Telemecanique Sensors
The essential guide of Detection

Simply easy!™

VAN EGMOND GROEP

Telemecanique Sensors

Telemecanique Sensors

Simply easy!™

Telemecanique brand has a 9 decades history manufacturing factory automation and safety sensors. Telemecanique wide ranges are most reliable and robust hence second to none on the market.

Our aim is to simplify the life of our customers, allowing them to concentrate on their core added value and machine performance.
This is why Telemecanique Sensors design and manufacture their products based on the following values:

- Simplicity and modularity
- Easy to choose and select
- Easy to install and maintain
- Expert services to share our know-how

Connect with the experts

- A dedicated Sales team: trained and experienced sales professionals are available to help you with any sensing application.
- Telemecanique Sensors team: are available for pre and post sales support. We become an extension of your team and we share our expertise with you.

www.tesensors.com

Detection

Telemecanique Sensors
Simply easy!™

• Safety switches

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

Preventa™ XY2CJ, the emergency stop rope pull switches. A solution easy to reach and trigger from everywhere in the work zone ▶

• Pressure sensors

◀ Easily control machine pressure with the new **OsiSense™ XMLR**, the intuitive pressure switch that combines high performance and maximum ease of use.

OsiSense™ ZMLP, the simple switch with display that can be linked to a separate pressure transmitter, delivering a clear view of accurate pressure information even if the conduit runs in a hard to access location. ▶

• Radio Frequency Identification (RFID)

◀ **The OsiSense™ XG** identification system makes it possible to perform object traceability, identification (tracking) and access control functions.

The new Ethernet smart antenna **OsiSense™ XGCS850C201** enables up to 32 smart antennas to be daisy-chained.

• Photo Electric sensors

◀ **Osisense™ XUY** Roller Sensors, to be easily and fully integrated into your rollers conveyors system. New shape and easier fixation making it more adaptable for any case.

OsiSense™ XUK8T™ compact ▶ photo-electric laser sensor enabling reliable detection with high accuracy background suppression long distance, and for distance measurement, using "Time of Flight" (light velocity) (launch Q3 2014).

◀ **OsiSense™ XUVU**, the new ultrasonic Fork thru-beam for detection of transparent labels

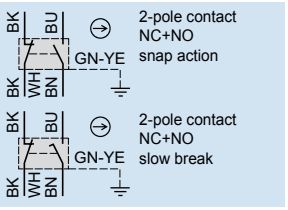
OsiSense™ XUX9ARCNT16, a reliable ▶ photo electric sensor specially designed to detect proximity between two traveling overhead cranes "anti-collision". A strong red beam is highly visible on the reflector to allow easy and fast setting.

OsiSense XC — Limit switches

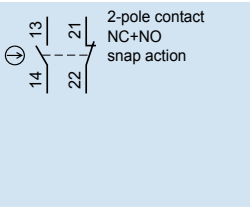
Compact and miniature, complete switches

(variable composition, see pages 6-7)

XCMD



XCKT



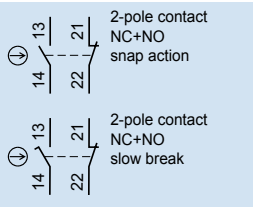
Miniature XCMD metal, pre-cabled; fixing by the body or by the head

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		IP 66 and IP 67					
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC-15; B300 (Ue = 240 V, Ie = 1.5 A) / DC-13; R300 (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	Cable	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	NC+NO 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 with the symbol because they are single-pole C/O.
⊖ Positive opening operation.

ISO entry (to EN 50262)

XCKP/XCKD



⊖ Positive opening operation.

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 - GOST				
Degree of protection conforming to IEC 60529		IP 66 and IP 67				
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
Cable entry		1 tapped entry for ISO M16 x 1.5 cable 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 cable entries, replace P16 by G11. Example: XCKD2110**P16** becomes XCKD2110**G11**.
For other cable 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	15	5	5
0,5	0.1	1	0.5	0.5	1.5	1	1	1
⊖	⊖	–	⊖	⊖	⊖	⊖	–	–
			CE - CSA - CCC - GOST					
			IP 66 and IP 67					
			AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
20	M12 x 1	20	20 or 40					
			58 x 30 x 51					
			2 tapped entries for ISO M16 x 1.5 cable gland (2)					
XCMD2124L1	**XCMD21F2L1**	**XCMD2106L1**	**XCKT2110P16**	**XCKT2102P16**	**XCKT2118P16**	**XCKT2145P16**	**XCKT2121P16**	**XCKT2106P16**
XCMD2524L1	**XCMD25F2L1**	**XCMD2506L1**	**–**	**–**	**–**	**–**	**–**	**–**
XCMD2124C12	**XCMD21F2C12**	**XCMD2106C12**	**–**	**–**	**–**	**–**	**–**	**–**
XCMD2124M12	**XCMD21F2M12**	**XCMD2106M12**	**–**	**–**	**–**	**–**	**–**	**–**

(2) For Pg 11 cable entries, replace P16 by G11. Example: XCKT2110**P16** becomes XCKT2110**G11**.

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 - GOST				
				IP 66 and IP 67				
				AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)				
				1 tapped entry for ISO M20 x 1.5 cable 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 cable entries, replace P20 by G13. Example: XCDR2110**P20** becomes XCDR2110**G13**.
For other cable entries, see customised assembly on page 7.

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**

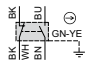
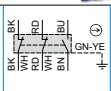
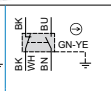
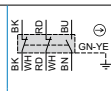
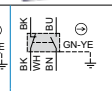
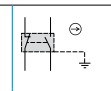
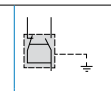
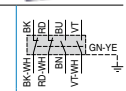
Metal rotary heads and levers

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)	⊖ **ZCY25** (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	 2-pole NO+NC Snap action	 2-pole NC+NO Snap action Connector 5 pin	 1-pole 1C/O Snap action Connector 4 pin	 4-pole 2NC+2NO Snap action
Reference of metal body		**ZCMD21**	**ZCMD39**	**ZCMD25**	**ZCMD37**	**–**	**ZCMD21C12**	**ZCMD21M12**	**–**
Cable	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: ZCMD**21**L1 becomes ZCMD**25**L1

Connection of miniature bodies

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

⊖ Positive opening operation.

(1) For PVC cable see page 47

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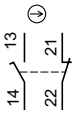
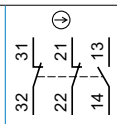
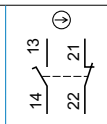
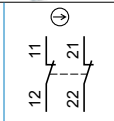
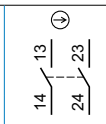
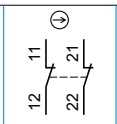
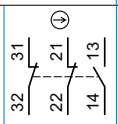
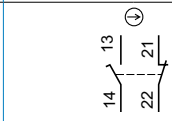
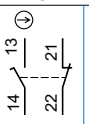
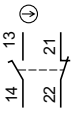
Other versions: **please consult our Customer Care Centre.**

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 thermo-plastic 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	 2-pole NC+NO Slow break
								Connector 5-pin	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**	**ZCT21P16** (2)	**ZCT25P16** (2)

(2)

ZCT Pg 11 cable gland versions: replace the suffix P16 by G11.
Example: ZCT21**P16** becomes ZCT21**G11**

ZCT 1/2" NPT versions: replace the suffix P16 by N12 (adaptor).
Example: ZCT21**P16** becomes ZCT21**N12**

1 Cable entry 1/2" NPT
1 Cable entry Pg11

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**

Option: PUR pre-wired M12 connector, L = 2 m (1)

5-pin	4-pin
	
XZCP1164L2	**XZCP1141L2**

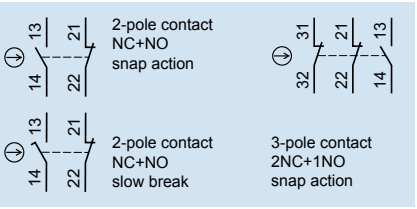
(1) For PVC cable see page 47

Limit switches

Classic - XCKM, XCKL, complete switches

ISO entry (to EN 50262)

XCKM



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 - GOST - C-TICK - BV				
Degree of protection conforming to IEC 60529		IP 665				
Rated operational characteristics (conforming to EN IEC 60947-5-1)		AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (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 cable entries delete the reference suffix H29. Example: XCKM110**H29** becomes XCKM110.
⊖ Positive opening operation.

