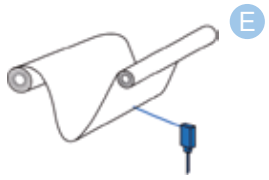
Application				C	D				
System			Polarised preflex	Thru beam	Polarised preflex	Thru beam	Back ground suppression	Diffuse
Sensing distance			1…1.5 m (4)	4 m	12 m (7)	25 m	0.8 m	1.2 m
Sensitivity adjustment			potentiometer	potentiometer	Teach mode	Teach mode	potentiometer	Teach mode
P (plastic) / Setting-up assistance LEDs □			P / □					
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			0…+ 50°C / IP65 and IP67		-20…+ 60°C / IP67 and IP69K			
Product certification			CE, cULus		CE, Ecolab			
Dimensions (mm) H x W x D			40 x 10 x 13.5		50 x 50 X 23			

Sensors for DC applications (solid-state output: transistor)

Connection			M8 connector (5) - 4-pins		M12 connector - 4-pins			
	PNP	NO function	XUYBCO989SP	XUYRCO989SP	–	–	–	–
	NPN	NO function	XUYBCO989SN	XUYRCO989SN	–	–	–	–
	PNP/NPN	Programmable NO / NC			XUK9LAPSMM12 (6)	XUK2LAPSMM12R (6)	XUK8LAPPNM12 (6)	XUK5LAPSMM12 (6)
Émetteur			–	XUYECO989	–	XUK2LAKSMM12T (6)	–	–
Supply voltage limits, min./max. (V) including ripple			10…30		12…30			
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 500		100 / ≤ 2000	100 / ≤ 3500	100 / ≤ 1000	100 / ≤ 600
Short-circuit protect. (□) / LED output state indicator (□)			□ / □					

(4) 50 x 50 reflector included.
(5) For 2 m pre-cabled version, delete CO from the reference. (Example: XUYBCO989SP becomes XUYB989SP or XUYRCO989SP becomes XUYR989SP).
(6) Fixing braket: XUZA51S to be ordered separately
(7) With reflector XUZC50HP to be ordered separately

Materials handling series - Conveying
Analogue output



Analogue output
Position control

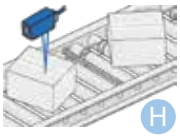
High access
gain for resistance
to accumulation of dirt

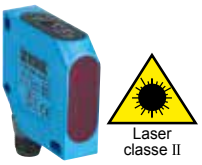
Application	E			E	
System	**Diffuse**	**Reflex**	**Diffuse**	**Diffuse**	**Thru beam**
Sensing distance	0,1...5 m	0.3...70 m (1)	0.20...6 m (2)	0,05...0,40 m	50 m
Sensitivity adjustment	Teach mode			Potentiometer	
Case M (metal), P (plastic) / Setting-up assistance LEDs □	P / □			M / □	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 40...+ 50	- 10...+ 50	- 20...+ 50	- 25…+ 55	
Degree of protection (conforming to IEC 60529)	IP67 and IP69K		IP67	IP67	
Product certification	CE, cULus			CE, UL, CSA	CE, UL , CSA, C-TICK
Dimensions (mm) Ø x L or H x W x D	50 x 50 x 23		93 x 42 x 95	M18 x 95	

Sensors for DC applications

Connection		M12 - 5-pins	M12 - 8-pins	M12 - 5-pins	M12 - 4-pins	
Transmitter / Receiver	analogue 4-20 mA + 1 PNP/NPN	XUK8TAE2MM12 (4)	–			XU2M18AP20D (2)
	analogue 0 - 10 V + 1 PNP/NPN	XUK8TAE1MM12 (4)	–			–
	analogue 4-20mA + 2 PNP/NPN	–	XUK9TAH2MM12	XUE5AA2NM12 (3)	–	
	analogue 4-20mA	–			XU5M18AB20D	–
Supply voltage limits, min./max. (V) including ripple		18…30			10…30	
Switching capacity, max (mA) / Switching frequency (Hz)		100 / 500	100 / 100	100 / 38 (mode fast), 16 (mode lent)	20 / 20	100 / 30
Short-circuit protect. (□) / LED output state indicator (□)		□ / □	□ / □		□ / □	□ / □

(1) with reflector XUZC250 to be ordered separately. (2) on white and grey object 0,2 … 6m, on black object 0,2 … 2,5m (3) 2 PNP outputs. (4) ECOLAB certified.





Laser
classe II

Application	F G		H
System	**Diffuse, Analogue output** 0-10 V	4-20 mA	**Diffuse**
Sensing distance	40...60 mm	80...300 mm	0...100 mm
Minimum size of object	1 mm	1,5 X 3,5 mm	85 mm
Sensitivity adjustment	potentiometer		No
Case P (plastic) / Setting-up assistance LEDs □	P / □		Aluminium tube / □
Temperature range (°C)	0…+ 45°		- 10...+ 55
Product certification	CE, cULus		CE, cCSAus
Dimensions (mm) H x I x L	50 x 17 x 50		Tube Ø 12 , variable length from 200 to 900 mm (example 474 mm)

Sensors for DC applications (solid-state output: transistor)

Connection	par connector M12	par connector M12	Remote M12 connector
Transmitter / Receiver 0…10 V	XUYPCO925L1ANSP	XUYPCO925L3ANSP	XUY474NB4H03M12
Supply voltage limits, min./max. (V) including ripple	18…28		18…30
Switching capacity, max	3 mA / Analogue output 0…10 V	3 mA / Analogue output 04…20 mA	100 mA
Switching frequency (Hz)	40		1000
Short-circuit protect. (□) / LED output state indicator (□)	□ / □		□ / □

Accessories

Suitable female PUR pre-wired plug-in connectors (1)

	M8 Straight	M12 Straight	M8 Elbowed	M12 Elbowed	5-pins M12	8-pins M12
2 m	XZCP0941L2	XZCP1141L2	XZCP1041L2	XZCP1241L2	XZCPV11V12L2	XZCP29P12L2
5 m	XZCP0941L5	XZCP1141L5	XZCP1041L5	XZCP1241L5	XZCPV11V12L5	XZCP29P12L5

Female connectors

M12 (5-pins)	
Straight	XZCC12FCM50B
Elbowed	XZCC12FDM50B

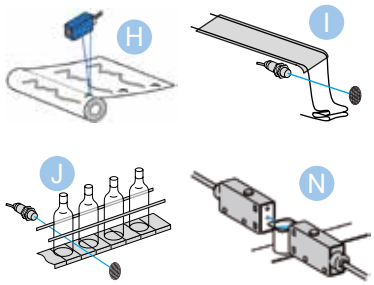
Fixing for XUE

For compact
XUZA618

(1) For PVC cable see page 47

Photo-electric sensors - Application

Packaging series



Application	H Contrast sensors		Colour sensors
System	Diffuse (with Teach mode)	Diffuse (with Teach mode)	Diffuse
Sensing distance	19 mm	9 mm (2)	0,02 m
Fixings (mm)	direct: fixing centres 40x40	direct : 21 x 28 vis M5	direct: fixing centres. 40x40
Sensitivity adjustment	Teach button		
Case M (metal) P (plastic) / Setting-up assistance LEDs □	P / □	M / □	P / □
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10…+ 55 / IP65	- 10…+ 55 / IP67	- 10…+ 55 / IP65
Product certification	CE, cULus	CE	CE, cULus
Dimensions (mm) Ø x L or H x W x D	50 x 50 x 15	96 x 64 x 31	50 x 50 x 25

Sensors for DC applications (solid-state output: transistor)

Connection			M12 connector		M12 connector - 8-pins
Transmitter / Receiver	3-wires PNP	NO function	XUKR1PSMM12	–	XUKC1PSMM12
	3-wires NPN	NO function	XUKR1NSMM12	–	XUKC1NSMM12
	3-wires PNP / NPN	programmable NO / NC	–	XURK1KSMM12	–
Supply voltage limits, min./max. (V) including ripple			10…30	10…30	10…30
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 5000	200 / 10000	100 / 1500

(1) Nominal sensing distance 50 m. Use between 10 and 20 cm, depending on application.
(2) 7 mm with XURZ02; 18 mm with XURZ01.


Luminescence sensors


Detection of transparent materials

Application			I J	I J	I J
System			Diffuse (manual)	Reflex (potentiometer)	Reflex (with teach mode) (50 x 50 reflector included)	
Sensing distance			0,02…0,08 m	0.1…2 m	0…1,4 m (4)	1,5 m
Fixings (mm)			M18x1	M3 holes, fixing centers 24	M18 x 1 (5)	direct: fixing ctrs. 40 x 40
Sensitivity adjustment			potentiometer	potentiometer	Teach button	
Case M (metal) P (plastic) / Setting-up assistance LEDs □			M / □	P / □	P / □	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 25…+ 55 / IP67	- 25...+ 55 / IP67	0…+ 55 / IP67	- 25…+ 55 / IP65
Product certification			CE, CSA, UL	CE, cURus	CE, UL, CSA, C-TICK	
Dimensions (mm) Ø x L ou H x I x L			Ø18 x 95	33 x 20 x 11	Ø18 x 64	50 x 50 x 18

Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled PVC (2 m)			
Transmitter / Receiver	3-wires PNP	programmable NO / NC	–	XUMTAPCNL2	XUBTAPSNL2 (5)(6)	–
	3-wires NPN	programmable NO / NC	–	XUMTANCNL2	XUBTANSNL2 (5)(6)	–
	3-wires PNP / NPN	programmable NO / NC	–	–	–	XUKT1KSML2
Connection			M12 connector	M8 connector	M12 connector	M12 connector
Transmitter / Receiver	3-wires PNP	NO function	XU5M18U1D	–	–	–
	3-wires PNP	programmable NO / NC	–	XUMTAPCNM8 (3)	XUBTAPSNM12 (5)(6)	–
	3-wires NPN	programmable NO / NC	–	XUMTANCNM8	XUBTANSNM12 (5)(6)	–
	3-wires PNP / NPN	programmable NO / NC	–	–	–	XUKT1KSMM12
Supply voltage limits, min./max. (V) including ripple			10…30	10…30	10…32	10…30
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 1000	100 / 1000	100 / 1000	100 / 1500

(3) also available with M12 remote connector with 0.3 m cable : replace M8 by L03M12.
(4) 0…0.8 m for versions with 90° head, to order replace the 8e digit N by W. Example XUBTAPSNL2 becomes XUBTAPSWL2
(5) Also available in stainless steel for food and beverage processing applications. To order, replace the letter A by S in the ref. Example: XUBTAPSNL2 becomes XUBTSPSNL2.
(6) ECOLAB certified.

Stainless steel version for resistance to harsh agents

System	Multimode (3)	Polarised reflex 50x50 mm reflector included (2)	Diffuse (2)	Thru beam (2)
Sensing distance	(4)	3 / 2 m	0,15 / 0,10 m	20 / 15 m
Fixings (mm)	M18 x 1	M18 x 1	M18 x 1	M18 x 1
Case M (metal)	M (stainless steel)	M (stainless steel)	M (stainless steel)	M (stainless steel)
Temperature range (°C) / Degree of protection (conforming to IEC 60529)		- 25…+ 55 / IP67	- 25…+ 55 / IP67	- 25…+ 55 / IP67
Product certification	CE, UL, CSA, C-TICK			
Dimensions (mm) Ø x L	Ø 18 x 64	Ø18 x 62	Ø18 x 62	Ø18 x 64

Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled PvR (2 m)			
Transmitter / Receiver	3-wires PNP	programmable NO / NC	XUB0SPSNL2	XU9N18PP341	XU5N18PP341	XU2N18PP341
	3-wires NPN	programmable NO / NC	XUB0SNSNL2	XU9N18NP341	XU5N18NP341	XU2N18NP341
Connection			par connector M12			
Transmitter / Receiver	3-wires PNP	programmable NO / NC	XUB0SPSNM12	XU9N18PP341D	XU5N18PP341D	XU2N18PP341D
	3-wires NPN	programmable NO / NC	XUB0SNSNM12	XU9N18NP341D	XU5N18NP341D	XU2N18NP341D
Thru-beam transmitter accessory		pre-cabled (2 m)	XUB0SKSNL2T	–	–	
		connector	XUB0SKSNM12T	–	–	
Supply voltage limits, min./max. (V) including ripple			10…36	10…30	10…30	
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 250	100 / 500	100 / 500	

(2) Also available with 90° head. To order, add the letter W after the numbers 341 in the reference. Example: XU9N18PP341 becomes XU9N18PP341W or XU9N18PP341WD.
(3) Also available with 90° head, to order replace the 8e digit N by W. Example XUB0SPSNL2 becomes XUB0SPSWL2
(4) Background suppression: 0.12 m - Diffuse: 0.3 m - Reflex polarised: 3 m - Thru beam: 20 m

Accessories

Suitable female plug-in connectors, including PUR pre-wired versions (1)

L = 5 m, without LED	Wired, Elbowed	Wired, Straight	Screw terminal
M8 (ou S) 4-pins	XZCP0666L5	XZCP0566L5	XZCC8FCM30S
M12 (ou D) 4-pins	XZCP1241L5	XZCP1141L5	XZCC12FCM40B
M12 8-pins	–	XSZMCR03 (3 m)	–

(1) For PVC cable see page 47

Lenses for colour mark

Lens for 18 mm sensing distance

XURZ01

Lens for 7 mm sensing distance

XURZ02

Accessories

Pre-wired connectors

L = 5 m

Elbowed
XZCPA1241L5

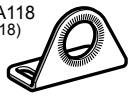
Straight
XZCPA1141L5

Ecolab reflector 50x50 (2)

XUZC50CR

Stainless steel fixing bracket

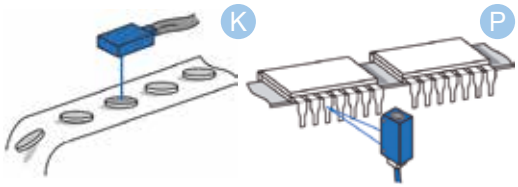
XUZA118
(for M18)

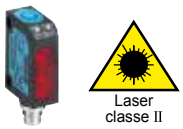


XUZA51S
(for compact)

(2) Sensing distance for XUK9S: 3m with XUZC50CR or 6m with XUZC50.

OsiSense XU — Photo-electric sensors
with background suppression



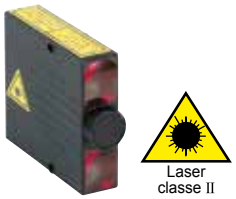


Application	K	P	K
System	Background suppression	Diffuse with Background suppression Sensing distance 1	Sensing distance 2
Sensing distance	1,5…80 mm	10…60 mm	30…110 mm
Minimum size of object	–	0,3 mm	0,7 mm
Fixing (mm)	2 x Ø 3 holes / fxg. ctrs. 14.5	direct: 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment	potentiometer	Teach mode	
Case P (plastic) / Setting-up assistance LEDs □	P / □	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0…+50 / IP65 & IP67	- 20…+ 60°C / IP67	
Product certification	CE, cULus	CE, cULus	
Dimensions (mm) H x W x D	20 x 32 x 13	20 x 35,8 x 12	

Sensors for DC applications (solid-state output: transistor)

Connection			M8 connector (1) - 4-pins	M8 connector- 4-pins	M8 connector- 4-pins
Transmitter / Receiver	PNP	NO function	XUYPSCO989SP	–	–
	NPN	NO function	XUYPSCO989SN	–	–
	PNP	Programmable NO / NC	–	XUYPSCO929L1SP	XUYPSCO929L2SP
Supply voltage limits, min./max. (V) including ripple			10…30	10…30	10…30
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 500	100 / 1000	100 / 1000
Short-circuit protect. (□) / LED output state indicator (□)			□ / □	□ / □	□ / □

(1) For 2 m pre-cabled connection delete CO from the reference. Example: XUYPS 989SP becomes XUYPS989SP.



Application	M	L
System	Background suppression	Background suppression, 2 chnls.
Sensing distance	50…300 mm	50…600 mm
Minimum size of object	0,5 mm	–
Fixings (mm)	direct: 2 M4 holes, ctrs. 54 mm	2 x Ø 4 holes, fixing ctrs. 54
Sensitivity adjustment	potentiometer	potentiometer
Case P (plastic) / Setting-up assistance LEDs □	P / □	P / □
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0…+ 50°C / IP65	0…+60 / IP40
Product certification	CE, cULus	
Dimensions (mm) H x W x D	60 x 60 x 18	60 x 60 x 18

Sensors for DC applications (solid-state output: transistor) Sensors with overload and short-circuit protection

Connection			M8 connector	
Transmitter / Receiver	3-wires PNP / NPN	programmable NO / NC	XUYPS1LCO965S	XUYPS2CO945S
Supply voltage limits, min./max. (V) including ripple			10…30	10…30
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 5000	100 / 370

Accessories

PUR Pre-wired connectors (1)


Straight

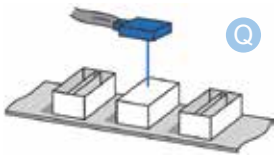

Elbowed

	M8 (4-pins) Straight	M8 (4-pins) Elbowed	M12 (4-pins) Straight	M12 (4-pins) Elbowed	7/8" (5-pins) Straight
2 m	XZCP0941L2	XZCP1041L2	XZCP1141L2	XZCP1241L2	XZCP1764L2
5 m	XZCP0941L5	XZCP1041L5	XZCP1141L5	XZCP1241L5	XZCP1764L5

(1) For PVC cable see page

Telemecanique Sensors

Other versions: please consult our Customer Care Centre.



objects on conveyors

Application					
System			Diffuse with adjustable background suppression		
Max. / usable sensing distance			20…300 mm	0…1 m	0...5 m	2 m
Fixing (mm)			Fixing : M3 holes, fixing centers 24 mm	Direct fixing centres 40 x 40, M4 screws	2 x Ø 4.3 holes / fixing centres 30	Direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment			potentiometer	–	Teach mode	–
Case P (plastic) / Setting-up assistance LEDs □			P / □	P / □	P / □	P / □
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 25…+ 55 / IP67	- 25…+ 55 / IP65	- 40...+ 60 / IP67 & IP69K	- 25...+ 55 / IP67
Product certification			CE, cURus	CE, UL,CSA	CE, cULus	CE, UL, CSA
Dimensions (mm) H x W x D			33 x 20 x 11	50 x 50 x 18	50 x 50 x 23	92 x 30,5 x 71

Sensors for DC applications (solid-state output: transistor). Sensors with overload and short-circuit protection

Connection			Pre-cabled	Pre-cabled PVC (2 m)		Screw terminals
Transmitter / Receiver	3-wires PNP / NPN	programmable NO / NC	–	XUK8AKSNL2	–	XUX8AKSAT16
	PNP	programmable NO / NC	XUM8APCNL2	–	–	–
	NPN	programmable NO / NC	XUM8ANCNL2	–	–	–
Connection			M8 connector	M12 connector		
Transmitter / Receiver	3-wires PNP / NPN	programmable NO / NC	–	XUK8AKSNM12	XUK8TAKSMM12 (2)	XUX8AKSAM12
	PNP	programmable NO / NC	XUM8APCNM8 (1)	–	–	–
	NPN	programmable NO / NC	XUM8ANCNM8	–	–	–
Supply voltage limits, min./max. (V) including ripple				10…36	18...30	10…36
Switching capacity, max (mA) / Switching frequency (Hz)				100 / 250	100 / 500	100 / 150

(1) also available with M12 remote connector with 0.3 m cable: replace M8 by L03M12.