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

Type XCKM metal, 3 cable 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 XCKL1**H7**

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**

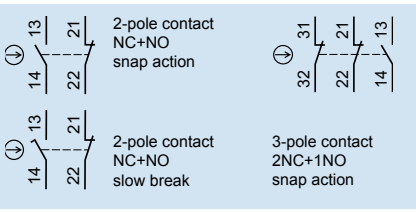
(2) Adjustable throughout 360° in 5° steps, or in 90° steps by reversing the notched washer.

(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

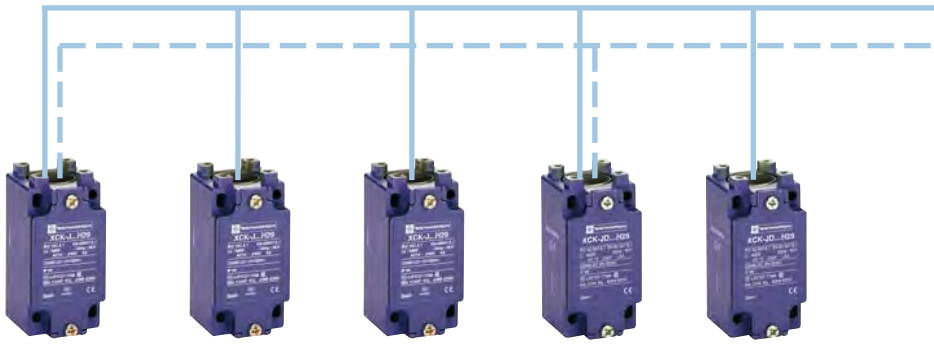
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	30	25	30	30	30	30
Actuation speed (in m/s)	0.5	1	1.5	1,5	1.5	1.5
Product certification	CE - UL - CSA - CCC - GOST - C-TICK - BV					
Degree of protection conforming to IEC 60529	IP 667					
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (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 cable entry delete the reference suffix H29. Example: XCKJ161**H29** becomes XCKJ161.

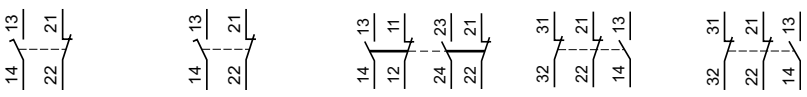
⊖ Positive opening operation.

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 pin)	⊖ **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, ⍁ 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 (3)
										
Reference	ZCKE05	ZCKY11	ZCKY13	ZCKY41	ZCKY43	ZCKY59	ZCKY51	ZCKY53	ZCKY81	ZCKY91

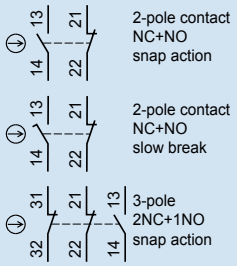
	stay put for actuation from left **AND** right	forked arm lever with thermoplastic rollers, 1 track (2)	forked arm lever with thermoplastic rollers, 2 track (2)
			
Reference	ZCKE09	ZCKY71	ZCKY61

(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.

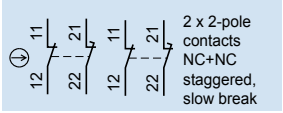
Limit switches

Classic - XCKS, complete switches

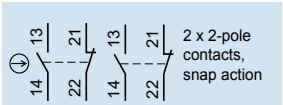
XCKS



XCKMR



XCR



ISO entry (to EN 50262)

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 - GOST - C-TICK					
Degree of protection conforming to IEC 60529	IP 653					
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (Ue = 250 V, Ie = 0.27 A)					
Cable entry	1 tapped entry for ISO M20 x 1.5 cable gland (1)					
Fixing centres (mm)	30 x 60					
Body dimensions (mm) W x D x H	40 x 36 x 72.5					

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**
Body	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.

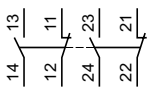
(1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161**H29** becomes XCKJ161.

For severe applications - XC2J, Customised assembly - Body/contact sub-assemblies

Type XC2J metal, fixed body, 1 cable entry incorporating cable gland

Type of contact

Single-pole
1 C/O contact
snap action



Double-pole
2 C/O simultaneous contacts
snap action

Reference of body with contact block	**ZC2JC1**	**ZC2JC2**
Reference of contact block only	**XCKZ01**	**XESP1021**

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

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

Square rod levers Ø 6 mm, “crossed”	Square rod levers Ø 6 mm, “crossed”	Square rod lever Ø 6 mm	Large roller rod lever Ø 50 mm	Square rod levers Ø 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 - GOST						
IP 66	IP 65	IP 54			IP 66	
AC-15; A300 (Ue = 240 V, Ie = 3 A) / DC-13; Q300 (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 cable 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
–	–	–	–	–	–	–
–	–	–	–	–	–	–
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–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	⇒ **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

Operating heads, complete or for customer assembly

Plunger heads

	with metal end plunger	with steel roller end plunger
		
Reference	**ZC2JE61**	**ZC2JE62**

Rotary heads and separate levers

	spring return for actuation from left **AND** right	spring return for actuation from left **OR** right	variable length lever with thermoplastic roller (1)	rigid rod 3 mm, steel L = 125 mm (1)	lever with thermoplastic roller (1)	lever with steel roller (1)	spring lever (1)	spring-rod lever
								
Reference	**ZC2JE01**	**ZC2JE05**	**ZC2JY31**	**ZC2JY51**	**ZC2JY11**	**ZC2JY13**	**ZC2JY81**	**ZC2JY91**

(1) Adjustable throughout 360°.

OsiSense XM — Sensors for pressure control

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)		IP 65							
Product certification		CE - UL - CSA							
Voltage limits		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 pin male			
Type of output (4)		4…20 mA, 2-wire technique, 0…10V, 3-wire 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. (2) Also available with ¼"-18NPT male fluid entry. (3) Also available with 3 pin 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 XMLK006B2C21**TQ**.

Electronic sensors XMLP

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

For industrial applications (hydraulic circuits, HVAC)

Pressure range (bar) (1)		0…10	0…16	0…25	0…40	0…100	0…160	0…250	0…400
Fluids controlled		Hydraulic oils, air, fresh water, gas, refrigeration fluids from -30…+120°C							
Ambient air temperature		- 30…+ 100°C							
Degree of protection (IEC 60529)		IP 65 (EN175301-803-A), IP 65, IP 67 and IP 69K (M12 connector)							
Product certification		CE cULus							
Voltage limits		8…30 V DC for 4…20 mA, 14…30V DC for 0…10 V							
Dimensions (mm) Ø x L		30 x 26 (not including connector)							
Fluid connection (2)		G 1/4 A (male)							
Electrical connection (3)		EN 175301-803-A, M12 4 pin connector							
Type of output (4)		4…20 mA, 2-wire technique, 0…10V, 3-wire technique							
Analogue output 4…20 mA	EN 175301-803-A	XMLP010BC21V	XMLP016BC21V	XMLP025BC21V	XMLP040BC21V	XMLP100BC22	XMLP160BC22	XMLP250BC22	XMLP400BC22
	M12 connector	XMLP010BD21V	XMLP016BD21V	XMLP025BD21V	XMLP040BD21V	XMLP100BD22	XMLP160BD22	XMLP250BD22	XMLP400BD22
Analogue output 0…10 V	EN 175301-803-A	XMLP010BC71V	XMLP016BC71V	XMLP025BC71V	XMLP040BC71V	XMLP100BC72	XMLP160BC72	XMLP250BC72	XMLP400BC72
	M12 connector	XMLP010BD71V	XMLP016BD71V	XMLP025BD71V	XMLP040BD71V	XMLP100BD72	XMLP160BD72	XMLP250BD72	XMLP400BD72

(1) Also available with psi range. (2) Also available with 7/16-20UNF male or female, ¼"-18NPT male fluid entry. (3) Also available with 3 pin packard connector.
(4) Also available with 0,5...4,5V ratiometric output. Available in bulk packs for selling in lots. Add **Q** suffix to the reference, ex: XMLP010BC21V becomes XMLP010BC21V**Q**.

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	
Power supply		24VDC (17 to 33 VDC)	
Electrical connection		Input: M12 female, 4 pin. Output: M12 male, 4 pin	
Analogue output	Switching output		
4…20 mA	PNP	ZMLPA1P2SH	ZMLPA1P2SW
4…20 mA	NPN	ZMLPA1N2SH	ZMLPA1N2SW
-	2 PNP	ZMLPA2P0SH	-
-	2 NPN	ZMLPA2N0SH	-

Accessories

Quick fixing bracket

Horizontal plan
XMLPZLH01

Vertical plan or pipe
XMLPZLV01

Telemecanique Sensors

Other versions: **please consult our Customer Care Centre.**

Electronic sensors XMLG

Electrical connection by M12 connector

Pressure range (bar) (1)		-1…0	0…1	0…6	0…10	0…16	0…25	0…100	0…250	0…400
Fluids controlled		Hydraulic oils, air, fresh water, corrosive fluids from -15…+125°C								
Ambient air temperature		- 15…+ 85°C								
Degree of protection (conforming to IEC 60529)		IP 66 and IP 67								
Product certification		CE - UL - CSA - GOST								
Voltage limits		12…24 V DC, 8…33 V DC for 4…20 mA, 11.4…33V DC for 0…10 V								
Dimensions (mm) Ø x L		Ø 22.8 x 58 (not including connector)								
Fluid connection (2)		G 1/4 A (male)								
Electrical connection (3)		M12 connector								
Type of output (4)		4…20 mA, 2-wire technique, 0…10V, 3-wire technique								
Analogue output	4…20 mA	**XMLGM01D21**	**XMLG001D21**	**XMLG006D21**	**XMLG010D21**	**XMLG016D21**	**XMLG025D21**	**XMLG100D21**	**XMLG250D21**	**XMLG400D21**
	0…10 V	**XMLGM01D71**	**XMLG001D71**	**XMLG006D71**	**XMLG010D71**	**XMLG016D71**	**XMLG025D71**	**XMLG100D71**	**XMLG250D71**	**XMLG400D71**

(1) For other pressure ranges consult our web site. (3) Also available with an integrated quick connection. (2) Also available with ¼"-18NPT male fluid entry.
(4) Also available with pressure switch function (digital output). Available in bulk packs for selling in lots. Add **TQ** suffix to the reference, ex: XMLGM01D21 becomes XMLGM01D21**TQ**.

Electronic sensors XMLR

Electronic + Display

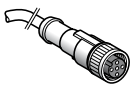
Adjustable pressure range (bar) (1)		-1…0	0…1	0…2,5	0…10	0…16	0…25	0…40	0…250	0…400
Fluids controlled		Hydraulic oils, air, fresh water, refrigerant fluids								
Ambient air temperature		- 20…+ 80°C								
Degree of protection (conforming to IEC 60529)		IP65, IP67 conforming to EN/IEC 60529								
Product certification		cULus conforming to UL 61010-1								
Voltage limits (V)		17...33 Vdc								
Dimensions (mm) H x W x D		93x41x42							88x41x42	
Fluid connection (2)		G1/4A (female)								
Electrical connection		M12 connector 4 pin or 5 pin								
Configurable with 4-digit display										
Analogue output	4...20 mA	**XMLRM01G0T25**	**XMLR001G0T25**	**XMLR2D5G0T25**	**XMLR010G0T25**	**XMLR016G0T25**	**XMLR025G0T25**	**XMLR040G0T25**	**XMLR250G0T25**	**XMLR400G0T25**
	0...10 V	**XMLRM01G0T75**	**XMLR001G0T75**	**XMLR2D5G0T75**	**XMLR010G0T75**	**XMLR016G0T75**	**XMLR025G0T75**	**XMLR040G0T75**	**XMLR250G0T75**	**XMLR400G0T75**
Analogue + switching output	4...20 mA	**XMLRM01G1P25**	**XMLR001G1P25**	**XMLR2D5G1P25**	**XMLR010G1P25**	**XMLR016G1P25**	**XMLR025G1P25**	**XMLR040G1P25**	**XMLR250G1P25**	**XMLR400G1P25**
PNP - NO/NC programmable	0...10 V	**XMLRM01G1P75**	**XMLR001G1P75**	**XMLR2D5G1P75**	**XMLR010G1P75**	**XMLR016G1P75**	**XMLR025G1P75**	**XMLR040G1P75**	**XMLR250G1P75**	**XMLR400G1P75**
2 switching outputs PNP - NO/NC prog.		**XMLRM01G2P05**	**XMLR001G2P05**	**XMLR2D5G2P05**	**XMLR010G2P05**	**XMLR016G2P05**	**XMLR025G2P05**	**XMLR040G2P05**	**XMLR250G2P05**	**XMLR400G2P05**
Analogue + 2 switching outputs	4...20 mA	**XMLRM01G2P25**			**XMLR010G2P25**			**XMLR040G2P25**	**XMLR250G2P25**	**XMLR400G2P25**
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

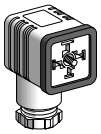
PUR Pre-wired connectors, L = 5 m (without LED) (5)

(5) For PVC cable see page 47



elbowed	straight
XZCP1241L5	**XZCP1141L5**

Other connectors



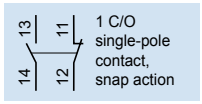
	Screw terminal	EN 175301-803-A
4 pins	**XZCC12FCM40B**	**XZCC43FCP40B**
5 pins	**XZCC12FCM50B**	

OsiSense XM — Sensors for pressure control

Electromechanical pressure and vacuum switches

XMLA and B

ISO entry (to EN 50262)



1 C/O single-pole contact, snap action

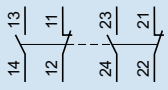
Size (bar)	-1	5	1	2.5
Environmental characteristics	Ambient air temperature (°C): - 25…+ 70 Degree of protection (conforming to IEC 60529): IP 66			
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - Ue = 120 V, Ie = 3 A) / DC-13; R300 (Ue = 250 V, Ie = 0.1 A)			
Product certification	CE - UL - CSA - CCC - BV - LROS - RINA - GL - DNV - VIT-SEPRO - GOST			
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 up to 70°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 x 77.5
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 and D

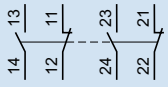
ISO entry (to EN 50262)

XMLC

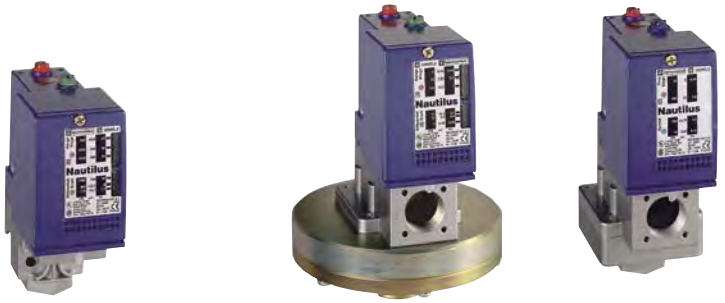


2 C/O single-pole contacts, simultaneous snap action

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)	0.12...1	0.34...2.5
(bar)	1st stage switching point (PB1)	-0.10...-0.98	0.04...0.92	0.2...2.36
	Spread between 2 stages (PB2 – PB1)	-0.02...-0.88	0.08...0.73	0.14...1.5
Without setting scale	2 C/O single-pole, snap action contacts (1 per stage)	**XMLDM02V1S12**	**XMLD001R1S12**	**XMLD002B1S12**
Natural differential (bar)	at low setting	0.1 (2)	0.03	0.14
subtract from PH 1/2 to give PB 1/2	at high setting	0.1 (2)	0.07	0.19