(2) also existing with 2 independant outputs: XUK8TAKDMM12 (M12 - 5-pins).

System			Diffuse with adjustable background suppression		
Sensing distance			70…120 mm	10…750 mm	2 m
Fixing (mm)			M18 x 1	Direct fixing centres 40 x 40, M4 screws	Direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment			potentiometer	Teach mode	–
Case M (metal) P (plastic) / Setting-up assistance LEDs □			M / □	P / □	P / □
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 25…+ 55°C / IP67	- 25…+ 55°C / IP65	- 25...+ 55 / IP67
Product certification			CE, UL, CSA	CE, UL, CSA	CE, UL, CSA
Dimensions (mm) Ø x L or H x W x D			M18 x 82	50 x 18 x 50	92 x 30,5 x 71

Multi-current/multi-voltage sensors for AC/DC applications

Connection			Cable L = 2m	Cable	Screw terminals
Transmitter / Receiver	AC/DC	NO function	XU8M18MA230	–	–
		Programmable NO / NC	–	XUK8ARCTL2	XUX8ARCTT16
Supply voltage limits, min./max. (V) including ripple			20…264	20…264	20…264
Switching capacity, max (mA) / Switching frequency (Hz)			200 / 25	3000 / 20	3000 / 20
Short-circuit protect. (□) / LED output state indicator (□)			(1) / □	–	–

(1) Sensor not short-circuit protected. Therefore, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

Photo-electric sensors, fibre optic

Amplifier

	+/- potentiometer	Teach	Teach + Timer	Teach + Timer
Max. / usable sensing distance	Depending on fibre used, plastic only			
Fixing (mm)	DIN rail or direct: fixing centres 25, M3 screws			
Sensitivity adjustment	+/- numeric potentiometer	using teach mode	+/- numeric potentiometer	using teach mode
Case P (plastic) / Setting-up assistance LEDs □	P / □	P / □	P / □	P / □ and 4-digit display
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0…+60 / IP65	- 10…+ 55 / IP65 (1)	0…+60 / IP65	- 10…+ 55 / IP65 (1)
Product certification	CE, cULus	CE, cULus, cURus	CE, cULus	CE, cULus, cURus
Dimensions (mm) L x H x W	60 x 30 x 13	65 x 40 x 10	60 x 30 x 13	65 x 40 x 10

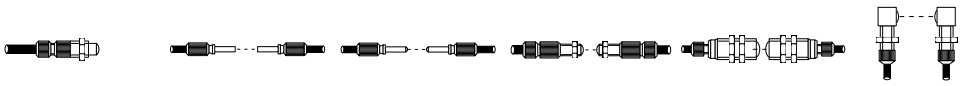
Sensors for DC applications (solid-state output: transistor)

Connection			Pre-cabled PVC (2 m)			
References	3-wires PNP programmable	NO / NC	–	XUDA1PSML2	–	XUDA2PSML2
Amplifier	3-wires NPN programmable	NO / NC	–	XUDA1NSML2	–	XUDA2NSML2
Connection par connector			M8 connector - 4-pins			
References	3-wires PNP programmable	NO / NC	–	XUDA1PSMM8	–	XUDA2PSMM8
Amplifier	3-wires NPN programmable	NO / NC	–	XUDA1NSMM8	–	XUDA2NSMM8
	3-wires PNP/NPN programmable	NO / NC	XUYAFVCO966S (Glass)	–	XUYAFVCO946S (Glass)	–
			XUYAFPCO966S (Plastic)	–	XUYAFPCO946S (Plastic)	–
Supply voltage limits, min./max. (V) including ripple			10…30	10,8…26,4	10…30	10,8…26,4
Switching capacity, max (mA) / Switching frequency (Hz)			100 / 1000	100 / 1000	100 / 1000 time delayable	100 / 1000 time delayable
Short-circuit protect. (□) / LED output state indicator (□)			□ / □	□ / □	□ / □	□ / □

(1) IP65 with fibre Ø 1 / IP64 with fibre Ø 0,5

Ecofibre system, assemble your own plastic fibres

Fibre Ø 1 mm	Length = 10 m	Length = 20 m
References	XUFZ910	XUFZ920



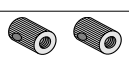
End fittings						
Sensing distance (mm)	70	200	800	1200	4000	1200
Type	with threaded end fitting	with plain end fitting Ø 3, L = 9 mm	with plain end fitting Ø 3, L = 9 mm	with threaded end fitting	with threaded end fitting	90° mirror, with threaded end fitting
Thread	M8 x 1, L = 10 mm	–	–	M6 x 1, L = 10 mm	M12 x 1, L = 25 mm	M6 x 1, L = 3 to10 mm
Lens	Yes	No	Yes	Yes	Yes	Yes
References	XUYA110	XUYA210	XUYA211	XUYA212	XUYA213	XUYA220

Accessories

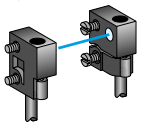
For fibres plastic System Thru beam

Lenses — For increasing sensing distance (pair) XUFZ01

With 90° mirror (pair) XUFZ02



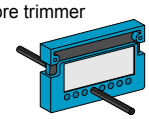
Fixing clamp with lens (set of 2)



Front screw fixing for fibre optics XUF-Z920 XUFZ04

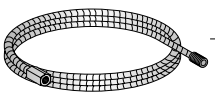
For all system plastic fibre optics

Fibre trimmer



For trimming fibres to length (included with all fibre optics) XUFZ11

Protective metal tubing



Length 1 m, for fibres with threaded end fittings

For M4 thread XUFZ210

For M6 thread XUFZ310

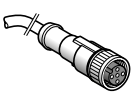
Plug-in PUR pre-wired female connectors (1)

Cable length 5 m, without LED

pre-wired, elbowed

XZCP1041L5

pre-wired, straight



XZCP0941L5

(1) For PVC cable see page 47

Plastic fibre optic light guides (length 2 m)

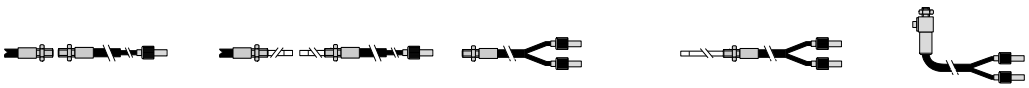
	M4 / M2,6 (1)	M4/L = 90 mm	M3 / M2,6 (1)	Long range fibres with integrated lens M8 / L = 20 mm	Long range fibres M4 / M2.6 (1)	Flexible fibres M4 / M2,6 (1)
System	Thru beam					
Sensing distance (mm)	200 ou 1500 (2)	180	50 ou 1000 (2)	2500	300 ou 2000 (2)	100 ou 750 (2)
Fibre cross-section						
Fibre Ø (mm)	Ø 1	Ø 1	Ø 0,5	Ø 1	Ø 1,5	Ø 1
Sheath Ø (mm)	Ø 2,2	Ø 2,2	Ø 1	Ø 2,2	Ø 2,2	Ø 2,2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN12301	XUFN12311	XUFN35301	XUFN2L01L2	XUFN2P01L2	XUFN2S01L2
Fixings	M4 x 0,7	M4 x 0,7	M3 x 0,5	M8 x 1,25	M2,6 x 0,45 / M4 x 0,7	M2,6 x 0,45 / M4 x 0,7

(1) Can be used with 90° mirror XUFZ02 (see preceding page).
(2) With lens accessory XUFZ01 (see preceding page).

	M6	M4 / M6	M6/L = 90 mm	M4 / M2,6
System	Diffuse			
Sensing distance (mm)	70	60	60	15
Fibre cross-section				
Fibre Ø (mm)	Ø 1	Ø1+16 Ø 0,265	Ø 1	Ø 0,5 + 4 Ø 0,23
Sheath Ø (mm)	Ø 2,2 x 2	Ø 2,2 x 2	Ø 2,2 x 2	Ø 1 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN05321	XUFN05323	XUFN05331	XUFN02323
Fixings	M6 x 0,75	M6 x 0,75 / M4 x 0,7	M6 x 0,75	M4 x 0,7

	M4/L = 90 mm	M4 / M2,6	Long range fibres M6 / L = 15 mm
System	Diffuse		
Sensing distance (mm)	18	18	95
Fibre cross-section			
Fibre Ø (mm)	Ø 0,5	Ø 0,5	Ø 1,5
Sheath Ø (mm)	Ø 1 x 2	Ø 1 x 2	Ø 2,2 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN01331	XUFN01321	XUFN5P01L2
Fixings	M4 x 0,7	M4 x 0,7	M6 x 0,75

Glass fibre optic light guides (length 0.6 m)



	M4	M4 / Ø 2,5 x 89	M4	M4 / Ø 2,5 x 89	M4
System	Thru beam		Diffuse		
Sensing distance (mm)	200		80		
Fibre cross-section					
End fitting	Straight	Adaptable	Straight	Adaptable	90°
Fibre Ø (mm)	1		1		
Sheath Ø (mm)	2,2		2,2		
Temperature range (°C)	PVC sheath : - 25…+ 60°C / Metal wound : - 25…+ 120°C / Flexible (stainless steel) : - 25…+ 200°C				
References PVC sheath	XUYFVERSD61	–	XUYFVPSD61	XUYFVPSC61	XUYFVPSL61
References Metal wound	XUYFVERMD61	XUYFVERMC61	XUYFVPMD61	XUYFVPMC61	XUYFVPML61
References Flexible stnl.steel	XUYFVERTD61	–	XUYFVPTD61	XUYFVPTC61	XUYFVPTL61

Ultrasonic sensors

Detection of any material



			M12	M18	M18
Nominal sensing distance Sn	Mode proximity or reflex (1)		5 ou 10 cm depending on model	50 mm	15 ou 50 cm depending on model
	Mode Thru beam		20 cm		61 ou 100 cm depending on model
Operating zone for proximity mode			0,64…5,1 cm (XX512A1…) 0,64…10,2 cm (XX512A2…)	2…50 mm	1,9…15,2 cm (XX518A1…) 5,1…50,8 cm (XX518A3…)
Sensitivity adjustment			Fixed	Fixed	Adjustable using remote control for XX518 A3. Fixe for XX518A1, XXT18, XXR18
Case M (metal), P (plastic)			P	M	P
Product certification			CE, UL		
Temperature range (°C)			- 20…+ 65	0…+ 60	0…+ 50 (XX518A1…) / - 20…+ 65 (XX518A3…) / 0... 60 (XXT18, XXR18)
Degree of protection (conforming to IEC 60529)			IP67		
Dimensions (mm) Ø x L			M12 x 50	M18 x 75 (M12) M18 x 65 (cable)	M18 x 65

Proximity or Reflex (1) mode with “Discrete” output for DC applications (24 V)

Connection			M8 connector	Pre-cabled (2 m), Connector M12	M12 connector
3-wires	PNP	NO function	XX512A2PAM8 (10 cm)	XXV18B1PAL2 (cable) XXV18B1PAM12 (M12)	XX518A3PAM12 (50 cm)
	NPN	NO function	XX512A2NAM8 (10 cm)	XXV18B1NAL2 (cable) XXV18B1NAM12 (M12)	XX518A3NAM12 (50 cm)
4-wires	PNP/NPN	NO function	XX512A1KAM8 (5 cm)	–	XX518A1KAM12 (15 cm)
Application - monitoring levels					
	2 emptying levels	PNP NO function	–	–	XX218A3PHM12 (50 cm) (2)
	2 filling levels	PNP NO function	–	–	XX218A3PFM12 (50 cm) (2)
Supply voltage limits, min./max. (V) including ripple			10...28		
Switching capacity, max (mA)			<100		
Short-circuit protection (□)			□		
LED output state indicator (□)			□	□ except XX518A1..	
Voltage drop, closed state (V) at I nominal			<1		
Switching frequency (Hz)			125	40 / 80 (XX518A1..)	
Transmission frequency (kHz)			500	300	

(1) Reflex mode only for sensor with adjustable sensitivity. (2) 1 NO (3) Brass metal versions and SS316L are also available

Proximity mode with “Analogue” output for DC applications (24 V)

Connection			M12 connector		
4-wires	Analogue	0…10 V output	–	–	XX918A3F1M12 (50 cm)
		4…20 mA output	–	–	XX918A3C2M12 (50 cm)
Supply voltage limits, min./max. (V) including ripple			–	–	10…28
Short-circuit protection (□)			–	–	□
LED output state indicator (□)			–	–	□
Transmission frequency (kHz)			–	–	300

Thru beam mode with “Discrete” output for DC applications (24 V)

Connection		M8 connector	M12 connector	
4-wires	Receiver (NO/PNP + NO NPN)	XXR12A8KAM8	–	XXR18A3KAM12 (0,61 m) XXR18A4KAM12 (1 m)
	Receiver (NC/PNP + NC NPN)	XXR12A8KBM8	–	XXR18A3KBM12 (0,61 m) XXR18A4KBM12 (1 m)
	Transmitter	XXT12A8M8	–	XXT18A3M12 (0,61 m) XXT18A4M12 (1 m)

Accessories

See page 45 for progamming and connectors, and page 46 for fixing

Ultrasonic sensors

Detection of any material

		M30			M30 Long range
Nominal sensing distance Sn	Mode proximity or reflex (1)	1 m	1 m	2 m	8 m
Operating zone for proximity mode		0,1...1 m	0,05...0,99 m	0,12...2 m	0,3...8 m
Sensitivity adjustment		Adjustable using remote control	integrated push button		
Case M (metal), P (plastic)		P			
Product certification		CE, UL			
Temperature range (°C)		0 ... + 50	0…+ 60 or 0…+ 50 conforming to model		- 20…+ 60
Degree of protection (conforming to IEC 60529)		IP67	IP65 or IP67 conforming to model		
Dimensions (mm) Ø x L		M30 x 78	M30 x 85		M30 x 106

Proximity or Reflex (1) mode with “Discrete” output for DC applications (24 V)

Connection			M12 connector			
3-wires	PNP	NO function	XX6V3A1PAM12	–	–	–
	NPN	NO function	XX6V3A1NAM12	–	–	–
4-wires	PNP/NPN	NO function	–	XX630A1KAM12	–	–
	PNP	NO function + NC	–	XX630A1PCM12 (2)	XX630A2PCM12	XX630A3PCM12
	NPN	NO function + NC	–	XX630A1NCM12 (2)	XX630A2NCM12	XX630A3NCM12
Application - monitoring levels						
	2 emptying levels	PNP NO function	–	XX230A10PA00M12 (3)	XX230A20PA00M12 (3)	–
	2 filling levels	PNP NO function	–	XX230A11PA00M12 (3)	XX230A21PA00M12 (3)	–
Supply voltage limits, min./max. (V) including ripple			10...28			
Switching capacity, max (mA)			<100			
Short-circuit protection (□)			□			
LED output state indicator (□)			□			
Voltage drop, closed state (V) at I nominal			<1			
Switching frequency (Hz)			70	10		2
Transmission frequency (kHz)			180	200		75

(1) Reflex mode only for sensor with adjustable sensitivity.

Proximity mode with “Analogue” output for DC applications (24 V)

Connection			M12 connector			
4-wires	Analogue	Output 0…10 V	XX9V3A1F1M12	XX930A1A1M12 (2)	XX930A2A1M12	XX930A3A1M12
		Output 4…20 mA	XX9V3A1C2M12	XX930A1A2M12 (2)	XX930A2A2M12	XX930A3A2M12
Supply voltage limits, min./max. (V) including ripple			10…28			
Short-circuit protection (□)			□			
LED output state indicator (□)			□		□	□
Transmission frequency (kHz)			180	200		75

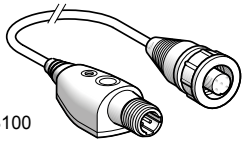
(2) Stainless steel 303 version also available. To order, replace the first letter A in the reference by S. Example: XX630A1PCM12 becomes XX630S1PCM12.
(3) 2 NO

Accessories

Programming

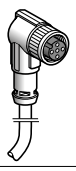
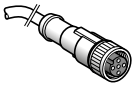
Remote control

teach button for use with sensors
XXp18A3ppp, XXpV1ppp et XXpV3ppp



XXZPB100

Suitable female plug-in connectors

		PUR Pre-wired connectors (1) Elbowed	PUR Pre-wired connectors (1) Straight	Other connectors Screw terminal
				
L = 5m (without LED)				
M 8	for XX512A1…	XZCP1041L5	XZCP0941L5	XZCC8FCM40V
	for XX512A2…	XZCP0666L5	XZCP0566L5	XZCC8FCM30V
M 12	for all sensors except XX512…)	XZCP1241L5	XZCP1141L5	XZCC12FCM40B

(1) For PVC cable see page 47

For fixing see page 46

Ultrasonic sensors

Detection of any material




		Mini flat	Flat	Combined multi-fixing	Flat 80 x 80
Nominal sensing distance Sn	Mode proximity or reflex (1)	10 cm	25 cm	50 cm	1 m
	Mode Thru beam	20 cm	61 ou 100 cm conforming to model	–	–
Operating zone for proximity mode		0,62…10,2 cm	5,1…25,4 cm	5,1…50,8 cm	0.,1…1 m
		–	–	–	–
Sensitivity adjustment		Fixed		Adjustable using remote control	
Case P (plastic)		P			
Product certification		CE, UL			
Temperature range (°C)		- 20…+ 65	0…+ 50	- 20…+ 65	0...+ 70
Degree of protection (conforming to IEC 60529)		IP67			
Dimensions (mm) Ø x L or H x W x D		33 x 19 x 7,6	74 x 30 x 16	M 18 / 18 x 33 x 60	80 x 80 x 34

Proximity or Reflex (1) mode with “Discrete” output for DC applications (24 V)

Connection			M12 on 0.15 m flying lead 0,15m	M12		
3-wires	PNP	NO function	XX7F1A2PAL01M12	XX7K1A2PAM12	XX7V1A1PAM12	XX8D1A1PAM12
	NPN	NO function	XX7F1A2NAL01M12	XX7K1A2NAM12	XX7V1A1NAM12	XX8D1A1NAM12
Supply voltage limits, min./max. (V) including ripple			10…28			
Switching capacity, max (mA)			<100			
Short-circuit protection (□)			□			
LED output state indicator (□)			□			
Voltage drop, closed state (V) at I nominal			<1			
Switching frequency (Hz)			100	80	40	70
Transmission frequency (kHz)			500	500	300	180

(1) Reflex mode only for sensor with adjustable sensitivity.