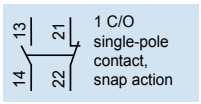
	4	10	20	35	70	160	300	500
	conforming to IEC 947-5-1 Appendix A, EN 60 947-5-1							
	tapped entry, replace the last number of the reference (2) **by 1** (example: XMLA010A2S**12** becomes XMLA010A2S**11**)							
	Hydraulic oils, fresh water, air up to 70°C				Hydraulic oils up to 160°C			
	0.4…4	0.6…10	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 by DIN 43650A connector (IP 65), replace the suffix "**S12**" in the reference by "**C11**". Example: XMLB010A2**S12** becomes XMLB010A2**C11**.
(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



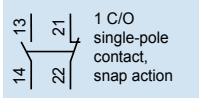
1 C/O single-pole contact, snap action



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)	IP 54		
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		
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

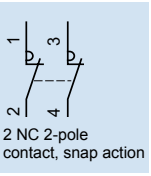


Setting range of upper limit (PH) (bar)	1…6	1.3…12	3.5…25
Fluids controlled	**Air, water** (fresh water, sea water) from 0…+70°C		
Ambient air temperature	- 25…+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics (conforming to EN IEC 60947-5-1)	AC-15; B300 (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		
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)

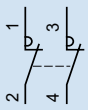
Without setting scale, screw terminal connections				
1 C/O single-pole, snap action contact		**XMAV06L2135**	**XMAV12L2135**	**XMAV25L2135**
Possible differential (bar)	Min. at low setting	0.8	1	3.4
subtract from PH to give PB	Min. at high setting	1.2	1.7	4.5
	Max. at high setting	4.2	8.4	20

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

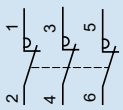


2 NC 2-pole contact, snap action

Degree of protection			IP 20			IP 65		
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 grommet			Screw terminals, 2 tapped entries for n° 13 (DIN Pg 13.5) cable gland		
Product certification			CE					
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	
Fluid connection	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.



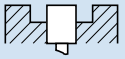
2 NC 2-pole contact, snap action

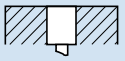


3 NC 3-pole contact, snap action

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 operation: - 25…+ 70°C. For storage: - 40…+ 70°C				
Decompression valve / ONOff knob			without	with	without	with	without
Fluid connection			G 1/4 (BSP female)	4 x G 1/4 (BSP female)	G 1/4 (BSP female)	4 x G 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 - CCC				
Rated insulation voltage			Ui = 500 V				
Electrical durability	Power	1.5 kW	400 V AC 3-phase: 1 000 000 operating cycles				
			230 V AC 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


Non 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 / non flush mountable			0…1.2	0…2	0…1.6	0…3.2
Temperature range (°C)			- 25…+ 70			
Product certification			CE - UL - CSA - CCC (in progress) - C-TICK			
Degree of protection (conforming to IEC 60529)			IP 67		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-wire	**PNP**	Cable (2 m)	**XS508B1PAL2**	**XS108B3PAL2**	**XS512B1PAL2**	**XS112B3PAL2**
		Connector M8 / M12	**XS508B1PAM8**	**XS108B3PAM8**	**XS512B1PAM12**	**XS112B3PAM12**
	NPN	Cable (2m)	**XS508B1NAL2**	**XS108B3NAL2**	**XS512B1NAL2**	**XS112B3NAL2**
		Connector M8 / M12	**XS508B1NAM8**	**XS108B3NAM8**	**XS512B1NAM12**	**XS112B3NAM12**
2-wire	**non**	Cable (2 m)	**XS508BSCAL2**	**XS608B3CAL2**	**XS512BSDAL2**	**XS612B3DAL2**
	polarised (1)	Connecteur M12	**XS508BSCAL01M12**	**XS608B3CAL01M12**	**XS512BSDAM12**	**XS612B3DAM12**
Supply voltage limits, min./max. (V) including ripple			10…36	10…36	10…36	10…36
Switching capacity, max. (mA) 3-wire / 2-wire			200 / 100	200 / 100	200 / 100	200 / 100
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Residual current, open state (mA)			≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire			≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4
Switching frequency (Hz) 3-wire / 2-wire			5000 / 4000	2500 / 3000	5000 / 4000	2500 / 2000
Dimensions (mm) Ø x L Cable / connector			M8 x 51 / M8 x 62		M12 x 53 / M12 x 62	
3-wire	**PNP**	Cable (2 m)	**XS508BLPAL2**	**XS608B1PAL2**	**XS512BLPAL2**	**XS612B1PAL2**
		Connector M12	**XS508BLPAM12**	**XS608B1PAM12**	**XS512BLPAM12**	**XS612B1PAM12**
	NPN	Cable (2 m)	**XS508BLNAL2**	**XS608B1NAL2**	**XS512BLNAL2**	**XS612B1NAL2**
		Connector M12	**XS508BLNAM12**	**XS608B1NAM12**	**XS512BLNAM12**	**XS612B1NAM12**
2-wire	**non**	Cable (2 m)	**XS508B1DAL2**	**XS608B1DAL2**	**XS512B1DAL2**	**XS612B1DAL2**
	polarised	Connector M12	**XS508B1DAM12**	**XS608B1DAM12**	**XS512B1DAM12**	**XS612B1DAM12**
Supply voltage limits, min./max. (V) including ripple			10…58	10…58	10…58	10…58
Switching capacity, max. (mA) 3-wire / 2-wire			200 / 100	200 / 100	200 / 100	200 / 100
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
Residual current, open state (mA) 2-wire			≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire			≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4
Switching frequency (Hz) 3-wire / 2-wire			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-wire		Cable (2 m)	**–**	**–**	**XS512B1MAL2**	**XS612B1MAL2**
		Connector 1/2"-20 UNF	**–**	**–**	**XS512B1MAU20**	**XS612B1MAU20**
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) polarised for M8 short

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 pin)		
Metal ring	**XZCC12FDM40B**	**XZCC12FCM40B**
Plastic ring	**XZCC12FDP40B**	**XZCC12FCP40B**

Telemecanique Sensors

Other versions: **please consult our Customer Care Centre.**





M18		M30		Non flush increased range M12	M18	M30
5 mm	8 mm	10 mm	15 mm	7 mm	12 mm	22 mm
0…4	0…6.4	0…8	0…12	0…5.6	0…9.6	0…17.6
- 25…+ 70				- 25…+ 70		
CE - UL - CSA - CCC (in progress) - C-TICK				CE - UL - CSA - CCC (in progress) - C-TICK		
(with connector: IP 67)				pre-cabled: IP 69K conforming to DIN 40050, IP 68 (with connector: IP 67)		
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		–		
XS518B1PAL2	**XS118B3PAL2**	**XS530B1PAL2**	**XS130B3PAL2**	–		
XS518B1PAM12	**XS118B3PAM12**	**XS530B1PAM12**	**XS130B3PAM12**	–		
XS518B1NAL2	**XS118B3NAL2**	**XS530B1NAL2**	**XS130B3NAL2**	–		
XS518B1NAM12	**XS118B3NAM12**	**XS530B1NAM12**	**XS130B3NAM12**	–		
XS518BSDAL2	**XS618B3DAL2**	**XS530BSDAL2**	**XS630B3DAL2**	–		
XS518BSDAM12	**XS618B3DAM12**	**XS530BSDAM12**	**XS630B3DAM12**	–		
10…36	10…36	10…36	10…36	–		
200 / 100	200 / 100	200 / 100	200 / 100	–		
★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	–		
≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5	–		
≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	≤ 2 / ≤ 4	–		
2000 / 3000	1000 / 1000	1000 / 2000	500 / 500	–		
M18 x 62 / M18 x 74		M30 x 62		M12 x 55 / M12 x 65	M18 x 62 / M18 x 74	M30 x 62 / M30 x 74
XS518BLPAL2	**XS618B1PAL2**	**XS530BLPAL2**	**XS630B1PAL2**	**XS612B4PAL2**	**XS618B4PAL2**	**XS630B4PAL2**
XS518BLPAM12	**XS618B1PAM12**	**XS530BLPAM12**	**XS630B1PAM12**	**XS612B4PAM12**	**XS618B4PAM12**	**XS630B4PAM12**
XS518BLNAL2	XS618B1NAL2	XS530BLNAL2	XS630B1NAL2	**XS612B4NAL2**	**XS618B4NAL2**	**XS630B4NAL2**
XS518BLNAM12	XS618B1NAM12	XS530BLNAM12	XS630B1NAM12	**XS612B4NAM12**	**XS618B4NAM12**	**XS630B4NAM12**
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 / –
★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
≤ 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)

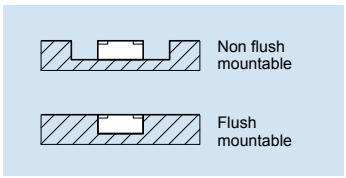

Straight


Elbowed

M8 (3 pin)			1/2"			M12 (4 pin)			
	Straight	Elbowed		Straight	Elbowed		Straight	Elbowed	Elbowed PNP LED
2 m	**XZCP0566L2**	**XZCP0666L2**	2 m	**XZCP1865L2**	**XZCP1965L2**	2 m	**XZCP1141L2**	**XZCP1241L2**	**XZCP1340L2**
5 m	**XZCP0566L5**	**XZCP0666L5**	5 m	**XZCP1865L5**	**XZCP1965L5**	5 m	**XZCP1141L5**	**XZCP1241L5**	**XZCP1340L5**
10 m	**XZCP0566L10**	**XZCP0666L10**	10 m	**XZCP1865L10**	**XZCP1965L10**	10 m	**XZCP1141L10**	**XZCP1241L10**	**XZCP1340L10**

(1) For PVC cable see page 47

OsiSense XS — Inductive proximity sensors
Rectangular plastic



	Ø 8 x 22 x 8	Ø 15 x 32 x 8	Ø 26 x 26 x 13	Ø 40 x 40 x 15	Ø 80 x 80 x 26
Nominal sensing distance Sn	**2.5** mm	**5** mm	**10** mm	**15** mm	**40** mm
Usable sensing distance S (mm) flush mountable / non flush mountable	0...2	0...4	0…8	0…12	0…32
Fine adjustment zone (mm) flush mountable / non 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: IP 68 (with connector: IP 67)				

Sensors for DC applications

Connection				**Pre-cabled, PvR (2 m)**				
2-wire (non polarised)		**NO or NC**	programmable	–	–	–	–	–
2-wire	**non polarised**	NO function		**XS7J1A1DAL2**	**XS7F1A1DAL2**	**XS7E1A1DAL2**	**XS7C1A1DAL2**	**XS7D1A1DAL2**
		NC function		**XS7J1A1DBL2**	**XS7F1A1DBL2**	**XS7E1A1DBL2**	**XS7C1A1DBL2**	**XS7D1A1DBL2**
4-wire	**PNP**	**NO + NC**	complementary outputs	–	–	–	–	–
	NPN	**NO + NC**	complementary outputs	–	–	–	–	–
3-wire	**PNP**	**NO** function		**XS7J1A1PAL2**	**XS7F1A1PAL2**	**XS7E1A1PAL2**	**XS7C1A1PAL2**	**XS7D1A1PAL2**
		NC function		**XS7J1A1PBL2**	**XS7F1A1PBL2**	**XS7E1A1PBL2**	**XS7C1A1PBL2**	**XS7D1A1PBL2**
	NPN	**NO** function		**XS7J1A1NAL2**	**XS7F1A1NAL2**	**XS7E1A1NAL2**	**XS7C1A1NAL2**	**XS7D1A1NAL2**
		NC function		**XS7J1A1NBL2**	**XS7F1A1NBL2**	**XS7E1A1NBL2**	**XS7C1A1NBL2**	**XS7D1A1NBL2**
Connection				**M8 connector**				**M12 connector**
2-wire	**non polarised**	NO function		**XS7J1A1DAL01M8** (1)	**XS7F1A1DAL01M8** (1)	**XS7E1A1DAM8**	**XS7C1A1DAM8**	**XS7D1A1DAM12**
		NC function		**XS7J1A1DBL01M8** (1)	**XS7F1A1DBL01M8** (1)	**XS7E1A1DBM8**	**XS7C1A1DBM8**	**XS7D1A1DBM12**
3-wire	**PNP**	**NO** function		**XS7J1A1PAL01M8** (1)	**XS7F1A1PAL01M8** (1)	**XS7E1A1PAM8**	**XS7C1A1PAM8**	**XS7D1A1PAM12**
		NC function		**XS7J1A1PBL01M8** (1)	**XS7F1A1PBL01M8** (1)	**XS7E1A1PBM8**	**XS7C1A1PBM8**	**XS7D1A1PBM12**
	NPN	**NO** function		**XS7J1A1NAL01M8** (1)	**XS7F1A1NAL01M8** (1)	**XS7E1A1NAM8**	**XS7C1A1NAM8**	**XS7D1A1NAM12**
		NC function		**XS7J1A1NBL01M8** (1)	**XS7F1A1NBL01M8** (1)	**XS7E1A1NBM8**	**XS7C1A1NBM8**	**XS7D1A1NBM12**
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 (⊗) / Power on LED (⊗)				★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –	★ / ⊗ / –
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

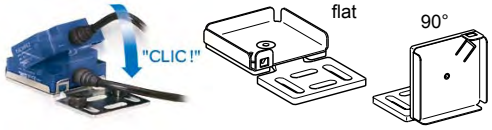
Multi-current/multi-voltage sensors for AC/DC applications

Connection								
2-wire		**AC/DC**	**NO** function	–	–	–	–	–
			NC function	–	–	–	–	–
		AC	**NO** or **NC** programmable	–	–	–	–	–
		AC/DC	**NO** or **NC** programmable	–	–	–	–	–
Connection								
2-wire		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 (⊗) / Power on LED (⊗)				–	–	–	–	–
Residual current, open state (mA)				–	–	–	–	–
Voltage drop, closed state (V) at I nominal				–	–	–	–	–
Switching frequency (Hz)				–	–	–	–	–

(1) M8 connector on flying lead (L = 0.15 m).

Accessories

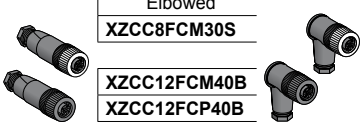
Fixing for flat sensors



	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 pin)		
Metal ring	**XZCC12FDM40B**	**XZCC12FCM40B**
Plastic ring	**XZCC12FDP40B**	**XZCC12FCP40B**



Other versions: **please consult our Customer Care Centre.**




Ø 40 x 40 x 70		Ø 40 x 40 x 117		Ø 26 x 26 x 13	Ø 40 x 40 x 15	Ø 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	non flush mountable	flush mountable	non flush mountable	flush mountable or non flush mountable via teach mode		
- 25…+ 70				- 25…+ 70		
CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK		
IP67 and IP69K				pre-cabled: IP 68 (with connector: IP 67)		
M12 connector		**Screw terminals** (2)		**Pre-cabled (2 m)**		
–	–	**XS8C4A1DPP20**	**XS8C4A4DPP20**	–	–	–
XS8C2A1DAM12	**XS8C2A4DAM12**	–	–	–	–	–
XS8C2A1DBM12	**XS8C2A4DBM12**	–	–	–	–	**v**
XS8C2A1PCM12	**XS8C2A4PCM12**	**XS8C4A1PCP20**	**XS8C4A4PCP20**	–	–	–
XS8C2A1NCM12	**XS8C2A4NCM12**	**XS8C4A1NCP20**	**XS8C4A4NCP20**	–	–	–
–	–	–	–	**XS8E1A1PAL2**	**XS8C1A1PAL2**	**XS8D1A1PAL2**
–	–	–	–	**XS8E1A1PBL2**	**XS8C1A1PBL2**	**XS8D1A1PBL2**
–	–	–	–	**XS8E1A1NAL2**	**XS8C1A1NAL2**	**XS8D1A1NAL2**
–	–	–	–	**XS8E1A1NBL2**	**XS8C1A1NBL2**	**XS8D1A1NBL2**
				M8 connector		**M12 connector**
–	–	–	–	–	–	–
–	–	–	–	–	–	–
–	–	–	–	**XS8E1A1PAM8**	**XS8C1A1PAM8**	**XS8D1A1PAM12**
–	–	–	–	**XS8E1A1PBM8**	**XS8C1A1PBM8**	**XS8D1A1PBM12**
–	–	–	–	**XS8E1A1NAM8**	**XS8C1A1NAM8**	**XS8D1A1NAM12**
–	–	–	–	**XS8E1A1NBM8**	**XS8C1A1NBM8**	**XS8D1A1NBM12**
12…48				10…36	10…36	10…36
4-wire version = 200 – 2-wire version = 1.5…100				100	200	200
4-wire version = ★ / ⊗ / ⊗ – 2-wire version = ★ / ⊗ / –				★ / ⊗ / ⊗	★ / ⊗ / ⊗	★ / ⊗ / ⊗
4-wire version = ≤ 2 – 2-wire version = ≤ 4				≤ 2	≤ 2	≤ 2
flush version : 300 - Non flush version : 200				2000	1000	150
1/2"- 20 UNF connector		**Screw terminals** (2)		**Pre-cabled (2 m)**		
XS8C2A1MAU20	**XS8C2A4MAU20**	–	–	**XS8E1A1MAL2**	**XS8C1A1MAL2**	**XS8D1A1MAL2**
XS8C2A1MBU20	**XS8C2A4MBU20**	–	–	**XS8E1A1MBL2**	**XS8C1A1MBL2**	**XS8D1A1MBL2**
–	–	–	–	–	–	–
–	–	**XS8C4A1MPP20**	**XS8C4A4MPP20**	–	–	–
				1/2"-20 UNF connector		
–	–	–	–	**XS8E1A1MAL01U20**	**XS8C1A1MAL01U20**	**XS8D1A1MAU20**
–	–	–	–	**XS8E1A1MBL01U20**	**XS8C1A1MBL01U20**	**XS8D1A1MBU20**
20…264				20…264	20…264	20…264
AC/DC version = 300 / 200				200 AC or 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.