Proximity mode with “Analogue” output for DC applications (24 V)

Connection by connector			–		M12	
4-wires	Analogue	0…10 V output	–	–	XX9V1A1F1M12	XX9D1A1F1M12
		4…20 m A output	–	–	XX9V1A1C2M12	XX9D1A1C2M12
Supply voltage limits, min./max. (V) including ripple			–		10…28	
Short-circuit protection (□)			–		□	
LED output state indicator (□)			–		□	
Transmission frequency (kHz)			–		300	180

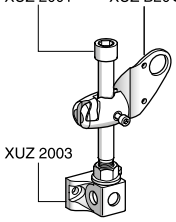
Thru beam mode with “Discrete” output for DC applications (24 V)

Connection by connector		–			
4-wires	Receiver (NO/PNP + NO/NPN)	XXRF1A8KAM12L	XXRK1A3KAM12 (0,61m) XXRK1A4KAM12 (1m)	–	–
	Receiver (NC/PNP + NC/NPN)	XXRF1A8KBM12L	XXRK1A3KBM12 (0,61m) XXRK1A4KBM12 (1m)	–	–
	Transmitter	XXTF1A8M12L	XXTK1A3M12 (0,61m) XXTK1A4M12 (1m)	–	–

Accessories

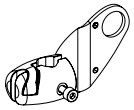
Fixings - 3D fixings with ball joint

XUZ 2001 XUZ B20●●



3D kit example

Bracket with ball joint for cylindrical sensors

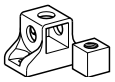


for	
Ø 12	XUZB2012
Ø 18	XUZB2003
Ø 30	XUZB2030

M12 rod for ball joint

XUZ2001

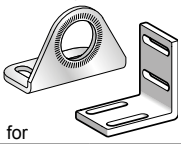
Fixing support for M12 rod



XUZ2003

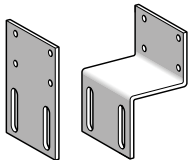
Simple fixings

90° fixing brackets



for	
Ø 12	XXZ12
Ø 18	XUZA118
Ø 30	XXZ30
XX7F	XXZ1933

Mounting plates for XX7K



flat	XXZ3074F
cranked	XXZ3074S

See page 45 for progamming and connectors

Telemecanique Sensors

Other versions: please consult our Customer Care Centre.

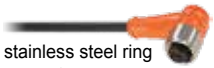
Cabling system

Pre-wired female connectors

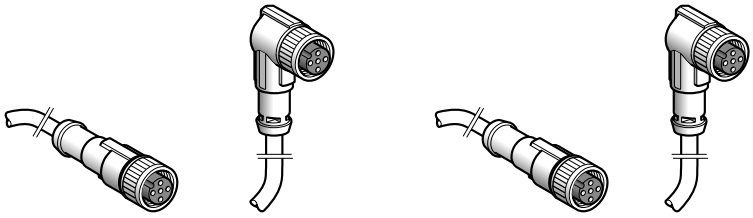
PVC cable
M8 and M12 connector

PVC cable
1/2" and 7/8" connector

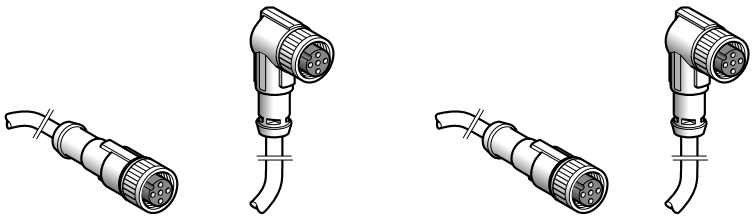
PUR cable halogen free
M8, M12,1/2" and 7/8" connector



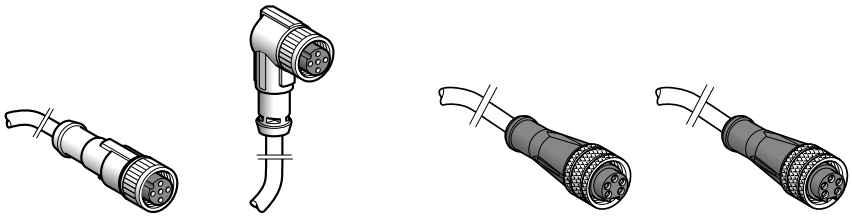
Reinforced PVC cable, stainless steel ring
M8, M12,1/2" and 7/8" connector



Connector Size		M8			
		Straight 3-pins	Elbowed 3-pins	Straight 4-pins	Elbowed 4-pins
References	PVC cable	XZCPV0566Lp	XZCPV0666Lp	XZCPV0941Lp	XZCPV1041Lp
	PUR cable	XZCP0566Lp	XZCP0666Lp	XZCP0941Lp	XZCP1041Lp
	PVC cable IP69K	XZCPA0566Lp	–	XZCPA0941Lp	–

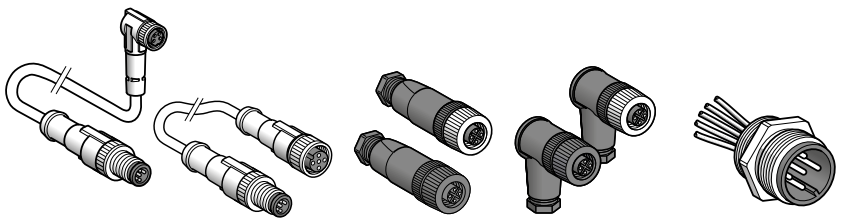


Connector Size		M12			
		Straight 4-pins	Elbowed 4-pins	Straight 5-pins	Elbowed 5-pins
References	PVC cable	XZCPV1141Lp	XZCPV1241Lp	XZCPV1164Lp	XZCPV1264Lp
	PUR cable	XZCP1141Lp	XZCP1241Lp	XZCP1164Lp	XZCP1264Lp
	PVC cable IP69K	XZCPA1141Lp	XZCPA1241Lp	XZCPA1164Lp	–



Connector Size		1/2"		7/8"	
		Straight 3-pins	Elbowed 3-pins	Straight 3-pins	Straight 5-pins
References	PVC cable	XZCPV1865Lp	XZCPV1965Lp	XZCPV1670Lp	–
	PUR cable	XZCP1865Lp	XZCP1965Lp	XZCP1670Lp	XZCP1764Lp
	PVC cable IP69K	XZCPA1865Lp	XZCPA1965Lp	–	–

Complete each reference by adding the length of cable, as 2 for 2 m, 5 for 5 m and 10 for 10 m,
Eg: XZCPV1141L2 is pre-wired connector M12 connectors with 4 contacts and 2 m PVC cable



Other accessories	Jumpers	Connector	Receptacle
References	XZCR...	XZCC...	XZCE...

Opto-electronic rotary encoders

Incremental






(6)

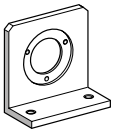
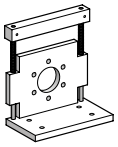
Diameter of housing (mm)		Ø 40	Ø 40	Ø 58	Ø 58	stainless steel 316L	Ø 58 Parametrable	Ø 90
Shaft Ø (mm)		Ø 6	Ø 6	Ø 6	Ø 10		Ø 14 (1)	Ø 12
Type of shaft (2)		solid shaft	through shaft	solid shaft	solid shaft		through shaft	solid shaft
Maximum rotational speed (rpm)		9000	9000	9000	9000		6000	6000
Maximum frequency (kHz)		100	100	300	300		300	100
Maximum load (daN)		2	2	10	10	25	5	20
Torque (N.cm)		0,2	0,25	0,4	0,4		0,6	1
Product certification		CE	CE	CE	CE		CE	CE
Temperature range (°C)		- 20…+ 80	- 20…+ 80	- 30…+ 100	- 30…+ 100		- 30…+ 70	- 20…+ 80
Degree of protection (conforming to IEC 60529)		IP54	IP52	IP65 / IP67 (3)	IP65 / IP67 (3)	IP69K	IP65	IP66
Supply voltage	5 V, RS 422	4,5…5,5 V	4,5…5,5 V	4,75…30 V	4,75…30 V		4,75…30 V	
	Push-pull	11…30 V	11…30 V	5…30 V	5…30 V		5…30 V	11…30 V
Connection		Pre-cabled radial 2 m		Connector radial M23 male		Pre-cabled axial 2 m		
Resolution (Pts)	Output stage							
100	5 V, RS 422	XCC1406PR01R	XCC1406TR01R	XCC1506PS01X	XCC1510PS01X	–	–	
	Push-pull	XCC1406PR01K	XCC1406TR01K	XCC1506PS01Y	XCC1510PS01Y	–	–	
360	5 V, RS 422	XCC1406PR03R	XCC1406TR03R	XCC1506PS03X	XCC1510PS03X	–	–	
	Push-pull	XCC1406PR03K	XCC1406TR03K	XCC1506PS03Y	XCC1510PS03Y	XCC1510SPA03Y	–	XCC1912PS03KN
500	5 V, RS 422	XCC1406PR05R	XCC1406TR05R	XCC1506PS05X	XCC1510PS05X	–	–	
	Push-pull	XCC1406PR05K	XCC1406TR05K	XCC1506PS05Y	XCC1510PS05Y	–	–	XCC1912PS05KN
1000	5 V, RS 422	XCC1406PR10R	XCC1406TR10R	XCC1506PS10X	XCC1510PS10X	–	–	
	Push-pull	XCC1406PR10K	XCC1406TR10K	XCC1506PS10Y	XCC1510PS10Y	–	–	XCC1912PS10KN
1024	5 V, RS 422	XCC1406PR11R	XCC1406TR11R	XCC1506PS11X	XCC1510PS11X	–	–	
	Push-pull	XCC1406PR11K	XCC1406TR11K	XCC1506PS11Y	XCC1510PS11Y	XCC1501SPA11Y	–	XCC1912PS11KN
2500	5 V, RS 422	–	–	XCC1506PS25X	XCC1510PS25X	–	–	
	Push-pull	–	–	XCC1506PS25Y	XCC1510PS25Y	–	–	XCC1912PS25KN
3600	5 V, RS 422	–	–	–	–	–	–	
	Push-pull	–	–	–	–	–	–	XCC1912PS36KN
256…4096	5 V, RS 422	–	–	–	–	–	XCC1514TSM02X	–
	Push-pull	–	–	–	–	–	XCC1514TSM02Y	–
5000	5 V, RS 422	–	–	XCC1506PS50X	XCC1510PS50X	–	–	
	Push-pull	–	–	XCC1506PS50Y	XCC1510PS50Y	XCC1510SPA50Y	–	XCC1912PS50KN
360…5760	5 V, RS 422	–	–	–	–	–	XCC1514TSM03X	–
	Push-pull	–	–	–	–	–	XCC1514TSM03Y	–
500…8000	5 V, RS 422	–	–	–	–	–	XCC1514TSM05X	–
	Push-pull	–	–	–	–	–	XCC1514TSM05Y	–
10 000	5 V, RS 422	–	–	–	–	–	–	XCC1912PS00RN
	Push-pull	–	–	–	–	–	–	XCC1912PS00KN
1024…16 384	5 V, RS 422	–	–	–	–	–	XCC1514TSM11X	–
	Push-pull	–	–	–	–	–	XCC1514TSM11Y	–
5000…80 000	5 V, RS 422	–	–	–	–	–	XCC1514TSM50X	–
	Push-pull	–	–	–	–	–	XCC1514TSM50Y	–

Accessories

Shaft couplings

with spring	Bore diameter (encoder side)	Bore diameter (machine side)	Reference
	6 mm	6 mm	XCCRAR0606
	6 mm	8 mm	XCCRAR0608
	6 mm	10 mm	XCCRAR0610
	10 mm	10 mm	XCCRAR1010
	10 mm	12 mm	XCCRAR1012
elastic 	6 mm	6 mm	XCCRAE0606

Fixing brackets

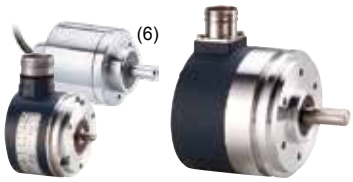
Plain bracket 		for Ø 58 mm	XCCRE5SN
		for Ø 90 mm	XCCRE9SN
Bracket with play compensator 		for Ø 58 mm	XCCRE5RN
		for Ø 90 mm	XCCRE9RN

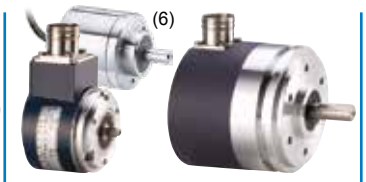
Other versions: please consult our Customer Care Centre.

Absolute - single turn

Absolute - multiturn

Communicating multiturn absolute



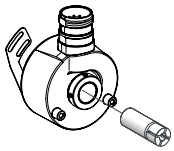


Diameter of housing (mm)			Ø 58	Ø 90	Ø 58	Ø 90	Ø 58 CANopen	Ø 58 PROFIBUS-DP
Shaft Ø (mm)			Ø 10	Ø 12	Ø 10	Ø 12	Ø 10	Ø 10
Type of shaft (2)			solid shaft	solid shaft	solid shaft	solid shaft	solid shaft (4)	solid shaft (4)
Maximum rotational speed (rpm)			9000	6000	6000	6000	6000	6000
Maximum frequency (kHz)			100	100 (1000 SSI)	100 (500 SSI)	100 (500 SSI)	800	800
Maximum load (daN)			10 / 25 (6)	20	10 / 25 (6)	20	11	11
Torque (N.cm)			0.4	1	0.4	1	0.3	0.3
Product certification			CE	CE	CE	CE	CE	CE
Temperature range (°C)			- 20…+ 90	- 20…+ 85	- 20…+ 85	- 20…+ 85	- 40…+ 85	- 40…+ 85
Degree of protection (conforming to IEC 60529)			IP65 / IP67 (3) / IP69K (6)	IP66	IP65 / IP67 (3) / IP69K (6)	IP66	IP64	IP64
Supply voltage			11…30 V					
Connection			M23 male connector, radial / 2m Axial cable (6)				2xM12 + 1 x PG9	3 x PG9
Resolution	Output stage	Code						
… 8192 points	Push-pull	Binaire	XCC2510PS81KB	XCC2912PS81KBN	–	–	–	–
		Gray	XCC2510PS81KGN XCC2510SPA81KGN (6)	XCC2912PS81KGN	–	–	–	–
	SSI, 13 bits	Binaire	XCC2510PS81SBN	XCC2912PS81SBN	–	–	–	–
		Gray	XCC2510PS81SGN XCC2510SPA81SGN (6)	XCC2912PS81SGN	–	–	–	–
4096 points / 8192 tours	SSI, 25 bits (5)	Gray	–	–	XCC3510PS48SGN XCC3510SPA48SGN (6)	–	–	–
8192 points / 4096 tours	SSI, 25 bits (5)	Binaire			XCC3510PS84SBN	XCC3912PS84SBN	–	–
		Gray	–	–	XCC3510PS84SGN	XCC3912PS84SGN	–	–
8192 points / 4096 tours	CANopen, 25 bits	Binaire	–	–		–	–	–
			–	–	–	–	XCC3510PS84CBN	–
	PROFIBUS-DP, 25 bits	Binaire	–	–	–	–	–	XCC3510PV84FBN

(1) Anti-rotation device included with through shaft version encoders. To achieve Ø 6, 8, 10 or 12 mm through shafts, use the reduction collars.
(2) All versions are also available with through shaft and anti-rotation device.
(3) IP 67 with sealed collar XCCRB3.
(4) Versions available with hollow shaft and anti-rotation device.
(5) "Parallel" outputs possible for multiturn absolute encoders using derserialisation jumper cables XCCRM23SUB37••
(6) Product in Stainless steel 316L

Reduction collars

For Ø 58 mm incremental encoders with through shaft



Ø 14 to Ø 6 mm	XCCR158RDA06
Ø 14 to Ø 8 mm	XCCR158RDA08
Ø 14 to Ø 10 mm	XCCR158RDA10
Ø 14 to Ø 12 mm	XCCR158RDA12

IP 67 sealed collar

For encoders XCC1510, 2510, 3510

Ø 58 mm	XCCRB3

Pre-wired connectors and jumper cables

Pre-wired M23 female connectors (cable length 5 m)

8-wire for SSI encoders	XCCPM23122L5
10-wire for incremental encoders	XCCPM23121L5
16-wire for parallel single turn absolute encoders	XCCPM23161L5

Deserialisation jumper cables (M23 F - SUB-D37 M) (L = 0.5 m)

SSI Gray - // Gray PNP	XCCRM23SUB37PG
SSI binaire - // binary NPN	XCCRM23SUB37PB

Radio frequency identification
13.56 MHz RFID

Presentation

OsiSense XG is open to the majority of ISO 18000-3, ISO 15693 and ISO 14443 electronic tags.
OsiSense XG integrates Modbus RTU, Uni-Telway, Modbus TCP/IP (using Ethernet box XGSZ33ETH) and
Profibus DP (with box XGSZ33PDP) protocols.
The OsiSense XG RFID offer comprises:
- 3 models of 13.56 MHz smart antenna (read/write)
- 12 models of 13.56 MHz electronic tags
- 1 portable RFID diagnostics terminal
- 3 models of network connection boxes plus connection and mounting accessories.

Setting-up

OsiSense XG smart antenna are simple to set-up:
- Integrated RFID and network Function
- No programming
- Automatic detection of the RFID electronic tags (read or write)
- Automatic setting of the communication parameters (speed, format, parity, protocol, etc.)
- Configuration of the network address (1 to 15) using badge included with the smart antenna
- Low sensitivity to metal environments.

Installation

OsiSense XG smart antenna easily integrate in flexible manufacturing production lines:
- quick connection using M12 connector
- screw fixing or clip-on mounting.

Smart antenna,13,56 MHz		Flat form 40	Flat form 80	
Dimensions (mm), W x H x D		40 x 40 x 15	80 x 80 x 26	
Nominal sensing distance depending on tag (mm)		18 to 70	20 to 100	
Type of associated tag		ISO 15693 and ISO 14443 standard tags. Automatic detection of the type of tag.		
Display		dual colour LED for the communication network, dual colour LED for the RFID communication		
Conformity to standards		CE, EN 301489-1, EN 301489-3, ETS 300330-1 and ETS 300330-2, FCC part 15 - UL		
Degree of protection conforming to IEC 60529		IP67		
Serial link	Type	RS 485		Ethernet (dual port)
	Protocol	Modbus et Uni-Telway		MODBUS TCP/IP et EtherNet/IP
	Speed (Bauds)	9600…115 200 (automatic detection)		10/100MB
Ambient air temperature (°C)		For functionnement : - 25…+ 70 °C, for stockage : - 40…+ 85 °C		
Nominal Supply voltage		24 VDC TBTP (Protective Extra Low Voltage)		
Connection		M12, 5-pins male, shielded connector on flying lead. Only for connection to the communication network and the supply		M12 (Ethernet) - M8 4-pins (Supply voltage)
References		XGCS4901201	XGCS8901201	XGCS850C201

Electronic tags		Format flat 40		Badge ISO (1)	Disque (3)	Format flat 26	Cylindrical
Dimensions (mm), W x H x D		40 x 40 x 15		54 x 85,5 x 0,8	Ø 30 x 3	26 x 26 x 13	M18 x 1 x 12
Type of memory		EEPROM	FRAM	EEPROM			
Memory capacity (bytes)		3 408	32 768	256	112	256	256
Nominal sensing distance	With station XGCS49.	33	25	70	48	40	18
(Read/Write)	With station XGCS89.	48	39	100	65	55	20
Time (ms)	Read	9,25 + 0,375 x n (2)	6 + 0,25 x n (2)	12 + 0,825 x n (2)			
	Write	13 + 0,8 x n (2)	6 + 0,25 x n (2)	20 + 11,8 x n (2)	12 + 5,6 x n (2)	20 + 11,8 x n (2)	19 + 4,1 x n (2)
Degree of protection conforming to IEC 60529		IP68		IP65		IP68	
Standard supported		ISO 14443		ISO 15693			
Mounting on metal support		Yes		No		Yes	No
References		XGHB444345	XGHB443245	XGHB90E340	XGHB320345	XGHB221346	XGHB211345

(1) Customised versions on request. (2) n = number of 16-bit words. (3) Also exists in diameter 50.