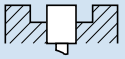
PUR pre-wired connectors (1)

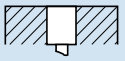
Straight Elbowed

M8 (3 pin)			1/2"			M12 (4 pin)			
	Straight	Elbowed		Straight	Elbowed		Straight	Elbowed	Elbowed PNP LED
2 m	**XZCP0566L2**	**XZCP0666L2**	2 m	**XZCP1865L2**	**XZCP1965L2**	2 m	**XZCP1141L2**	**XZCP1241L2**	**XZCP1340L2**
5 m	**XZCP0566L5**	**XZCP0666L5**	5 m	**XZCP1865L5**	**XZCP1965L5**	5 m	**XZCP1141L5**	**XZCP1241L5**	**XZCP1340L5**
10 m	**XZCP0566L10**	**XZCP0666L10**	10 m	**XZCP1865L10**	**XZCP1965L10**	10 m	**XZCP1141L10**	**XZCP1241L10**	**XZCP1340L10**

(1) For PVC cable see page 47

Inductive proximity sensors
Cylindrical Plastic


Non flush mountable


Flush mountable




			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			
Degree of protection (conforming to IEC 60529)			IP 67	pre-cabled: IP 68 (with connector: IP 67)		

Sensors for DC applications

			M8	M12	M18	M30
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-wire	**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 connector**	**M12 connector**		
Dimensions (mm) Ø x L			M8 x 42	M12 x 48	M18 x 48	M30 x 50
3-wire	**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 (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗
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

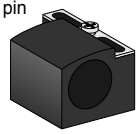
			M8	M12	M18	M30
Connection			**Pre-cabled, PvR (2 m)**			
Dimensions (mm) Ø x L			M8 x 50	M12 x 50	M18 x 60	M30 x 60
2-wire	**AC/DC**	**NO** function	**XS4P08MA230**	**XS4P12MA230**	**XS4P18MA230**	**XS4P30MA230**
not short-circuit protected (1)		**NC** function	**XS4P08MB230**	**XS4P12MB230**	**XS4P18MB230**	**XS4P30MB230**
Connection			**1/2" connector**			
Dimensions (mm) Ø x L			M8 x 61	M12 x 61	M18 x 70	M30 x 70
2-wire	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 pin)		
Metal ring	**XZCC12FDM40B**	**XZCC12FCM40B**
Plastic ring	**XZCC12FDP40B**	**XZCC12FCP40B**


Other versions: **please consult our Customer Care Centre.**

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)			IP 67			

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-wire	**PNP**	**NO** function	**XS1L04PA310**	**XS1N05PA310**	**XS506B1PAL2**	**XS106B3PAL2**
		NC function	**–**	**–**	**XS506B1PBL2**	**XS106B3PBL2**
	NPN	**NO** function	**XS1L04NA310**	**XS1N05NA310**	**XS506B1NAL2**	**XS106B3NAL2**
		NC function	**–**	**–**	**XS506B1NBL2**	**XS106B3NBL2**
2-wire (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-wire	**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-wire (polarised)		fonction **NO**	**–**	**–**	**XS506BSCAL01M12**	**XS506B3CAL01M12**
Supply voltage limits, min./max. (V) including ripple			5…30	5…30	10…36	
Switching capacity, max. (mA) 3-wire / 2-wire			100 / –	100 / –	200 / 100	
Short-circuit protect. (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	
Voltage drop, closed state (V) at I nominal 3-wire / 2-wire			≤ 2 / –	≤ 2 / –	≤ 2 / ≤ 4	
Switching frequency (Hz) 3-wire / 2-wire			5000 / –	5000 / –	5000 / 4000	2500 / 3000

(1) Stainless steel sensors, Sn = 0.8 mm

PUR pre-wired connectors (1)

Straight Elbowed

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

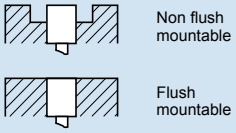
1/2"		
	Straight	Elbowed
2 m	**XZCP1865L2**	**XZCP1965L2**
5 m	**XZCP1865L5**	**XZCP1965L5**
10 m	**XZCP1865L10**	**XZCP1965L10**

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

(1) For PVC cable see page 47

Inductive proximity sensors

Multi-voltage with short-circuit protection



			M12	M18	M30
Sensing distance Sn		flush mountable	**2** mm	**5** mm	**10** mm
		non flush mountable	**4** mm	**8** mm	**15** mm
Operating zone (mm)		flush mountable	0…1.6	0…4	0…8
		non flush mountable	0…3.2	0…6.4	0…12
Suitability for flush mounting (metal environment)			flush mountable or non flush mountable depending on model		
Case M (metal) P (plastic)			M		
Temperature range (°C)			- 25…+ 70		
Degree of protection (conforming to IEC 60529)			IP 68 (with connector: IP 67)		
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-wire	**PNP**	**NO + NC**	flush mountable	–	–	–
			non flush mountable	–	–	–
	NPN	**NO + NC**	flush mountable	–	–	–
			non flush mountable	–	–	–
	PNP+NPN	**NO/NC**	flush mountable (metal)	–	–	–
	programmable		non flush mntbl. (metal)	–	–	–
			non flush mntbl. (plastic)	–	–	–
Connection						
4-wire	**PNP**	**NO + NC**	flush mountable	–	–	–
			non flush mountable	–	–	–
	NPN	**NO + NC**	flush mountable	–	–	–
			non flush mountable	–	–	–
	PNP+NPN	**NO/NC**	flush mountable (metal)	–	–	–
	programmable		non flush mntbl. (metal)	–	–	–
			non flush mntbl. (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-wire AC/DC	**NO** function	flush mountable	**XS1M12MA250**	**XS1M18MA250**	**XS1M30MA250**
		non flush mountable	**XS2M12MA250**	**XS2M18MA250**	**XS2M30MA250**
	NC function	flush mountable	**XS1M12MB250**	**XS1M18MB250**	**XS1M30MB250**
		non flush mountable	**XS2M12MB250**	**XS2M18MB250**	**XS2M30MB250**
Connection			**1/2"-20 UNF connector**		
2-wire AC/DC	**NO** function	flush mountable	**XS1M12MA250K**	**XS1M18MA250K**	**XS1M30MA250K**
		non flush mountable	**XS2M12MA250K**	**XS2M18MA250K**	**XS2M30MA250K**
	NC function	flush mountable	**XS1M12MB250K**	**XS1M18MB250K**	**XS1M30MB250K**
		non flush mountable	–	**XS2M18MB250K**	**XS2M30MB250K**
Supply voltage limits, min./max. (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 mountable Ø 30 mm.

PNP or NPN
NO + NC Complementary outputs

PNP + NPN outputs,
NO or NC programmable

	M8	M12	M18	M30	M12	M18	M30
	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 non flush mountable depending on model				flush mountable or non flush mountable depending on model		
	M				M or P depending on model		
	- 25…+ 70				- 25…+ 70		
	IP 67	IP 68 (with connector: IP 67)			IP 68 (with connector: IP 67)		
	CE - UL - CSA - CCC - C-TICK				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**	–	–	–
	XS2M08PC410	**XS2N12PC410**	**XS2N18PC410**	**XS2N30PC410**	–	–	–
	XS1M08NC410	**XS1N12NC410**	**XS1N18NC410**	**XS1N30NC410**	–	–	–
	XS2M08NC410	**XS2N12NC410**	**XS2N18NC410**	**XS2N30NC410**	–		
	–	–	–	–	**XS1M12KP340**	**XS1M18KP340**	**XS1M30KP340**
	–	–	–	–	**XS2M12KP340**	**XS2M18KP340**	**XS2M30KP340**
	–	–	–	–	**XS4P12KP340**	**XS4P18KP340**	**XS4P30KP340**
	M12 connector				**M12 connector**		
	XS1M08PC410D	**XS1N12PC410D**	**XS1N18PC410D**	**XS1N30PC410D**	–	–	–
	XS2M08PC410D	**XS2N12PC410D**	**XS2N18PC410D**	**XS2N30PC410D**	–	–	–
	XS1M08NC410D	**XS1N12NC410D**	**XS1N18NC410D**	**XS1N30NC410D**	–	–	–
	XS2M08NC410D	**XS2N12NC410D**	**XS2N18NC410D**	**XS2N30NC410D**	–	–	–
	–	–	–	–	**XS1M12KP340D**	**XS1M18KP340D**	**XS1M30KP340D**
	–	–	–	–	**XS2M12KP340D**	**XS2M18KP340D**	**XS2M30KP340D**
	–	–	–	–	**XS4P12KP340D**	**XS4P18KP340D**	**XS4P30KP340D**
	10…36				10…36		
	200				200		
	★ / ⊗				★ / –		
	≤ 2				≤ 2.6		
	5000	5000	2000	1000	5000	2000	1000

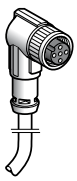
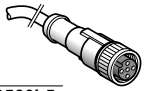
Accessories

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)

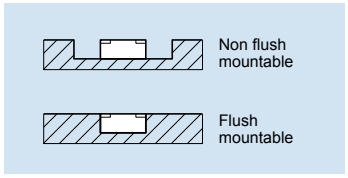
	length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
				
M8 (or S)		**XZCP0666L5**	**XZCP0566L5**	**XZCC8FCM30S**
M12 (or D)		**XZCP1241L5**	**XZCP1141L5**	**XZCC12FCM40B**
1/2" (or K)		**XZCP1965L5**	**XZCP1865L5**	**XZCC20FCM30B**

(1) For PVC cable see page 47

OsiSense XS — Inductive proximity sensors - Application

Rotation control — Fixed sensing distance

(for ferrous or non 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…+ 70			0…+ 50	
Degree of protection (conforming to IEC 60529)	IP 67			pre-cabled: IP 68 (with connector: IP 67)	
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-wire	**PNP/NPN NO/NC**	programmable	–	–	–	**XS1M18KPM40**	**XS1M30KPM40**
3-wire	**PNP** **NC** function	slow version	–	–	**XSAV11373**	–	–
		fast version	–	–	**XSAV12373**	–	–
	0…10 V output	plastic	–	–	–	–	–
	4…20 mA output	metal, flush mountable	–	–	–	–	–
		plastic, flush mountable	–	–	–	–	–
		plastic, non flush mountable	–	–	–	–	–
Connection			**M8 or M12 connector**				**M12** on 0.8 m flying lead
4-wire	**PNP/NPN NO/NC**	programmable	–	–	–	**XS1M18KPM40D**	**XS1M30KPM40LD**
3-wire	**PNP** **NC** function		**XS9E11RPBL01M12** (3)	**XS9C11RPBL01M12** (3)	–	–	–
	0…10 V output		–	–	–	–	–
	4…20 mA output		–	–	–	–	–
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)			–	–	–	–	

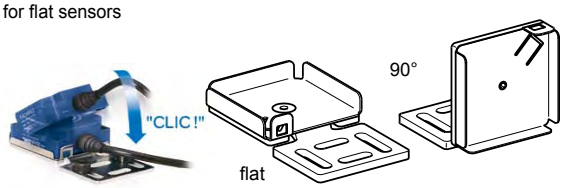
Multi-current/multi-voltage sensors for AC/DC applications

Connection			**Pre-cabled, PvR (2 m)**				
2-wire	**AC/DC** **NC** function		**XS9E11RMBL01U20** (5)	**XS9C11RMBL01U20** (5)	–	–	–
not short-circuit protected (2)	**NC** function	slow version	–	–	**XSAV11801**	–	–
		fast version	–	–	**XSAV12801**	–	–
Supply voltage limits, min./max. (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

Fixing

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**

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 / non flush mountable	flush / non flush mountable	flush / non flush mountable
	P	P	P	P	M or P	M or P	M or P
	- 25…+ 60	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70	- 25…+ 70
	pre-cabled: IP 68 (with connector: IP 67)				IP 67		
	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**	**XS9C111A1L2**	**XS9D111A1L2**	**XS4P12AB110**	**XS4P18AB110**	**XS4P30AB110**
	–	–	–	–	**XS1M12AB120**	**XS1M18AB120**	**XS1M30AB120**
	XS9F111A2L2	**XS9E111A2L2**	**XS9C111A2L2**	**XS9D111A2L2**	–	–	–
	–	–	–	–	**XS4P12AB120**	**XS4P18AB120**	**XS4P30AB120**
	M8 or M12 connector						
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	XS9F111A1L01M8 (4)	**XS9E111A1L01M12** (4)	**XS9C111A1L01M12** (4)	**XS9D111A1M12**	–	–	–
	XS9F111A2L01M8 (4)	**XS9E111A2L01M12** (4)	**XS9C111A2L01M12** (4)	**XS9D111A2M12**	–	–	–
	10...36	10...36	10...36	10...36	10…38	10…38	10…38
	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
	± 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.

Accessories

PUR pre-wired connectors (1)

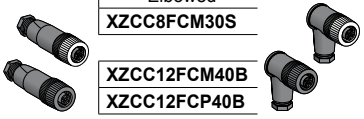
Straight Elbowed

M8 (3 pin)			1/2"			M12 (4 pin)			
	Straight	Elbowed		Straight	Elbowed		Straight	Elbowed	Elbowed PNP LED
2 m	**XZCP0566L2**	**XZCP0666L2**	2 m	**XZCP1865L2**	**XZCP1965L2**	2 m	**XZCP1141L2**	**XZCP1241L2**	**XZCP1340L2**
5 m	**XZCP0566L5**	**XZCP0666L5**	5 m	**XZCP1865L5**	**XZCP1965L5**	5 m	**XZCP1141L5**	**XZCP1241L5**	**XZCP1340L5**
10 m	**XZCP0566L10**	**XZCP0666L10**	10 m	**XZCP1865L10**	**XZCP1965L10**	10 m	**XZCP1141L10**	**XZCP1241L10**	**XZCP1340L10**

(1) For PVC cable see page 47

Suitable female plug-in connectors

M8	Straight		Elbowed
Steel ring	**XZCC8FDM30S**		**XZCC8FCM30S**
M12 (4 pin)			
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)	non flush mountable			
Case M (metal) (1)	M stainless steel 316 L			
Product certification	CE - UL - CSA - CCC - C-TICK			
Temperature range (°C)	- 25…+ 85			
Degree of protection (conforming to IEC 60529)	pre-cabled: IP 68 (with connector: IP 67) and IP 69K conforming to DIN 40050			