Other versions: please consult our Customer Care Centre.

Connection boxes	Ethernet Modbus TCP/IP box	Profibus box	EtherNet/IP box
Dimensions (mm), W x H x D	130 x 80 x 51	130 x 80 x 51	130 x 80 x 51
Protocols	Modbus TCP/IP	Profibus DP	EtherNet/IP
Supply voltage	24 VDC PELV. M12, 4-pins male, A coding, connector		
Conformity to standards	CE, UL	CE	CE
Station connection	M12, 5-pins female, A coding, connector		
Degree of protection conforming to IEC 60529	IP65		
References	XGSZ33ETH	XGSZ33PDP	XGSZ33EIP

Terminal		Portable 13.56 MHz RFID diagnostics terminal
Dimensions (mm), W x H x P		78 x 153 x 27
Function		Read/Write operations on electronic tags
Operating system		Proprietary OS
Conformity to standards		CE, FCC classe A, Part 15
Display		53 x 95 mm colour OLED touchscreen 272 x 480 pixels resolution
Degree of protection conforming to IEC 60529		IP 40
Memory	RAM	256 Mb
	Storage	internal 2 GB + USB socket for memory stick
Reference		XGST2422 (battery, battery charger, 2 GB USB memory stick, and carrying case included with terminal). RFID reader to be ordered separately: XGCS4901201 (integrated reader) or XGW4F111 (remote reader)

Connection accessories	for Modbus network		for Ethernet	Pre-wired connector		"T" connector
Description	Modbus connecting cable M12 connectors Male / Female	Pre-wired connector M12 male / Bare wires	Ethernet connecting cable M12 male / RJ 45	Pre-wired supply connector M8 female	Pre-wired supply connector M12 female	Network M12 "T" connector 1 male / 2 female
Application	RS485 connection between a smart antenna and a connection box or between 2 Modbus boxes	Connection between a Modbus box and a Modbus / Uni-Telway network	Connection between an Ethernet box and the Ethernet network	24 VDC supply to Ethernet smart antenna XGCS850C201	24 VDC supply to connection boxes	For chaining of smart antennas on RS485 network
L = 2 m	TCSMCN1M1F2	TCSMCN1F2	XGSZ12E4503 (1)	XZCP0941L5 (3)	XGSZ09L2	TCSCTN011M11F
L = 5 m	TCSMCN1M1F5	TCSMCN1F5	XGSZ12E4510 (2)	XZCP0941L2 (4)	XGSZ09L5	

(1) L = 3 m (2) L = 10 m (3) L = 5 m (4) L =2 m

Field expander

To be associated with a smart antenna XGCS4901201 for conveying and handling applications

50 x 400 mm
XGFEC540

250 x 250 mm
XGFEC2525

RS232/RS485 converter

For connecting a PC to an OsiSense XG smart antenna

XGSZ24

Technical documentation

OsiSense XG smart antenna guide

DIA4ED3051001

Radio frequency identification

RFID 13,56 MHz, Fixing Ø 22 mm

RFID Stations 13,56 MHZ, Fixing Ø 22 mm		Compact station for panel fixing (1)	Compact station for panel fixing with indicator light (1)
Dimensions (mm) W x H x D		40 x 40 x 40	80 x 80 x 40
Nominal sensing distance depending on tag (mm)		20 to 70	
Type of associated tag		ISO 15693 to ISO 14443 standard tags.Automatic detection of the type tag.	
Display	For informing the operator	2 multicolor LEDs (7 selectable colors) driven by Modbus requests	
	For the communication	1 dual color LED (Dialog station/tag) 1 dual color LED (Modbus network activity)	
Conformity to standards		EN 301489-1, EN 301489-3, EN 300330-1 et EN 300330-2	
Degree of protection conforming to IEC 60529		IP 69K (Fibre cross-section) - IP 65 (back)	IP 65
Ambient air temperature (°C)		For function : - 25…+ 70 °C, for storage : - 40…+ 85 °C	
Nominal Supply voltage		24 TBTP (Protective Extra Low Voltage)	
Connection		1 connector M12 male, 5-pins	
References		XGCS490B201	XGCS49LB201

(1) Delivered with a configuration badge …, a Fixing nut and the guide.

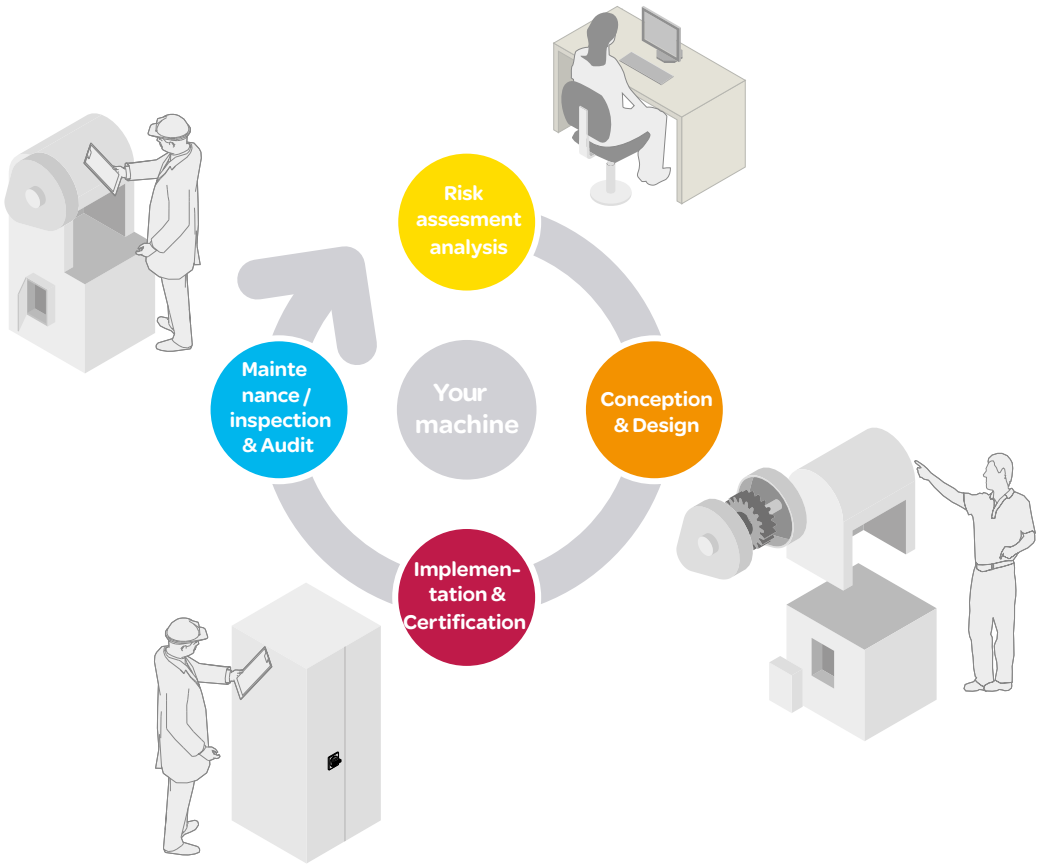
Electronic tags		EEPROM type memory tag
Dimensions (mm) W x H x D		40 x 31 x 4,8
Type of memory		EEPROM
Memory capacity (bytes)		736
Nominal sensing distance (Read/Write)	With compact stations, Fixing Ø 22 mm	30 mm
Degree of protection		IP67
Supported standard		ISO 14443
Reference		XGHBPB3345

Notes

Preventa, the safety attitude around your machine life cycle

The Preventa range enhances safety throughout a machine's entire life cycle from design, manufacture, installation, adjustment, operation and servicing right through to decommissioning.

In addition to moral obligation and economic consequences, the law requires that machinery is safe in the interests of accident prevention. Preventa offers an extensive range of safety products, compliant with international standards, designed to provide the most comprehensive protection for personnel and equipment.



> New machines - the Machinery Directive

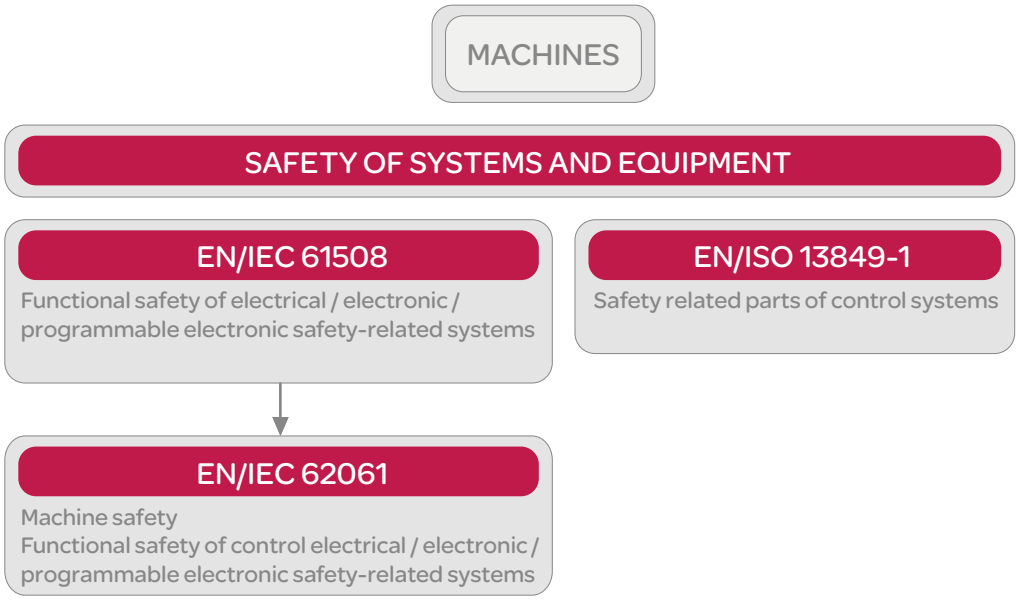
The previous Machinery Directive 98/37/EC was elaborated to help manufacturers ensuring a minimum safety level for machinery and equipment sold within the EU (European Union).

From 29 December 2009 on, the new European Machinery Directive 2006/42/EC is effective. Machines must comply with the Essential Health and Safety Requirements (EHSRs) listed in Annex I of the Directive, thus setting a common minimum level of protection across the EEA (European Economic Area).

Machine manufacturers, or their authorised representatives within the EU, must ensure that the machine is compliant with all requirements from this Directive. This technical file is available to reinforce authorities requests as well as the CE marking must be affixed and a Declaration of Conformity has been signed before the machine may be placed on the market within the EU.

Functional safety :

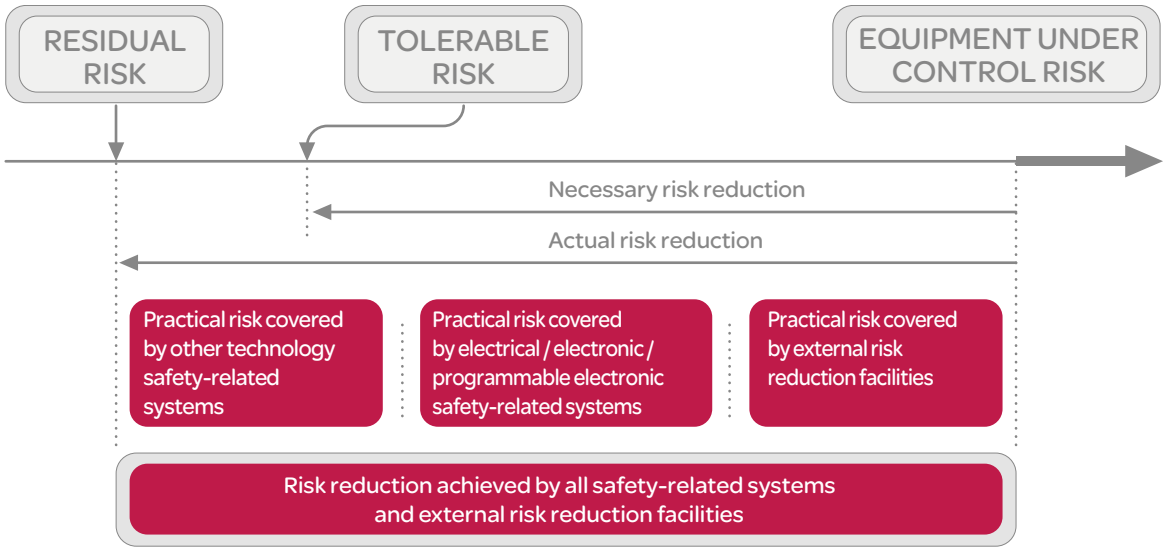
> Safety integrity level (SIL), Performance level (PL)



Risk reduction according to EN/IEC 61508 and EN/ISO 13849-1

- Safety is achieved by risk reduction (for those hazards that cannot be designed-out).
- Residual risk is the risk remaining after protective measures have been taken.
- Protective measures realised by E/E/PE* safety related systems contribute to risk reduction.

* Electric / Electronic / Programmable electronic



Functional safety of machinery

> Approach according to EN/IEC 62061

Risk estimation for SIL assignment

Risk related to the identified hazard = Severity of the possible harm + (Frequency and duration of exposure Fr; Probability of occurrence of a hazardous event Pr; Probability of avoiding or limiting harm Av) → Probability of occurrence of that harm

Example of SIL assignment

This assignment should be carried by determining the risk parameters that are shown below in an example.

Consequences	Severity (Se)
Irreversible: death, losing an eye or arm	4
Irreversible: broken limb(s), losing a finger(s)	3
Reversible: requiring attention from a medical practitioner	2
Reversible: requiring first aid	1

Frequency and duration of exposure (Fr)	
Frequency of exposure	> 10 min
1 h	5
> 1 h to 1 day	5
> 1 day to 2 weeks	4
> 2 weeks to 1 year	3
> 1 year	2

Probability of occurrence	Probability (Pr)
Very high	5
Likely	4
Possible	3
Rarely	2
Negligible	1

Probability of avoiding or limiting harm (Av)	
Impossible	5
Rarely	3
Probable	1

Serial no.	Hazard	Se	Fr		Pr		Av		Cl
1	Hazard X	4	5	+	4	+	3	=	12
2									

Consequences	(Se)	Classe Cl				
		3-4	5-7	8-10	11-13	14-15
Death, losing an eye or arm	4	SIL 2	SIL 2	SIL 2	SIL 3	SIL 3
Permanent, losing fingers	3		OM	SIL 1	SIL 2	SIL 3
Reversible, medical attention	2			OM	SIL 1	SIL 2
Reversible, first aid	1				OM	SIL 1

Frequency and duration Fr	
<= 1 hour	5
> 1 h to <= 1 day	5
> 1 day to <= 2 wks	4
2 wks to <= 1 year	3
> 1 year	2

Probability of hzd. Event Pr	
Common	5
Likely	4
Possible	3
Rarely	2
Negligible	1

Avoidance Av	
Impossible	5
Possible	3
Likely	1

In this example the SIL 3 must be achieved by the safety-related control function intended to reduce the risk related to the identified hazard.

Determination of the SIL level achieved by the Safety-related control function (SRCF)

According to standard EN/IEC 62061 for each safety related control function, the SIL level is linked to:
- a target failure value for the probability of dangerous failure by hour of the SRCF: PFHD
- architectural constraints (hardware fault tolerance, diagnosis)
- a set of requirements related to the lifecycle of the safety related electrical control system

Safety integrity level (SIL)	Probability of a dangerous Failure per Hour PFHD
3	$>10^{-8}$ to $<10^{-7}$
2	$>10^{-7}$ to $<10^{-6}$
1	$>10^{-6}$ to $<10^{-5}$

λ_s = rate of safe failures,
λ_{dd} = rate of detected dangerous failures,
λ_{du} = rate of undetected dangerous failures
$\lambda_d = \lambda_{dd} + \lambda_{du}$

In practice, detected dangerous failure are dealt with by fault

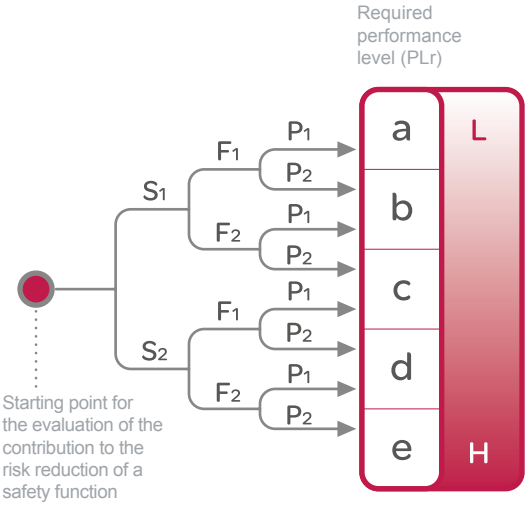
- The rate of failures λ can be expressed as follows: $\lambda = \lambda_s + \lambda_{dd} + \lambda_{du}$
- The calculation of the PFHD for a system or subsystem depends on several parameters:
  - the dangerous failure rate (λ_d) of the subsystem elements
  - the fault tolerance (e.g. redundancy) of the system
  - the diagnostic test interval (T2)
  - the proof test interval (T1) or lifetime whichever is smaller
  - the susceptibility to common cause failures (β)
- For each of the four different logical architectures A to D there is a different formula to calculate the PFHD. (see EN/IEC 62061)
- For a simple system without redundancy and without diagnostic: PFHD = λ_d x 1/h

> Approach according to EN/ISO 13849-1

Determination of the Performance Level requested (PLr)

Done using the risk graphic opposite

S = Severity of injury
S1 = Slight (normally reversible injury)
S2 = Serious (normally irreversible) injury including death
F = Frequency and/or exposure time to the hazard
F1 = Seldom to less often and/or the exposure time is short
F2 = Frequent to continuous and/or the exposure time is long
P = Possibility of avoiding the hazard or limiting the harm
P1 = Possible under specific conditions
P2 = Scarcely possible
L = Low contribution to risk reduction
H = High contribution to risk reduction

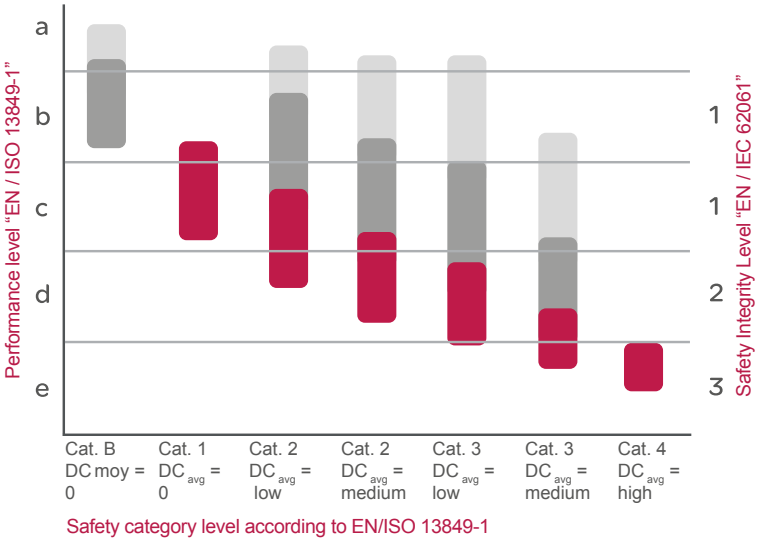


Determination of the PL achieved by the Safety-related parts of control systems (SRP/CS)

According to standard EN/ISO 13849-1, the Performance level (PL) is linked to a target failure value of probability of dangerous failure per hour for each safety related control function.

Performance level (PL)	Probability of a dangerous Failure per Hour
a	$\geq 10^{-5} \ldots < 10^{-4}$
b	$\geq 3 \times 10^{-6} \ldots < 10^{-5}$
c	$\geq 10^{-6} \ldots < 3 \times 10^{-6}$
d	$\geq 10^{-7} \ldots < 10^{-6}$
e	$\geq 10^{-8} \ldots < 10^{-7}$

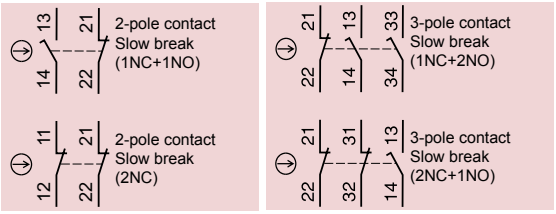
For a SRP/CS (or a combination of SRP/CS) designed according the requirements of the article 6, the PL could be estimated with the figure beside after estimation of several factors such as system structure (categorys), mechanism of failures detection [Diagnosis Coverage (DC)], components reliability [mean time to dangerous failure (MTTFd), Common Cause Failure (CCF)]…



MTTF$_d$ of each channel = low
MTTF$_d$ of each channel = medium
MTTF$_d$ of each channel = high

Safety switches
and actuators

Illustration of contacts with the actuator inserted in the head of the switch



Without locking

Plastic, double insulated switches			Type XCSMP	Type XCSPA		Type XCSTA
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 et SIL CL3 conforming to EN/IEC 62061			
Actuation speed (min>max)			0,05m/s --> 1,5m/s	0,1m/s --> 0,5m/s		0,1m/s --> 0,5m/s
Rated operational characteristics (conforming to EN/IEC 60947-5-1)			AC 15, C 300 / DC 13, Q 300			
Degree of protection conforming to IEC 60529			IP67			
Reliability data B_{10d}			5 000 000 value given for a service life of 20 years, limited by mechanical or contact wear			
Body + Head dimensions (mm) W x D x H			30 x 15 x 87 mm	30 x 30 x 93,5 mm		52 x 30 x 114,5 mm
Resistence to forcible withdrawal of actuator			8 N	10 N (1)		10 N (1)
Connection			pre-cabled, L = 2m	1 x ISO M16 entry.	1 x PG11 entry	2 x ISO M16 entries. (2)
Safety contacts	1NC+1NO	break before make, slow break	XCSMP59L2 ⊕	XCSPA592 ⊕	XCSPA591 ⊕	–
	2NC	slow break	XCSMP79L2 ⊕	XCSPA792 ⊕	XCSPA791 ⊕	–
	1NC+2NO	break before make, slow break	–	XCSPA892 ⊕	XCSPA891 ⊕	XCSTA592 ⊕
	2NC+1NO	break before make, slow break	XCSMP70L2 ⊕	XCSPA992 ⊕	XCSPA991 ⊕	XCSTA792 ⊕
	2NC+1NO	snap action	–	XCSPA492 ⊕	XCSPA491 ⊕	–
	3NC	slow break	XCSMP80L2 ⊕	–	–	XCSTA892 ⊕

(1) In order to increase the resistance to 50 N, you must add the accessory XCSZ21 to the key actuators XCSZ12
(2) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSTA592 becomes XCSTA591).

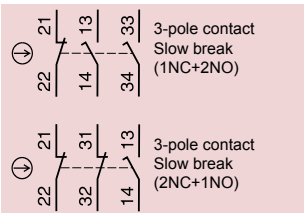


Illustration of contacts with the actuator inserted in the head of the switch

Without locking

With interlocking, manual unlocking
By button By key lock

Interrupteurs metal to double isolation			Type XCSA		Type XCSB	Type XCSC
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061			
Actuation speed (min>max)			0,01m/s --> 0,5m/s		0,01m/s --> 0,5m/s	
Rated operational characteristics (conforming to EN/IEC 60947-5-1)			AC 15, A 300 / DC 13, Q 300			
Degree of protection conforming to IEC 60529			IP67			
Reliability data B_{10d}			5 000 000 value given for a service life of 20 years, limited by mechanical or contact wear			
Body + Head dimensions (mm) W x D x H			40 x 44 x 113,5 mm		52 x 44 x 113,5 mm	
Resistence to forcible withdrawal of actuator			20 N		1500 N	
Connection			1 x ISO M20 entry	1 x PG13,5 entry	1 x ISO M20	1 x PG13,5 entry
Safety contacts	1NC+2NO	break before make, slow break	XCSA502 ⊕	XCSA501 ⊕	XCSB502 ⊕	XCSC501 ⊕
	2NC+1NO	break before make, slow break	XCSA702 ⊕	XCSA701 ⊕	XCSB702 ⊕	XCSC701 ⊕
	3NC	slow break	XCSA802 ⊕	XCSA801 ⊕	–	XCSC801 ⊕

(3) Using an appropriate and correctly connected control system.

Accessories

Straight actuator

Right-angled actuator

Pivoting actuator, RH door

Pivoting actuator, LH door

For safety switches XCSMP	Actuators			
References	XCSZ81	XCSZ84	XCSZ83	XCSZ85

Straight actuator

Wide actuator L=40 mm (4)

Right-angled actuator

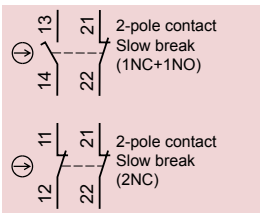
Pivoting actuator

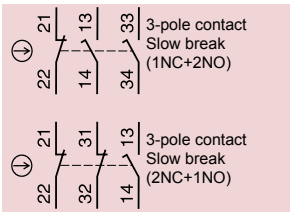
Guard/door retainer

For safety switches XCSPA/TA	Actuators				Retaining device
References	XCSZ11	XCSZ12	XCSZ14	XCSZ13	XCSZ21

(4) For L = 29 mm, reference = XCSZ15.

Illustration of contacts with the actuator inserted in the head of the switch





Safety interlock switches Standard version and Connector version			Type XCSLF, metal		Type XCSLE en plastic	
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061			
Degree of protection conforming to IEC 60529			IP66 and IP67	IP65	IP66 and IP67	IP65
Reliability data B_{10d}			5 500 000 value given for a service life of 20 years, limited by mechanical or contact wear			
Body + Head dimensions (mm) W x D x H			43,5 x 51 x 205 mm		43,5 x 51 x 205 mm	
Resistence to forcible withdrawal of actuator			3 000 N		1 400 N	
Locking			on de-energization (1)		on de-energization (1)	
Supply voltage for the solenoid and the LEDs			24VAC/DC			
Material case			Zamak		Polyamide	
Wiring Connection (2)			3 x ISO M20	Connector M23 (4)	3 x ISO M20	Connector M23 (4)
Safety contacts	1NC+1NO	break before make, slow break	XCSLF2525312 ⊖	XCSLF252531M2 ⊖	XCSLE2525312 ⊖	XCSLE252531M2 ⊖
	2NC	simultaneous, slow break	XCSLF2727312 ⊖	XCSLF272731M2 ⊖	XCSLE2727312 ⊖	XCSLE272731M2 ⊖
	1NC+2NO	break before make, slow break	XCSLF3535312 ⊖	XCSLF353531M3 ⊖	XCSLE3535312 ⊖	XCSLE353531M3 ⊖
	2NC+1NO	break before make, slow break	XCSLF3737312 ⊖	XCSLF373731M3 ⊖	XCSLE3737312 ⊖	XCSLE373731M3 ⊖
	3NC	simultaneous, slow break	XCSLF3838312 ⊖	XCSLF383831M3 ⊖	XCSLE3838312 ⊖	XCSLE383831M3 ⊖

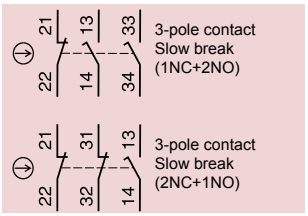


Illustration of contacts with the actuatorinserted in the head of the switch

Safety interlock switches. Push button version and Push button with connector version			Type XCSLF, metal			
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 et SIL CL3 conforming to EN/IEC 62061			
Degree of protection conforming to IEC 60529			IP66	IP65	IP66	IP65
Reliability data B_{10d}			5 500 000 value given for a service life of 20 years, limited by mechanical or contact wear			
Body + Head dimensions (mm) W x D x H			43,5 x 51 x 205 mm			
Resistence to forcible withdrawal of actuator			3 000 N			
Locking			on de-energization (1)		on de-energization (1)	
Push button with or without key no. 455 to release			Without		With	
Supply voltage for the solenoid and the LEDs			24VAC/DC			
Material case			Zamak			
Connection (2)			3 x ISO M20	Connector M23 (4)	3 x ISO M20	Connector M23 (4)
Safety contacts	1NC+2NO	break before make, slow break	XCSLF3535412 ⊖	XCSLF353541M3 ⊖	XCSLF3535612 ⊖	XCSLF353561M3 ⊖
	2NC+1NO	break before make, slow break	XCSLF3737412 ⊖	XCSLF373741M3 ⊖	XCSLF3737612 ⊖	XCSLF373761M3 ⊖

(1) For locking on energisation of solenoid, please refer to www.tesensors.com
(2) With cable entry for 1/2" NPT, please refer to www.tesensors.com
(3) Using an appropriate and correctly connected control system.
(4) M23 to XCSLF***M2 products: Connector M23, 16 pins
M23 to XCSLF***M3 products: Connector M23, 19 pins

Accessories

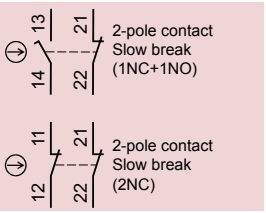
Straight actuator

Wide actuator

Pivoting actuator

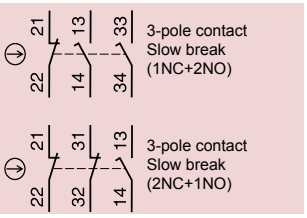
For safety switches XCSA/B/C/LE/LF	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05

Safety switches
with rotary lever or spindle



Stainless steel, elbowed (flush with rear of switch) lever | Stainless steel straight lever | Stainless steel spindle, L = 30 mm

Plastic switches		Type XCSPL to levier ou XCSPR to axe rotatif 1 x ISO M16 cable entry (1) (2)					
Maximum safety level (3)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061					
Minimum torque (actuation / positive opening)		0,1 / 0,25 N.m					
Degree of protection		IP67					
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300					
Dimensions (body + head) W x D x H		30 x 30 x 160 mm					30 x 30 x 96 mm
Lever position		Lever to left	Lever centred	Lever to right	Lever to left or right	Lever centred	–
Tripping angle		5°					
Reliability data B_{10d}		5 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)					
Complete switch	1NC+1NO break before make, slow break	XCSPL592 →	XCSPL582 →	XCSPL572 →	XCSPL562 →	XCSPL552 →	XCSPR552 →
	2NC slow break	XCSPL792 →	XCSPL782 →	XCSPL772 →	XCSPL762 →	XCSPL752 →	XCSPR752 →
	1NC+2NO slow break	–	–	–	XCSPL862 →	–	–
	2NC+1NO slow break	–	XCSPL982 →	–	XCSPL962 →	–	XCSPR952 →

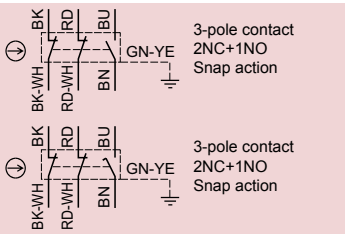


Stainless steel, elbowed (flush with rear of switch) lever | Stainless steel straight lever | Stainless steel spindle Longueur 30 mm

Plastic switches		Type XCSTL with rotary lever or XCSTR with spindle 2 x ISO M16 cable entries (2) (4)		
Maximum safety level (3)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061		
Minimum torque (actuation / positive opening)		0,1 / 0,45 N.m		
Degree of protection		IP67		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300		
Dimensions (body + head) W x P x H		52 x 30 x 180 mm		52 x 30 x 117 mm
Lever position		Lever centred	Lever centred	–
Tripping angle		5°		
Reliability data B_{10d}		5 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Complete switch	1NC+2NO break before make, slow break	XCSTL582 →	XCSTL552 →	XCSTR552 →
	2NC+1NO break before make, slow break	XCSTL782 →	XCSTL752 →	XCSTR752 →

(1) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSPL592 becomes XCSPL591).
(2) For entry for ISO M20 cable gland, also order adaptor DE9RA1620 (sold in lots of 5).
(3) Using an appropriate and correctly connected control system.
(4) With entry for n° 11 (Pg 11) cable gland, replace the last digit in the reference by 1 (example: XCSTL582 becomes XCSTL581).

Limit switches
Safety limit switches

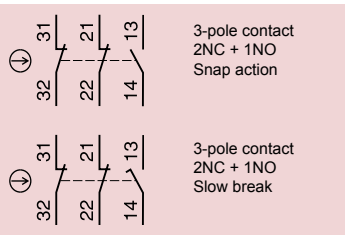



Metal
end plunger


Roller plunger


Thermoplastic
roller lever

Miniatures switches		Type XCSM metal cable length = 1m (1)		
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061		
Maximum actuation speed		0,5 m/s	0,5 m/s	1,5 m/s
Minimum force or torque (actuation / positive opening)		8,5 N / 42,5 N	7 N / 35 N	0,5 N.m / 0,1 N.m
Degree of protection		IP66 + IP67 + IP68	IP66 + IP67 + IP68	IP66 + IP67 + IP68
Dimensions (body + head) W x D x H		30 x 16 x 60 mm	30 x 16 x 70,5 mm	30 x 32 x 92,5 mm
Reliability data B_{10d}		50 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Complete switch	2NC+1NO snap action	XCSM3910L1 ⊖	XCSM3902L1 ⊖	XCSM3915L1 ⊖
	2NC+1NO slow break	XCSM3710L1 ⊖	XCSM3702L1 ⊖	XCSM3715L1 ⊖




Metal
plunger


Roller
plunger


Thermoplastic
roller lever


Metal
end plunger


Roller
plunger


Thermoplastic
roller lever

Compact switches		Type XCSD metal 1 x ISO M20 x 1.5 cable entry (3)			Type XCSP, plastic 1 x ISO M20 x 1.5 cable entry (2)		
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061					
Maximum actuation speed		0,5 m/s		1,5 m/s	0,5 m/s		1,5 m/s
Minimum force or torque (actuation / positive opening)		15 N / 45 N	12 N / 36 N	10 N.m / 0,1 N.m	15 N / 45 N	12 N / 36 N	10 N.m / 0,1 N.m
Degree of protection		IP66 + IP67			IP66 + IP67		
Dimensions (body + head) W x D x H (mm)		34 x 34,5 x 89	34 x 34,5 x 99,5	34 x 43 x 121,5	34 x 34,5 x 89	34 x 34,5 x 99,5	34 x 43 x 121,5
Reliability data B_{10d}		50 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)					
Complete switch	2NC+1NO snap action	XCSD3910P20	XCSD3902P20	XCSD3918P20	XCSP3910P20	XCSP3902P20	XCSP3918P20
	2NC+1NO slow break	XCSD3710P20	XCSD3702P20	XCSD3718P20	XCSP3710P20	XCSP3702P20	XCSP3718P20

(1) For a 2 m long cable, replace the last digit of the reference by 2 (example: XCSM3910L1 becomes XCSM3910L2).
For a 5 m long cable, replace the last digit of the reference by 5 (example: XCSM3910L1 becomes XCSM3910L5).
(2) Using an appropriate and correctly connected control system.
(3) For Pg 13.5 and 1/2" NPT cable entries, refer to www.tesensors.com.

RFID Technology

RFID Safety contact-less switch XCSR

New



2 Outputs solid-state PNP OSSD (*) NO
(without transponder presence)
(*) Output Signal Switching Devices

Type	Standalone	For series connection (Daisy-chain) (2) (3)	For point-to-point connection (Single)
Maximum safety level	PL=e, category4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508		
	Possible functioning without association with a safety control unit	Functioning in combination with a safety control unit PL=e/Cat4 - SIL 3	
Coding level (conforming to ISO 14119)	High level (Unique code) (for every model)		
Contactors monitoring (EDM) / Start-Restart	embedded	Safety control unit management	
Degree of protection	IP65, IP66, IP67 and IP69K		
Outputs Safety OSSDs - maximum current	400 mA	200 mA	
Rated operational characteristics	Ue=24Vdc - 20%...+1%, Ie=60mA		
Dimensions (mm) W x H x D (Transponder)	50 x 15 x 15 mm		
Dimensions L x P x H (Reader)	108,3 x 30 x 15 mm	118,6 x 30 x 15 mm	108,3 x 30 x 15 mm
Assured operating sensing distance (Sao)	10 mm		
Assured release sensing distance (Sar)	35 mm		
Reliability data (PFH_D/TM)	5.10^{-10} / 20 year		
Connection	Connector M12 male 8-pins	2 connectors M12 males 5-pins	Connector M12 male 5-pins
References			
Transponder + Reader matched in factory - Single matching - Start automatique + EDM	XCSRC11AM12 (1)		
Transponder + Reader matched in factory - Single matching - Start manual monitored + EDM	XCSRC11MM12 (1)		
Transponder + Reader matched in factory - Single matching		XCSRC12M12 (1)	XCSRC10M12 (1)

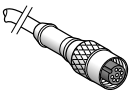
(1) For the versions allowing a new pairing of a blank transponder XCSRK2A3 (maximum 2 new pairings), replace the first reference digit '1' by '3'

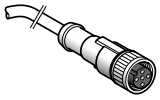
For example, reference XCSRC10M12 becomes XCSRC30M12

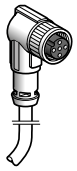
As soon as a blank transponder has been paired, the former transponder is no longer valid. A blank transponder can be matched only once

(2) The using of the serial diagnosis unit XCSRC210MDB is optionnal but highly recommanded. This diagnosis unit provides and localizes the state of every XCSR sensors of the chain (open/close safe guard status, presence of errors cabling issue, ...).

(3) The first sensor of serial connexion must be coupled with the loopback chain adaptator XCSRZE


XZCP29P12Lpp


XZCP11V12Lp


XZCP12V12Lp

Type		Connection M12 - Pre-wired - for XCSR "Single" et "Daisy-chain" (1) XCSRC10M12 - XCSRC30M12 - XCSRC12M12 (1) and XCSRC32M12 (1)			
Pre-wired length (cable material : PUR)		2 m	5 m	10 m	20 m
Connector M12 5-pins Female	Straight - Pre-wired	XZCP11V12L2	XZCP11V12L5	XZCP11V12L10	XZCP11V12L20
	90° - Pre-wired	XZCP12V12L2	XZCP12V12L5	XZCP12V12L10	XZCP12V12L20

Type		Connection M12 - Pre-wired - for XCSR "Standalone" XCSRC11AM12 - XCSRC31AM12 - XCSRC11MM12 and XCSRC31M12			
Pre-wired length (cable material : PUR)		2 m	5 m	10 m	20 m
Connector M12 8-pins Female	Straight - Pre-wired	XZCP29P12L2	XZCP29P12L5	XZCP29P12L10	XZCP29P12L20
	90° - Pre-wired	XZCP53P12L2	XZCP53P12L5	XZCP53P12L10	XZCP53P12L20

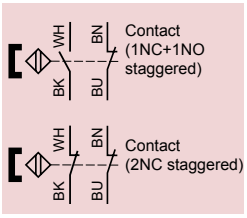
Type		Connection 2xM12 - Jumpers for XCSR "Daisy-chain" XCSRC12M12 - XCSRC32M12				
Pre-wired length (cable material : PUR)		0.3 m	3 m	5 m	10 m	25 m
2 connectors Straight female M12 5-pins	Pre-cabled for serial link directly between the sensors	XZCR1111064D03	XZCR1111064D3	XZCR1111064D5	XZCR1111064D10	XZCR1111064D25

(1) For the connection of the last safety switch of the chain (XCSRC12M12 or XCSRC32M12) to the safety control unit

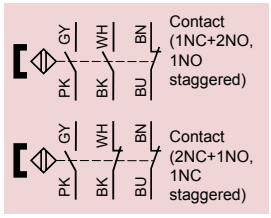
Coded magnetic technology

Plastic coded magnetic system

(1)



(1)



Rectangular Without LED (2)

Rectangular Without LED (2)

Cylindrical Without LED (2)

Rectangular Without LED (2)

Rectangular Without LED (2)

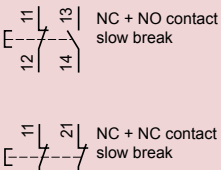
Cylindrical Without LED (2)

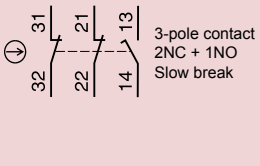
Plastic switches		Type XCSDM coded magnetic Pre-cabled L = 2 m			Connector on flying lead, L = 15 cm (3)		
Maximum safety level (5)		PL=e, category4 conforming to EN/ISO 13849-1 et SIL 3 conforming to EN/IEC 61508					
Switches for actuation		face to face, face to side, side to side		face to face	face to face, face to side, side to side		face to face
Degree of protection		IP66 + IP67			IP66 + IP67		
Type of contact		REED			REED		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		Ue = 24 VDC, Ie = 100 mA			Ue = 24 VDC, Ie = 100 mA		
Dimensions W x D x H		16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38,5 mm	16 x 7 x 51 mm	25 x 13 x 88 mm	M30 x 38.5 mm
Operating zone (4)		Sao = 5 / Sar = 15	Sao = 8 / Sar = 20		Sao = 5 / Sar = 15	Sao = 8 / Sar = 20	
Reliability data B_{10d}		50 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)					
Switch with coded magnet	1NC+1NO staggered	XCSDMC5902	XCSDMP5902	XCSDMR5902	XCSDMC590L01M8	XCSDMP590L01M12	XCSDMR590L01M12
	2NC staggered	XCSDMC7902	XCSDMP7902	XCSDMR7902	XCSDMC790L01M8	XCSDMP790L01M12	XCSDMR790L01M12
	1NC+2NO, 1NO staggered	–	XCSDMP5002	–	–	XCSDMP500L01M12	–
	2NC+1NO, 1NC staggered	–	XCSDMP7002	–	–	XCSDMP700L01M12	–

(1) Illustration of contacts with the magnet in front of the switch.
(2) For version with LED indicator, replace the last 0 in the reference by 1 (example: XCSDMC5902 becomes XCSDMC5912).
(3) For associated pre-wired female connectors, please refer to the “Preventa XCS safety switches” catalogue.
(4) Sao: assured operating distance. Sar: assured release distance.
(5) Using an appropriate and correctly connected control system

Emergency stops

Emergency stop rope pull switches





For operating cable length < 20 - 30m		Without indicator light Pg 13.5 threaded cable entry		
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL3 conforming to EN/IEC 61508		
Mechanical life		100 000 cycles		
Shock / vibration resistance		50 gn / 10 gn		
Degree of protection		IP66 and IP67		
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850, UL (NiSD) - CSA, CCC		
Dimensions W x D x H		200.9 x 40 x 64.2 mm		
Operating cable length		< 20 m	< 30 m	
Operating cable anchoring point		Straight	right side	left side
Reliability data B_{10D}		500 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Contact	1 NC + 1 NO slow break	XY2CJS15 (4)	XY2CJR15 (4)	XY2CJL15 (4)
	1 NC + 1 NC slow break	XY2CJS17 (4)	XY2CJR17 (4)	XY2CJL17 (4)
	2 NC + 1 NO slow break	XY2CJS19 (4) (5)	XY2CJR19 (4) (5)	XY2CJL19 (4) (5)

(2) Using an appropriate and correctly connected control system. (4) For ISO M20 threaded cable entry version, add H29 to the end of the reference selected. Example:XY2CJS15 becomes XY-2CJS15H29. (5) For 1/2” NPT threaded cable entry version, add H7 to the end of the reference selected. Example: XY2CJS19 becomes XY2CJS19H7.

Preventa
Detection

Booted pushbutton reset

Key release pushbutton reset (key n° 421)

For operating cable length ≤ 30 m		Simple anchor, without indicator light 3 entries of pre-cabled Pg13.5 (4)(5)		with indicator light
Maximum safety level (2)		PL=e, category4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508		
Mechanical life		800 000 cycles		
Shock / vibration resistance		50 gn / 10 gn		
Degree of protection		IP65		
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850, UL NISD and CSA C 22-2 n° 14 (with suffix H7)		
Dimensions W x D x H		201 x 71 x 68 mm		
Operating cable length		≤ 30 m		
Operating cable anchoring point		To right or to left		
Reliability data B_{10d}		4 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Contact	1 NC + 1 NO slow break	XY2CH13250 (4) (5)	XY2CH13450 (4) (5)	XY2CH13253 (4)
	1 NC + 1 NC slow break	XY2CH13270 (4) (5)	XY2CH13470 (4) (5)	XY2CH13273
	2 NC + 1 NO slow break	XY2CH13290 (4) (5)	–	XY2CH13293 (4)

Booted pusbutton reset

Key release pushbutton reset (key n° 421)

For operating cable length ≤ 70 m		Simple anchor, without indicator light 3 plain holes with Pg13,5 or ISO M20 cable entries (3)(5)			
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508			
Mechanical life		60 000 cycles			
Shock / vibration resistance		50 gn / 10 gn			
Degree of protection		IP66			
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850, UL NISD and CSA C 22-2 n° 14 (with suffix H7)			
Dimensions W x D x H		229 x 82 x 142 mm			
Pre-cabled length		≤ 70 m			
Operating cable anchoring point		To left	To right	To left	To right
Reliability data B10d		300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)			
Contact	1 NC + 1 NO slow break	XY2CE2A250 (5)	XY2CE1A250 (5)	XY2CE2A450 (5)	XY2CE1A450
	1 NC + 1 NC slow break	XY2CE2A270 (5)	XY2CE1A270 (5)	XY2CE2A470	XY2CE1A470
	2 NC + 2 NO slow break	XY2CE2A290 (3) (5)	XY2CE1A290 (3) (5)	XY2CE2A490 (3)	XY2CE1A490 (3)

New

Booted pushbutton reset

Key release pushbutton reset (key n° 455)

For pre-cabled length ≤ 2X100 m		Double latching, without indicator lights 3 entries of pre-cabled ISO M20 or cable gland 13 (Pg13,5) (3) (5)			
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508			
Mechanical life		60 000 cycles			
Shock / vibration resistance		50 gn / 10 gn			
Degree of protection		IP66			
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850, UL NISD and CSA C 22-2 n° 14 (with suffix H7)			
Dimensions W x D x H		327.4 x 82 x 142 mm			
Pre-cabled length		>= 2 x 35 m et ≤ 2 x 100 m			
Bellows matter		Nitrile	Silicone	Nitrile	Silicone
Reliability data B_{10d}		300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)			
Contact	2 NC + 2 NO slow break	XY2CEDA290 (3) (5)	XY2CEDC290 (3)	XY2CEDA590 (3)	XY2CEDC590

(2) Use an appropriated and well connected control system (3) With protected LED, supply voltage light 24 V or 130 V, add 6 at the end of the reference (ex. : XY2CE1A290 becomes XY2CE1A296). / With DEL protected, Supply voltage indicator 230 V, add 7 at the end of the reference (ex. : XY2CE1A290 becomes XY2CE1A297) (4)For the threaded entry cable version ISO M20, add H29 at the end of the reference. Ex. : XY2CH13250 becomes XY2CH13250H29. (5) For the threaded entry cable version 1/2" NPT, add H7 at the end of the reference. Ex. : XY2CE2A250 becomes XY2CE2A250H7

Light curtains

Type 2 conforming to IEC 61496-1 & IEC 61496-2

Main features (1)
- b Automatic or Manual Start/Restart selectable by wiring
- b External Device Monitoring (EDM) selectable by wiring
- b Two maximum Sensing Distance selectable by wiring
- b Test function (beam blocked state simulation)
- b Led indicators for status and diagnosis
- b Muting possible with dedicated Safety module XPSLCMUT1160

Maximum safety level achieved by the solution EN ISO 13849-1		PLc/cat2	
Maximum safety level achieved by the solution IEC 61508/IEC 62061		SIL1/SILCL1	
Type IEC 61496-1 & IEC 61496-2		Type 2 Multi-beam, infrared transmission	
Nominal sensing distance (Sn)		0…4 m or 0…12 m selectable	
Resolution (detection capability)		30 mm (Hand detection)	2-3 or 4 (Body Detection)
Number of safety outputs		2 solid-state PNP	
Response time (depending on model)		4.5…22.5 ms	3…3.5 ms
Operating temperature range		-30°C…+55°C	
Degree of protection		IP65 - IP67	
Connection		M12 Connector	
Reliability data		PFHd = 2.04E-8 to 8.98E-8	PFHd = 1.71E-8 to 2.02E-8
Mission time		TM = 20 year	
Height protected (mm)	160	XUSL2E30H016N	–
	260	XUSL2E30H026N	–
	310	XUSL2E30H031N	–
	460	XUSL2E30H046N	–
	510 - 2 beams	–	XUSL2E2BB051N
	610	XUSL2E30H061N	–
	760	XUSL2E30H076N	–
	810 - 3 beams	–	XUSL2E3BB081N
	910	XUSL2E30H091N	–
	910 - 4 beams	–	XUSL2E4BB091N
	1060	XUSL2E30H106N	–
	1210	XUSL2E30H121N	–
	1360	XUSL2E30H136N	–
	1510	XUSL2E30H151N	–
	1660	XUSL2E30H166N	–
	1810	XUSL2E30H181N	–

Type 2 conforming to IEC 61496-1 and 2

Light curtain functions
- b Auto/Manual
- b Monitoring of external switching devices (EDM: External Devices Monitoring),
- b LED display of operating modes
- b Integral muting function.

Maximum safety level achieved by the solution (EN/ISO 13849-1, EN/IEC 62061)			PLc/cat2, SILCL1
Type			Single-beam with infrared emission
Height protected (conforming to prEN 999)			up to 1200 mm (1 to 4 beams)
Nominal sensing distance (Sn)			8 m
Number of circuits	Safety		2“F”
	Additional		4 solid-state
Response time			< 25 ms
Reliability data			PFHd = 4.6E -7 conforming to EN/IEC 61508 PFHd = 5.5E -7 conforming to EN/IEC 61508, with function "muting"
Thru-beam pairs, axially aligned	Pre-cabled L = 5 m	PNP	XU2S18PP340L5 (2)
	M12 connector	PNP	XU2S18PP340D (2)

(1) Also exists in IP69k model, ECOLAB certified.
(2) For viewfindig to 90°, add W in the reference. Example XU2S18PP340L5 becomes XU2S18PP340WL5

Type 4 conforming to IEC 61496-1 & IEC 61496-2

Main features (1)
b Automatic or Manual Start/Restart selectable by wiring
b External Device Monitoring (EDM) selectable by wiring
b Two maximum Sensing Distance selectable by wiring
b Test function (beam blocked state simulation)
b Led indicators for status and diagnosis
b Muting possible with dedicated Safety module XPSLCMUT1160

Maximum Safety level achieved by the solution EN ISO 13849-1		PLe/cat4		
Maximum Safety level achieved by the solution IEC 61508/IEC 62061		SIL3/SILCL3		
Type IEC 61496-1 & IEC 61496-2		Type 4 Multi-beam, infrared transmission		
Nominal sensing distance (Sn)		0…3 m or 1…6 m selectable	0…4 m or 0…12 m selectable	0…4 m or 0…12 m selectable
Resolution (detection capability)		14 mm (Finger detection)	30 mm (Hand detection)	2-3 or 4 beams (Body Detection)
Number of safety outputs		2 solid-state PNP		
Response time (depending on model)		4…23.5 ms	4…22 ms	2.5…3 ms
Operating temperature range		-20°C…+55°C	-30°C…+55°C	
Degree of protection		IP65 - IP67		
Connection		M12 Connector		
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 1.03E-8 to 3.71E-8	PFHd = 7.08E-9 to 2.02E-8	PFHd = 6.89E-9 to 8.21E-9
Mission time		TM = 20 years		
Height protected (mm)	160	XUSL4E14F016N	XUSL4E30H016N	–
	260	–	XUSL4E30H026N	–
	310	XUSL4E14F031N	XUSL4E30H031N	–
	460	XUSL4E14F046N	XUSL4E30H046N	–
	510 - 2 beams	–	–	XUSL4E2BB051N
	610	XUSL4E14F061N	XUSL4E30H061N	–
	760	XUSL4E14F076N	XUSL4E30H076N	–
	810 - 3 beams	–	–	XUSL4E3BB081N
	910	XUSL4E14F091N	XUSL4E30H091N	–
	910 - 4 beams	–	–	XUSL4E4BB091N
	1060	XUSL4E14F106N	XUSL4E30H106N	–
	1210	XUSL4E14F121N	XUSL4E30H121N	–
	1360	XUSL4E14F136N	XUSL4E30H136N	–
	1510	XUSL4E14F151N	XUSL4E30H151N	–
	1660	XUSL4E14F166N	XUSL4E30H166N	–
	1810	XUSL4E14F181N	XUSL4E30H181N	–

Type		Long Range models For hand and body protection	
Nominal sensing distance (Sn)		0…10 m or 3…20 m selectable	0…10 m or 3…20 m selectable
Operating temperature range		-20°C…+55°C	
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 9.13E-9 to 2.29E-8	PFHd = 9.15E-9 to 1.08E-8
Mission time (conforming to modèle)		3…13 ms	2.5 ms
Height protected (mm)	160	XUSL4E30H016L	–
	310	XUSL4E30H031L	–
	460	XUSL4E30H046L	–
	510 - 2 beams	–	XUSL4E2BB051L
	610	XUSL4E30H061L	–
	760	XUSL4E30H076L	–
	810 - 3 beams	–	XUSL4E3BB081L
	910	XUSL4E30H091L	–
	910 - 4 beams	–	XUSL4E4BB091L
	1060	XUSL4E30H106L	–
	1210	XUSL4E30H121L	–
	1360	XUSL4E30H136L	–
	1510	XUSL4E30H151L	–
	1660	XUSL4E30H166L	–
	1810	XUSL4E30H181L	–

(1) Also exists in IP69K model, ECOLAB certified.

Light curtains

Type 4 conforming to IEC 61496-1 & IEC 61496-2

Main features
- b Automatic or Manual Start/Restart selectable by wiring
- b External Device Monitoring (EDM) selectable by wiring
- b Two maximum Sensing Distance selectable by wiring
- b Test function (beam blocked state simulation)
- b Led indicators for status and diagnosis
- b Muting possible with dedicated Safety module (XPSLCMUT1160)

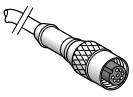
Type		Cascadable models - Master Segments (2)		
Nominal sensing distance (Sn)		0…3 m or 1…6 m selectable	0…4 m or 0…12 m selectable	0…4 m or 0…12 m selectable
Resolution (detection capability)		14 mm (Finger detection)	30 mm (Hand detection)	2-3 or 4 beams (Body Detection)
Number of circuits Safety		2 solid-state PNP		
Response time		Depends on the number and the model of segments used. See the “User Manual” for the calculation		
Operating temperature range		-20°C…+55°C	-30°C...+55°C	
Degree of protection		IP65 - IP67		
Connection		2xM12 Connector		
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 1.27E-8 to 2E-8	PFHd = 9.47E-9 to 1.43E-8	PFHd = 6.89E-9 to 8.21E-9
Mission time		TM = 20 years		
Height protected (mm) (1)	310	XUSL4E14F031NM	–	–
	460	XUSL4E14F046NM	XUSL4E30H046NM	–
	510 - 2 beams	–	–	XUSL4E2BB051NM
	610	XUSL4E14F061NM	XUSL4E30H061NM	–
	760	XUSL4E14F076NM	XUSL4E30H076NM	–
	810 - 3 beams	–	–	XUSL4E3BB081NM
	910	–	XUSL4E30H091NM	–
	910 - 4 beams	–	–	XUSL4E4BB091NM
	1060	–	XUSL4E30H106NM	–

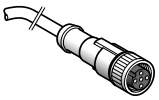
Type		Cascadable models - Slave1 Segments (2)		
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 1.27E-8 to 2E-8	PFHd = 9.47E-9 to 1.43E-8	PFHd = 6.89E-9 to 8.21E-9
Response time		Depends on the number and the models of segments used. See the “User Manual” for the calculation		
Connection		M12 Connector		
Height protected (mm) (1)	310	XUSL4E14F031NS1	–	–
	460	XUSL4E14F046NS1	XUSL4E30H046NS1	–
	510 - 2 beams	–	–	XUSL4E2BB051NS1
	610	XUSL4E14F061NS1	XUSL4E30H061NS1	–
	760	XUSL4E14F076NS1	XUSL4E30H076NS1	–
	810 - 3 beams	–	–	XUSL4E3BB081NS1
	910	–	XUSL4E30H091NS1	–
	910 - 4 beams	–	–	XUSL4E4BB091NS1
	1060	–	XUSL4E30H106NS1	–

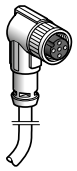
Type		Cascadable models - Slave2 Segments (2)		
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 1.52E-8 to 2E-8	PFHd = 9.47E-9 to 1.43E-8	PFHd = 6.89E-9 to 8.21E-9
Response time		Depends on the number and the models of segments used. See the “User Manual” for the calculation		
Connection		2xM12 Connector		
Height protected (mm) (1)	310		–	–
	460	XUSL4E14F046NS2	XUSL4E30H046NS2	–
	510 - 2 beams	–	–	XUSL4E2BB051NS2
	610	XUSL4E14F061NS2	XUSL4E30H061NS2	–
	760	XUSL4E14F076NS2	XUSL4E30H076NS2	–
	810 - 3 beams	–	–	XUSL4E3BB081NS2
	910	–	XUSL4E30H091NS2	–
	910 - 4 beams	–	–	XUSL4E4BB091NS2
	1060	–	XUSL4E30H106NS2	–

(1) Other heights available on request
(2) Cable sold separately, please refer to Page 65

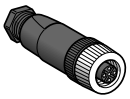
Cabling accessories


XZCP29P11Lpp


XZCP1164Lp


XZCP1264Lp

Type			M12 connector - Pre-wired				
PUR cable length			2 m	5 m	10 m	15 m	25 m
M12 connector 5-pins Female	Straight - Pre-wired	For transmitter	XZCP1164L2	XZCP1164L5	XZCP1164L10	XZCP1164L15	XZCP1164L25
	90° - Pre-wired	For transmitter	XZCP1264L2	XZCP1264L5	XZCP1264L10	XZCP1264L15	XZCP1264L25
M12 connector 8-pins Female	Straight - Pre-wired	For Receiver	XZCP29P11L2	XZCP29P11L5	XZCP29P11L10	XZCP29P11L15	XZCP29P11L25
	90° - Pre-wired	For Receiver	XZCP53P11L2	XZCP53P11L5	XZCP53P11L10	XZCP53P11L15	XZCP53P11L25


XZCC12FDM50B

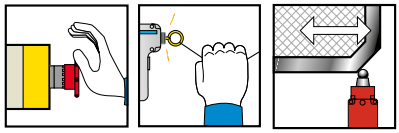

XZCC12FCM50B

Type			M12 connector - with screw terminals
Cable length			2 m
M12 connector 5-pins Female	90° - 5 poles with screw terminals- cable gland	For transmitter	XZCC12FCM50B
	Straight - 5 poles with screw terminals- cable gland	For transmitter	XZCC12FDM50B
M12 connector 8-pins Female	90° - 8 poles with screw terminals- cable gland	For Receiver	XZCC12FCM80B
	Straight - 8 poles with screw terminals- cable gland	For Receiver	XZCC12FDM80B

Type		2xM12 connectors - Jumpers				
PUR cable length		0.3 m	3 m	5 m	10 m	25 m
2 straight M12 - Female/Female connectors - 5 poles	For Master/Slave cascadable	XZCR1111064D03	XZCR1111064D3	XZCR1111064D5	XZCR1111064D10	XZCR1111064D25

Safety modules for monitoring

emergency stops and limit switches



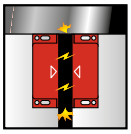
Maximum safety level of the solution attained (EN/ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3							
Number of circuits	Safety	3“F”	3“F”	3“F”	3“F”	7“F”	3“F” + 3“F” time del	2“F” + 1“F” time del	2“F” + 3“F” time del
	Additional	1 solid-state	1 “O”	–	1 “O” + 4 solid-state	2 “O” + 4 solid-state	3 solid-state	–	4 solid-state
Display (number of LEDs)		2	2	3	4	4	11	3	4
Width of housing		22,5 mm	22,5 mm	22,5 mm	45 mm	90 mm	45 mm	22,5 mm	45 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage (1)	24 VDC	–		–	–	–	XPSAV11113P	XPSABV11330P (2)	–
	24 VAC/DC	XPSAC5121P	XPSAXE5120P (2)	XPSAF5130P	XPSAK311144P	XPSAR311144P	–	–	XPSATE5110P
	230 VAC	–	–	–	–	–	–	–	XPSATE3710P

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSAV11113P becomes XPSAV11113).
(2) For a version with spring terminals, replace the letter P with the letter C at the end of the reference (example: XPSAXE5120P becomes XPSAXE5120C)

coded magnetic switches



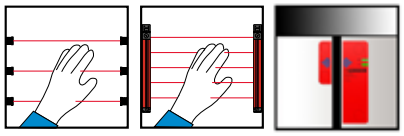
Maximum safety level of the solution attained (EN/ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		2 coded magnetic switches maximum N/C + N/O	6 coded magnetic magnetic coded “O”+“F”	maxi 6 interrupteurs magnetic coded 2“O”
Number of circuits	Safety	2“F”	2“F”	3“F”
	Additional	2 solid-state	2 solid-state	-
Display (number of LEDs)		3	15	3
Width of housing		22,5 mm	45 mm	22,5 mm
Product certification		ECOLAB		

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSDMB1132P (1)	XPSDME1132P (1)	XPSVC1132P (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example XPSDMB1132P becomes XPSDMB1132)

Safety modules for monitoring
contact-less RFID Single and Daisy-chain







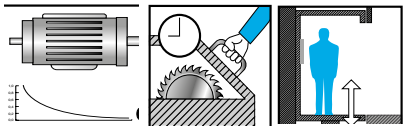
Maximum safety level of the solution attained (EN/ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3			
Number of circuits	Safety	2“F”	3“F”	3“F”	7“F”	2“F”
	Additional	4 solid-state	–	1“O”+4 solid-state	1“O”+4 solid-state	1 statique (status System)
Display (number of LEDs)		4	3	4	4	6
Width of housing		45 mm	22,5 mm	45 mm	90 mm	35 mm
Integral Muting function		Yes	No	No	No	No
For utilisation with		XU2S18*	XUSL2E*, XUSL4E*, XCSRC*0M12, XCSRC*2M12			

Optimum solutions: safety modules (for monitoring 1 safety function)

Supply voltage	24 VDC	XPSCM1144P (1)	–	–	–
	24 VAC/DC	–	XPSAFL5130P (1)	XPSAK311144P (1)	XPSAR311144P (1)

(1) For version with non removable terminal block, delete the letter P from the end of the reference (example: XPSCM1144P becomes XPSCM1144).

zero speed, time delay and lifts






Maximum safety level of the solution attained (EN/ISO 13849-1, EN/IEC 62061)		PL d / Cat. 3, SILCL 2			PL e / Cat. 4, SILCL 3
For monitoring		Motor zero speed condition	Safety time delay		Lifts
Number of circuits	Safety	1“F”+1“O”	1“F” time delay	1“F” pulse	2“F”
	Additional	2 solid-state	2“O”+2 solid-state	2“O”+2 solid-state	2 solid-state
Display (number of LEDs)		4	4	4	4
Width of housing		45 mm	45 mm	45 mm	22.5 mm

Optimum solutions: safety modules (for monitoring 1 safety function)

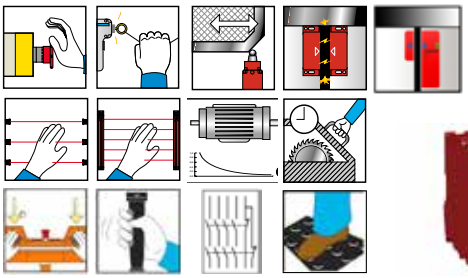
Supply voltage	24 VDC	XPSVNE1142P (1)	–	–	–
	24 VAC/DC	–	XPSTSA5142P (2)	XPSTSW5142P (2)	XPSEDA5142

(1) Motor frequency ≤ 60 Hz.For frequencies ≥ 60 Hz, please refer to the “Safety solution” catalogue.

(2) Removable terminal block version only.

Modules For monitoring

Modular safety controler XPSMCM



Maximum safety level reached by the solution	PL e / Cat. 4, SILCL 3 5 (EN/ISO 13849-1, EN/IEC 62061)					Without safety level
Function	Central Unit (CPU) (standalone) (2)	Extension units input/output	Extension units Outputs Relay	Extension units speed control	Extension units Communication	Extension units communication bus
Case dimensions	22,5 x 99 x 114,5					
References	XPSMCMCP0802* (1)	XPSMCMMX*	XPSMCMER*	XPSMCMEN*	XPSMCMCO0000S*	XPSMCMCO0000*
Main characteristics	- 8 digitals inputs - 2 OSSD pairs 400 mA - 4 Test outputs - 2 Status outputs - 2 EDM inputs	- 8 digitals inputs - 2 OSSD pairs 400 mA - 4 Test outputs - 2 Status outputs - 2 EDM inputs XPSMCMDI* - 8 or 16 digitals inputs - 4 Test outputs XPSMCMDO* - 2 or 4 OSSD pairs 400 mA - 2 or 4 Status outputs - 2 or 4 EDM inputs	- 2 or 4 Safety relay outputs 2F + 1O (without connection to the extension bus) - 1 or 2 EDM inputs XPSMCMRO* - 4 modules Safety relay outputs 2F + 1O (with onnection to the extension bus) - 4 Independent safety relay outputs and 4 EDM outputs corresponding - 0 or 8 Status outputs	- 1 or 2 Inputs for coder (TTL or HTL or Sin/Cos) or 1 or 2 Inputs for proximity sensors - 2 Outputs digitals configurables	- for connection XPSMCMCP0802● to remote modules (≤ 50 m) - creation to 6 islands, with full length of 250 m and maximum 50 m between 2 communication modules	- for data exchange and network systems diagnosis or field-bus - available interfaces (CAN open, Ethernet IP, Modbus RTU, Modbus TCP, Profibus DP et USB)

(1) Configuration, Programming, simulation and documentation by means of an intuitive software (SoSafe)

(2) Minimal configuration : 1 safety controler - maximal configuration : 1 XPSMCMCP0802* connected to 14 extension modules via the backplane extension connectors --> Max 128 inputs + 16 OSSD pairs + 32 Status outputs

More informations on schneider-electric.com

Explosive atmospheres

A reference for installations in ATEX Dust explosive atmospheres.

What is an explosive atmosphere according to the Directive?

It is the mixing with air, in atmospheric conditions, of flammable substances in the form of gas, vapour, mist or dust which, in the event of combustion, spreads throughout the non burning mix.

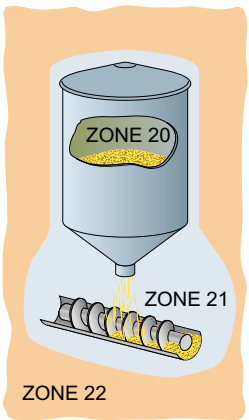
Implementation of European Directives

> The Dust zones

p Zone 20: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air, either permanently, for long periods or frequently.

p Zone 21: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air during normal operation occasionally.

p Zone 22: area where an explosive atmosphere in the form of combustible clouds of dust in the air is unlikely to occur during normal operation but, if it does occur, it is only for a short period.



The products in this catalogue are certified by a European Union Commission notified body

A selection of certified products, conforming to the Directive ATEX 2014/34/UE and IEC60079-0 / IEC60079-31, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.

Main sectors of activity subject to a higher risk of explosion or fire

Flour mills

Wood and aluminium workshops

Bagging

Grain silos

Grain drying areas

Bulk conveying

Limit switches

Miniature, fixing by the body

Limit switch type With head for movement		XCMD metal, pre-cabled Linear (plunger)			
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31			
Zone D (dust)		21 - 22			
Marking		Ex tb IIIC T85°C Db IP66/67			
Type of operator		Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Retractable steel roller lever plunger
Mechanical durability (millions of operating cycles)		10			
Actuation speed		0,5 m/s			
Switches conforming to standard IEC947-5-1 section 3		⊖			
Temperature range		– 20...+ 60°C			
Degree of protection (conforming to IEC 60529)		IP66 and IP67			
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; C300 (Ue= 240 V, Ie= 0,75 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)			
Short-circuit protection		By 6 A cartridge fuse type gG (gl)			
Cable entry		Pre-cabled, adjustable direction, length = 5 m			
Fixing centres		20 mm			
Body dimensions, W x D x H		30 x 16 x 50 mm			
References	2NC+2NO snap action	XCMD4110L5EX	XCMD4111L5EX	XCMD4102L5EX	XCMD4124L5EX

Compact, fixing by the body

Limit switch type With head for movement		XCKD metal conforming to standard EN 500047 Linear (plunger)				
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
Zone D (dust)		21 - 22				
Marking		Ex tb IIIC T85°C Db IP66/67				
Type of operator		Metal end plunger	Metal end plunger with elastomer boot	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever plunger, vert. actuation in 1 direct.
Mechanical durability (millions of operating cycles)		15		10	15	
Actuation speed		0,5 m/s			1 m/s	
Switches conforming to standard IEC947-5-1 section 3		⊖				
Temperature range		– 20...+ 60°C				
Degree of protection (conforming to IEC 60529)		IP66 and IP67				
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
Short-circuit protection		By 6 A cartridge fuse type gG (gl)				
Cable entry		1 entry fitted with ISO M16 cable gland				
Fixing centres		20 mm				
Body dimensions, W x D x H		31 x 30 x 65 mm				
References	2NC+1NO snap action	XCKD3910P16EX	XCKD3911P16EX	XCKD3902P16EX	XCKD3921P16EX	XCKD3927P16EX

Other characteristics: please refer to the “Detection for OsiSense automation solutions” catalog”

Miniature, fixing by the head

XCMD metal, pre-cabled						
Rotary (lever)				Linear (plunger)		
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31						
21 - 22						
Ex tb IIIC T85°C Db IP66/67						
Steel roller lever	Thermoplastic roller lever	Roller lever with bal bearing mounted roller	Variable length Thermoplastic Roller lever	M12 with Metal end plunger	M16 with Metal end plunger with elastomer boot	M12 with steel roller plunger
10						
1,5 m/s				0,5 m/s		0,1 m/s
⊖						
– 20...+ 60°C						
IP66 and IP67						
AC15; C300 (Ue= 240 V, Ie= 0,75 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)						
By 6 A cartridge fuse type gG (gl)						
Pre-cabled, adjustable direction, length = 5 m						
20 mm				M12 x 1	M16 x 1	M12 x 1
30 x 16 x 50 mm						
XCMD4116L5EX	XCMD4115L5EX	XCMD4117L5EX	XCMD4145L5EX	XCMD41F0L5EX	XCMD41G1L5EX	XCMD41F2L5EX

Compact, fixing by the head

XCKD metal conforming to standard EN 500047							
Linear (plunger)	Rotary (lever)				Multi-directional	Linear (plunger)	
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31							
21 - 22							
Ex tb IIIC T85°C Db IP66/67							
Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Steel roller thermoplastic Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker"	M18 Metal end plunger	M18 with steel roller plunger
15	10				5	10	
1 m/s	1,5 m/s				1 m/s	0,5 m/s	
⊖					–	⊖	
– 20...+ 60°C							
IP66 and IP67							
AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)							
By 6 A cartridge fuse type gG (gl)							
1 entry fitted with ISO M16 cable gland							
20 mm						M18 x 1	
30 x 16 x 50 mm							
XCKD3928P16EX	XCKD3918P16EX	XCKD3939P16EX	XCKD3945P16EX	XCKD3949P16EX	XCKD3906P16EX	XCKD39H0P16EX	XCKD39H2P16EX

Limit switches

Classic, fixing by the body

Limit switch type With head for movement	XCKM metal, 3 cable entries Linear (plunger)			Rotary (lever)	Multi-directional
Conformity	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
Zone D (dust)	21 - 22				
Marking	Ex tb IIIC T85°C Db IP66				
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever plunger, horiz. actuation in 1 direct.	Thermoplastic roller lever	"Cat's whisker"
Mechanical durability (millions of operating cycles)	20				10
Actuation speed	0,5 m/s		1,5 m/s		0,5 m/s
Switches conforming to standard IEC947-5-1 chapitre 3	⊖				–
Temperature range	– 20...+ 60°C				
Degree of protection (conforming to IEC 60529)	IP66				
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC15; B300 (Ue= 240 V, Ie= 1,5 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
Short-circuit protection	By 6 A cartridge fuse type gG (gl)				
Cable entry	3 tapped entries for ISO M20 cable gland (1)				
Fixing centres	41 mm				
Body dimensions, W x D x H	63 x 30 x 64 mm				
References 2NC+1NO snap action	XCKM3910H29EX	XCKM3902H29EX	XCKM3921H29EX	XCKM3915H29EX	XCKM3906H29EX

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Application - hoisting, handling, conveying

Limit switch type With head for movement	XCKMR metal, 3 cable entries Rotary (lever)	
Conformity	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31	
Zone D (dust)	21 - 22	
Marking	Ex tb IIIC T85°C Db IP66	
Type of operator	Metal rod levers, "crossed"	Metal rod levers, "crossed" reversed head
Mechanical durability (millions of operating cycles)	2	
Actuation speed	1,5 m/s	
Switches conforming to standard IEC947-5-1 section 3	⊖	
Temperature range	– 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP66	
Rated operational characteristics (conforming to EN/IEC 60947-5-1)	AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 125 V, Ie= 0,55 A)	
Short-circuit protection	By 10 A cartridge fuse type gG (gl)	
Cable entry	3 tapped entries for ISO M20 cable gland (1)	
Fixing centres	61,5 mm	
Body dimensions, W x D x H	118 x 59 x 77 mm	
2 (NC+NC) staggered, slow break contacts	XCKMR54D1H29EX	XCKMR54D2H29EX
2 (NC+NO) snap action contacts, both actuated in each direction	–	
2 (NC+NO) snap action contacts, 1 actuated in each direction	–	
2 CO staggered snap action contacts	–	

(1) 2 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.

Limit switches

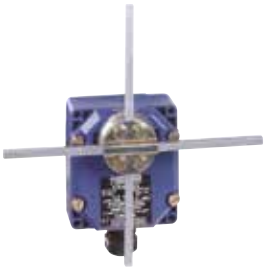
Industrial, fixing by the body






XCKJ metal, fixed body, conforming to standard EN 50041					
Linear (plunger)		Rotary (lever)			
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31					
21 - 22					
Ex tb III C T85°C Db IP66					
Metal end plunger	Steel roller plunger	Steel roller lever	Thermoplastic roller lever	Variable length thermoplastic roller lever	Polyamide rod lever, Ø 6 x 200 mm
30	25	30		20	
0,5 m/s	1 m/s	1,5 m/s			
⊖				–	
– 20...+ 60°C					
IP66					
AC15; B300 (Ue = 240 V, Ie = 1,5 A)/DC13; R300 (Ue = 250 V, Ie = 0,1 A)					
By 6 A cartridge fuse type gG (gI)					
1 entry fitted with ISO M20 cable gland					
30 x 60 mm					
40 x 44 x 77 mm					
XCKJ3961H29EX	XCKJ3967H29EX	XCKJ390513H29EX	XCKJ390511H29EX	XCKJ390541H29EX	XCKJ390559H29EX




XCR metal					
Rotary (lever)				Conveyor belt shift monitoring switches	
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31					
21 - 22					
Ex tb III C T85°C Db IP66					
Square (6 mm) rod lever, spring return to off position	Thermoplastic roller (Ø 30 mm) lever, spring return to off position	Large thermoplastic roller (Ø 50 mm) lever, spring return to off position	Metal rod levers, "crossed", stay put	Galvanised steel operating lever	Stainless steel operating lever
10				0,3	
1,5 m/s					
⊖				–	
– 20...+ 60°C					
IP66					
AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)					
By 10 A cartridge fuse type gG (gI)					
1 entry fitted with n° 13 cable gland					
85 x 75 mm					
85 x 75 x 95 mm					
–					
XCRA111EX	XCRA121EX	XCRA151EX	XCRE181EX (2)	–	
XCRB111EX	XCRB121EX	XCRB151EX	XCRF171EX (3)	–	
–				XCRT115EX	XCRT215EX

(2) "Crossed" rods (3) "T" rods

Electromechanical pressure & vacuum switches

Adjustable differential, regulation between 2 thresholds

Type		Vacuum switches and vacu-pressure switches with setting scale		
Size		- 1 bar	- 0,2 bar	5 bar
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb III C T85°C Db IP66		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminals, 1 entry fitted with ISO M20 cable gland		
Temperature range		– 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		–0,14…–1 bar	–0,02…–0,2 bar	–0,5…5 bar
Body dimensions, W x D x H		55 x 77,5 x 158 mm	150 x 155,5 x 145 mm	113 x 35 x 75 mm
Fluids controlled		Oil, water, air, up to +70°C	Oil, air, up to +160°C	Oil, water, air, up to +70°C
Possible differential	Min. at low setting	0,13 bar	0,018 bar	0,5 bar
(subtract from PH	Min. at high setting	0,13 bar	0,018 bar	0,5 bar
to give PB) (1)	Max. at high setting	0,8 bar	0,18 bar	6 bar
1 CO single pole, snap action contact		XMLBM02V2S12EX	XMLBM03R2S12EX	XMLBM05A2S12EX

(1) For XMLBM02V2S12EX and XMLBM03R2S12EX vacuum switches add to PB to give PH

Type		Pressure switches with setting scale		
Size		10 bar	20 bar	35 bar
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb III C T85°C Db IP66		
Fluid connection		1/4" BSP female		
Electrical connection		Screw terminal, 1 entry fitted with ISO M20 cable gland		
Temperature range		– 20...+ 60°C		
Degree of protection		IP66		
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)		
Short-circuit protection		By 10 A cartridge fuse type gG (gl)		
Setting range of upper limit (PH)		0,7…10 bar	1,3…20 bar	3,5…35 bar
Body dimensions, W x D x H		35 x 75 x 113 mm		
Fluids controlled		Oil, water, air, up to +70°C		
Possible differential	Min. at low setting	0,57 bar	1 bar	1,7 bar
(subtract from PH	Min. at high setting	0,85 bar	1,6 bar	2,55 bar
to give PB)	Max. at high setting	7,5 bar	11 bar	20 bar
1 CO single pole, snap action contact		XMLB010A2S12EX	XMLB020A2S12EX	XMLB035A2S12EX

Other characteristics: please refer to the "Detection for OsiSense automation solutions" catalog.

Pressure switches with setting scale				
0,05 bar	0,35 bar	1 bar	2,5 bar	4 bar
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31				
21 - 22				
Ex tb III C T85°C Db IP66				
1/4" BSP female				
Screw terminals, 1 entry fitted with ISO M20 cable gland				
– 20...+ 60°C				
IP66				
AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)				
By 10 A cartridge fuse type gG (gl)				
0,026…0,05 bar	0,045…0,35 bar	0,05…1 bar	0,3…2,5 bar	0,25…4 bar
200 x 204 x 145 mm	110 x 110 x 162 mm		55 x 77,5 x 158 mm	55 x 77,5 x 158 mm
Oil, air, up to +160°C			Oil, water, air, up to +70°C	
0,0014 bar	0,042 bar	0,04 bar	0,16 bar	0,2 bar
0,004 bar	0,05 bar	0,06 bar	0,21 bar	0,25 bar
0,04 bar	0,3 bar	0,75 bar	1,75 bar	2,4 bar
XMLBL05R2S12EX	XMLBL35R2S12EX	XMLB001R2S12EX	XMLB002A2S12EX	XMLB004A2S12EX

(1) For XMLBM02V2S12EX and XMLBM03R2S12EX vacuum switches add to PB to give PH

Pressure switches with setting scale			
70 bar	160 bar	300 bar	500 bar
Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31			
21 - 22			
Ex tb III C T85°C Db IP66			
1/4" BSP female			
Screw terminals, 1 entry fitted with ISO M20 cable gland			
– 20...+ 60°C			
IP66			
AC15; B300 (Ue= 240 V, Ie= 1,5 A; Ue= 120 V, Ie= 3 A)/DC13; R300 (Ue= 250 V, Ie= 0,1 A)			
By 10 A cartridge fuse type gG (gl)			
7…70 bar	10…160 bar	22…300 bar	30…500 bar
35 x 75 x 113 mm			
Oil, up to +160°C			
4,7 bar	9,3 bar	19,4 bar	23 bar
8,8 bar	20,8 bar	37 bar	52,6 bar
50 bar	100 bar	200 bar	300 bar
XMLB070D2S12EX	XMLB160D2S12EX	XMLB300D2S12EX	XMLB500D2S12EX

Inductive proximity sensors

Discrete, metal case


M12


M18


M30

Sensor type		3-wires DC PNP, flush mountable in metal		
Conformity		Directive ATEX 2014/34/UE, EN 60079-0, EN 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb III C T90°C Db IP67		
Nominal sensing distance Sn		4 mm	8 mm	15 mm
Operating zone		0...3,2 mm	0...6,4 mm	0...12 mm
Temperature range		– 20...+ 60°C		
Degree of protection (conforming to IEC 60529)		IP67		
Connection		Pre-cabled PvR, L= 10 m		
Dimensions		M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)		10...58 VDC		
Switching capacity, max		200 mA		
Overload and short-circuit protection		Yes		
LED output state indicator		Yes		
Voltage drop, closed state at I nominal		≤ 2 V		
Switching frequency		2500 Hz	1000 Hz	500 Hz
References	NO function	XS612B1PAL10EX (1)	XS618B1PAL10EX (1)	XS630B1PAL10EX (1)
	NC function	XS612B1PBL10EX	XS618B1PBL10EX	XS630B1PBL10EX

(1) for a 2 meters pre-cabled version, replace ... L10EX by ... L2EX

Discrete, plastic case

Sensor type		DC 4 wire PNP	
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31	
Zone D (dust)		21 - 22	
Marking		Ex tb III C T85°C Db IP65/67	
Nominal sensing distance Sn		20 mm flush mountable	40 mm No flush mountable
Operating zone		16 mm	32 mm
Temperature range		– 25...+ 60°C	
Degree of protection (conforming to IEC 60529)		IP65/67	
Connection		1 tapped entry for M20 x 1,5 for cable gland supplied	
Dimensions		40 x 40 x 117 mm + cable gland	
Supply voltage (including ripple)		10...58 VDC	
Switching capacity, max		200 mA	
Overload and short-circuit protection		Yes	
LED output state indicator		Yes	
Voltage drop, closed state at I nominal		≤ 2 V	
Switching frequency		300 Hz	
Niveau Safety		SIL2	
Reliability data Safety		MTTFd = 1546 years, SFF = 92%, DC = 75% with appropriate safety controler	
References	Function NC + NC	XS8C4A1PCP20EX	XS8C4A4PCP20EX

Inductive Proximity sensors

Rotation monitoring, metal case

M30

plastic case

Sensor type	3-wires DC PNP, flush mountable in metal		U 26 x 26 x 13
Conformity	Directive ATE X 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)	21 - 22		
Marking	Ex tb III C T90°C Db IP67		
Nominal sensing distance Sn	10 mm		
Operating zone	0…8 mm		
Temperature range	– 20...+ 60°C		
Degree of protection (conforming to IEC 60529)	IP67		
Connection	Pre-cabled PvR, L= 2 m		Connector M12 déporté
Dimensions	M30 x 81 mm		26 x 26 x 13 mm
Supply voltage (including ripple)	10...58 VDC		10...36 VDC
Switching capacity, max	200 mA		
Overload and short-circuit protection	Yes		
LED output state indicator	Yes		
Voltage drop, closed state at I nominal	≤ 2 V		
Version	Slow	Fast	Fast
Maximum speed of passing object	6000 impulses/minute	48000 impulses/minute	48000 impulses/minute
Adjustable frequency range	6…150 impulses/minute	120…3000 impulses/minute	6…6000 impulses/minute
References NC function	XSAV11373EX (2)	XSAV12373EX (2)	XS9E11RPBL01MEX

(2) For pre-cabled version of 10 meters, replace ... 3EX by ... 3L10EX

Analog, metal case

M12

M18

M30

Sensor type	Analogue, 2-wires DC, flush mountable in metal		
Conformity	Directive ATEX 2014/34/UE, EN 60079-0, EN 60079-31		
Zone D (dust)	21 - 22		
Marking	Ex tb III C T90°C Db IP67		
Nominal sensing distance Sn	2 mm	5 mm	10 mm
Operating zone	0,2...2 mm	0,5…5 mm	1...10 mm
Temperature range	– 20...+ 60°C		
Degree of protection (conforming to IEC 60529)	IP67		
Connection	Pre-cabled PvR, L= 2 m		
Dimensions	M12 x 50 mm	M18 x 60 mm	M30 x 60 mm
Supply voltage (including ripple)	10…38 VAC/DC		
Linearity error	10%		
Operating frequency	1500 Hz	500 Hz	300 Hz
References Output 4…20 mA	XS1M12AB120EX	XS1M18AB120EX	XS1M30AB120EX

Other characteristics: please refer to the “Detection for OsiSense automation solutions” catalog

Namur inductive sensors
Metal or plastic cases

certified ATEX only





M5 M8 M12 M18 M30

Sensor type	2-wires DC, flush mountable in metal					
Case type	Metal		Plastic			
Conformity	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-11					
Zone D dust	20 (to couple with an intrinsic safety unit)					
EC type-examination certificate number / marquage	Ex II 1D-Ex ia III C T85°C Da IP66/67					
Nominal sensing distance Sn	0,8 mm	1,5 mm		2 mm	5 mm	10 mm
Operating zone	0…0,6 mm	0…0,8 mm	0…1,2 mm	0…1,6 mm	0…4 mm	0…8 mm
Temperature range	- 20...+ 60°C					
Degree of protection (conforming to IEC 60529)	IP67					
Connection	Pre-cabled PvR, L= 2 m					
Dimensions	M5 x 30 mm	M8 x 26,5 mm		M12 x 38,5 mm	M18 x 41 mm	M30 x 43,5 mm
Supply voltage (including ripple)	7…12 VDC					
Switching capacity, max	≤ 1 mA					
Overload and short-circuit protection	Yes					
Residual current, open state	≥ 3 mA					
Switching frequency	1500 Hz		1000 Hz	800 Hz	500 Hz	300 Hz
References Function NC	XSMN08122EX	XSAN01122EX	XSPN01122EX	XSPN02122EX	XSPN05122EX	XSPN10122EX

Plastic case

certified ATEX only




M12 M18 M30 D shape

Sensor type	2-wires DC, no flush mountable in metal			
Case type	Plastic			
Conformity	Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-11			
Zone D dust	20			
EC type-examination certificate number / marquage	Ex II1 D-Ex ia IIi C T85°C Da IP66/67			
Nominal sensing distance Sn	4 mm	8 mm	15 mm	40 mm
Operating zone	0…3,2 mm	0…6,4 mm	0…12 mm	0…32 mm
Temperature range	– 20...+ 60°C			
Degree of protection (conforming to IEC 60529)	IP67			
Connection	Pre-cabled PvR, L= 2 m			
Dimensions	M12 x 38,5 mm	M18 x 41 mm	M30 x 43,5 mm	100x80x40 mm
Supply voltage (including ripple)	7…12 VDC			
Switching capacity, max	≤ 1 mA			
Overload and short-circuit protection	Yes			
LED output state indicator	Yes			
Residual current, open state	≥ 3 mA			
Switching frequency	400 Hz	300 Hz	200 Hz	25 Hz
References Function NC	XSPN04122EX	XSPN08122EX	XSPN15122EX	XSDN401229EX

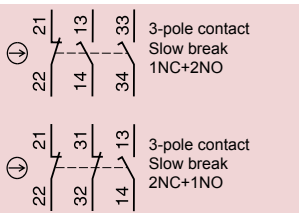
(1) Flush mountable in metal

Other characteristics: please refer to the “Detection for OsiSense automation solutions” catalog.

Intrinsic safety unit
Processing unit

Unit type		"Discrete"					
		Inputs		Relay inputs/outputs			
Conformity		Directive ATEX 2014/34/UE, EN 60079-0, EN 60079-11,					
Zone D dust		Out-of-zone mounting (to couple with products for zone 20, 21 or 22)					
EC type-examination certificate number / marquage		Ⓔx II (1) GD-[Ex ia Ga] II C / [Ex ia Da] III C					
Zone 20	Number of input channels	2	4	2			
	Number of output channels	–		1			
	Type of output channels, load excitation	–		Low consumption solenoid valve < 7 mA –			
Out-of-zone	Number of copy channels	2	4	2			
	Switching voltage	5…230 VAC; 5…24 VDC					
	Switching current	10 mA…0,5 A (AC); 10 mA…0,5 A, L/R 48 ms (DC)					
Temperature range		– 20...+ 60°C					
Connection		By screw removable terminals					
Fixing		On DIN rail 35 mm					
Dimensions LxPxH		29,5 x 120 x 90 mm					
Supply voltage (including ripple)		24 VDC (0,95…1,1 Un)					
Power consumption		5 W					
References		NY320N2RB1	NY340N4RB1	NY321L2RB1			

Safety switches
and actuators



Position of the contact when the actuator is in the head of the switch

Metal switches type With head		XCSA/B/C, 1 entry fitted with ISO M20 cable gland Without locking	Interlocking, unlocking by button	Interlocking, unlocking by key lock
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31		
Zone D (dust)		21 - 22		
Marking		Ex tb IIIC T85°C Db IP67		
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061		
Maximum safety level (mini → maxi)		0,1 m/s → 0,5 m/s		
Degree of protection		IP67		
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC 15, A 300 / DC 13, Q 300		
Temperature range		-20…+60°C		
Dimensions (body+head) W x D x H		40 x 44 x 113,5 mm	52 x 44 x 113,5 mm	52 x 44 x 113,5 mm
Short-circuit protection		By 10 A cartridge fuse type gG (gI)		
Reliability data B_{10d}		5 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Complete switch	1NC+2NO	XCSA502EX →	XCSB502EX →	XCSC502EX →
	2NC+1NO	XCSA702EX →	XCSB702EX →	XCSC702EX →

Accessories

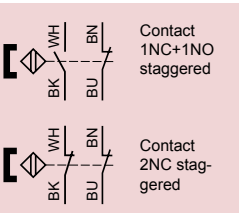

Straight actuator


Wide actuator


Pivoting actuator

For safety switches XCSA/B/C	Actuators			Door lock
References	XCSZ01	XCSZ02	XCSZ03	XCSZ05

Coded magnetic



Contact states shown are whilst the magnet is in front of the switch

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Plastic switches type		XCSDM coded magnetic, Pre-cabled, L = 2 m Rectangular without LED
Conformity		Directive ATEX 94/9/CE, EN 60079-0, EN 60079-18, EN 60079-31, EN 1088, EN/ISO 13849-1
Zone		0-1-2/20-21-22*(according to protection mode, mD or ia).
Marking		Ex II1 D-Ex ia IIIB Da T135°C / Ex II2 D-Ex tb IIIC T135°C Db IP67
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 et SIL CL3 conforming to EN/IEC 62061
Switches for actuation		Face to face, face to side, side to side
Degree of protection		IP66 + IP67
Type of contact		REED
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		Ue = 24 VDC, Ie = 100 mA
Temperature range		-20…+60°C
Dimensions W x D x H		16 x 7 x 51 mm
Operating zone		Sao = 5 / Sar = 15
Short-circuit protection		By 10 A cartridge fuse type gG (gI)
Reliability data B_{10d}		50 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)
Switch with coded magnet	1NC+1NO staggered	XCSDMC5902EX (2)
	2NC staggered	XCSDMC7902EX (2)

(1) Using an appropriate and correctly connected control system. (2) For pre-cabled version of 10 meters, replaced... 2EX by ... 10EX

Emergency stops

Emergency stop rope pull switches

For pre-cabled length to 50 m		Latching, without indicator light			
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31			
Zone D (dust)		21 - 22			
Marking		Ex tb IIIC T85°C Db IP65			
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061			
Mechanical durability (millions of operating cycles)		60 000 cycles			
Temperature range		– 20...+ 60°C			
Degree of protection		IP65			
Connection		3 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland			
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)			
Short-circuit protection		By 10 A cartridge fuse type gG (gl)			
Dimensions, W x D x H		229 x 82 x 142 mm		229 x 105 x 142 mm	
Reset		By booted pushbutton		By key release pushbutton (key n° 421)	
Operating cable length		≤ 70 m		≤ 70 m	
Operating cable anchoring point		To left	To right	To left	To right
Reliability data B_{10d}		300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)			
References	NC+NO slow break	XY2CE2A250EX	XY2CE1A250EX	XY2CE2A450EX	XY2CE1A450EX
	NC+NC slow break	XY2CE2A270EX	XY2CE1A270EX	XY2CE2A470EX	XY2CE1A470EX

(1) Using an appropriate and correctly connected control system.

For pre-cabled length 2x35 to 2x100 m		TO accrochage sans voyant de signalisation	
Conformity		Directive ATEX 2014/34/UE, EN/IEC 60079-0, EN/IEC 60079-31	
Zone D (dust)		21 - 22	
Marking		Ex tb C T85°C Db IP65	
Maximum safety level (1)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061	
Mechanical durability (millions of operating cycles)		10 000 cycles	
Temperature range		– 20...+ 60°C	
Degree of protection		IP65	
Connection		3 entries fitted with blanking plugs, 1 entry fitted with ISO M20 cable gland	
Rated operational characteristics (conforming to EN/IEC 60947-5-1)		AC15; A300 (Ue= 240 V, Ie= 3 A)/DC13; Q300 (Ue= 250 V, Ie= 0,27 A)	
Short-circuit protection		By 10 A cartridge fuse type gG (gl)	
Dimensions, W x D x H		285 x 82 x 142 mm	285 x 106 x 142 mm
Reset		By booted pushbutton	By key
Operating cable length		2 x100 m	2 x100 m
Operating cable anchoring point		To left	To left
Reliability data B_{10d}		300 000 (value given for a service life of 20 years, limited by mechanical or contact wear)	
References	NC+NO slow break	XY2CEDA290EX	XY2CEDA490EX

Notes

Notes

Notes

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