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

Connection			**Pre-cabled, non poisonous PVC (2 m)**			
Dimensions (mm)			M12 x 55	M18 x 60	Ø 18 x 60	M30 x 62
3-wire	**PNP**	**NO** function	**XS212SAPAL2**	**XS218SAPAL2**	**XS2L2SAPAL2**	**XS230SAPAL2**
	NPN	**NO** function	**XS212SANAL2**	**XS218SANAL2**	**XS2L2SANAL2**	**XS230SANAL2**
Connection			**M12 connector**			
Dimensions (mm)			M12 x 61	M18 x 70	Ø 18 x 70	M30 x 70
3-wire	**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, non poisonous PVC (2 m)**			
Dimensions (mm)			–	M18 x 60	–	M30 x 62
2-wire (2)	**AC/DC**	**NO** function	**–**	**XS218SAMAL2**	**–**	**XS230SAMAL2**
Connection			**1/2"-20 UNF connector**			
Dimensions (mm)			–	M18 x 72	–	M30 x 74
2-wire (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

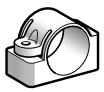
(1) Plastic range available. M12, M18, M30:
To order, replace the second letter **S** in the reference by **A**
(example: XS212**S**APAL2 becomes XS212**A**APAL2).

(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

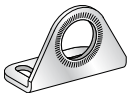
Fixing clamps

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 cable	**XZCPA1141L5**

Elbowed connector

5 m cable	**XZCPA1241L5**

M12 jumper cable

male, 3-pin, stainless steel clamping ring

Straight connector	5 m	**XZCRA151140A5**

1/2" pre-wired connector

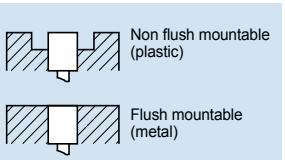
Straight	5 m	**XZCP1865L5**
Elbowed	5 m	**XZCP1965L5**

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 x 117
Nominal sensing distance Sn	flush mountable	2 mm	5 mm	10 mm	15 mm	15 mm
	non 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…10	0…11
	non flush mountable	–	0…5.8	0…11	0…15	–
Case M (metal) P (plastic)	flush mountable	M	M	M	M	P
	non flush mountable	–	P	P	P	–
Product certification		CE				CE - UL - CSA
Temperature range (°C)		- 25…+ 70				
Degree of protection (conforming to IEC 60529)		IP 67				
Dimensions (mm) Ø x L or H x W x D		M12 x 70	M18 x 80	M30 x 80	M32 x 80	117 x 40 x 40

Sensors for DC applications

Connection				Pre-cabled, PVC (2 m)				
3-wire	**PNP**	**NO** function	flush mountable	**XT112S1PAL2**	**XT118B1PAL2**	**XT130B1PAL2**	**–**	**–**
			non flush mountable	**–**	**XT218A1PAL2**	**XT230A1PAL2**	**–**	**–**
		NO + NC functions	flush mountable	**XT112S1PCL2**	**XT118B1PCL2**	**XT130B1PCL2**	**–**	**–**
			non flush mountable	**–**	**–**	**–**	**–**	**–**
	NPN	**NO** function	flush mountable	**XT112S1NAL2**	**XT118B1NAL2**	**XT130B1NAL2**	**–**	**–**
			non flush mountable	**–**	**XT218A1NAL2**	**XT230A1NAL2**	**–**	**–**
Connection				**M12 connector**				**Screw terminals**
3-wire	**PNP**	**NO + NC** functions	flush mountable	**XT112S1PCM12**	**XT118B1PCM12**	**XT130B1PCM12**	**–**	**XT7C40PC440** (3)
			non flush mountable	**–**	**XT218A1PCM12**	**XT230A1PCM12**	**–**	**–**
	NPN	**NO + NC** functions	flush mountable	**–**	**–**	**–**	**–**	**XT7C40NC440** (3)
Supply voltage limits, min./max. (V) including ripple				10...38				10...58
Switching capacity, max. (mA)				200				200
Short circuit-protection (★) / LED output state indicator (⊗)				★ / ⊗				★ / ⊗
Voltage drop, closed state (V) at I nominal				≤ 2				≤ 2
Switching frequency (Hz)				300	100 (XT2) / 200 (XT1)	100 (XT2) / 150 (XT1)	–	100

Multi-current/multi-voltage sensors for AC applications

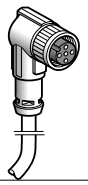
Connection				Pre-cabled, PVC (2 m)				
2-wire AC (1)	**NO** function		flush mountable	**–**	**XT118B1FAL2**	**XT130B1FAL2**	**XT132B1FAL2**	**–**
			non flush mountable	**–**	**XT218A1FAL2**	**XT230A1FAL2**	**XT232A1FAL2**	**–**
	NC function		flush mountable	**–**	**XT118B1FBL2**	**XT130B1FBL2**	**XT132B1FBL2**	**–**
			non flush mountable	–	–	XT230A1FBL2	XT232A1FBL2	–
Connection				**Screw terminals**				
2-wire 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

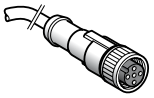
(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.
(2) The operating distance depends on the objet material.
(3) Only for detecting insulating materials. (4) 24…240 VAC or 24 VDC supply (non flush mountable)

Accessories

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

length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M12	**XZCP1241L5**	**XZCP1141L5**	**XZCC12FCM40B**

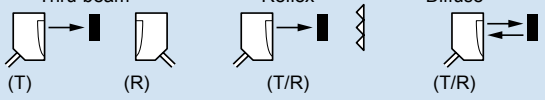




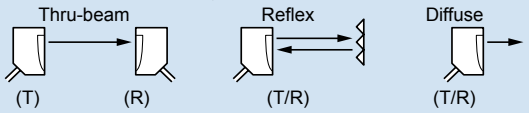
(1) For PVC cable see page 47

OsiSense XU Photo-electric sensors
General Purpose

NO function: Object present / Output ON



NC function: No object present / Output ON



			M18 Metal (1)		M18 Plastic	
			Cable	M12 connector	Cable	M12 connector
Diffuse	**Sensing distance**		**0.6 m** (2) (3)		**0.6 m** (2) (3)	
Output type	DC3 NO	PNP	**XUB5BPANL2**	**XUB5BPANM12**	**XUB5APANL2**	**XUB5APANM12**
		NPN	**XUB5BNANL2**	**XUB5BNANM12**	**XUB5ANANL2**	**XUB5ANANM12**
	AC/DC 1C/O relay		–	–	–	–
Reflex Polarised	**Sensing distance** (4)		**2 m**		**2 m**	
Output type	DC3 NO	PNP	**XUB9BPANL2**	**XUB9BPANM12**	**XUB9APANL2**	**XUB9APANM12**
		NPN	**XUB9BNANL2**	**XUB9BNANM12**	**XUB9ANANL2**	**XUB9ANANM12**
	AC/DC 1C/O relay		–	–	–	–
Reflex	**Sensing distance** (4)		**4 m**		**4 m**	
Output type	DC3 NO	PNP	**XUB1BPANL2**	**XUB1BPANM12**	**XUB1APANL2**	**XUB1APANM12**
		NPN	**XUB1BNANL2**	**XUB1BNANM12**	**XUB1ANANL2**	**XUB1ANANM12**
	AC/DC 1C/O relay		–	–	–	–
Thru beam	**Sensing distance**		**15 m**		**15 m**	
Output type	DC3 NO	PNP	**XUB2BPANL2R**	**XUB2BPANM12R**	**XUB2APANL2R**	**XUB2APANM12R**
		NPN	**XUB2BNANL2R**	**XUB2BNANM12R**	**XUB2ANANL2R**	**XUB2ANANM12R**
	AC/DC 1C/O relay		–	–	–	–
Output function	**NO**		**A**	**A**	**A**	**A**
	NC		**B**	**B**	**B**	**B**
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	–	–	–	–

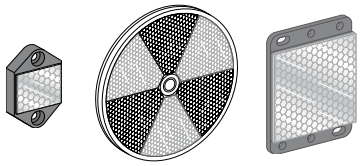
(1) Brass metal, aivailable also in stainless steel, see page food/beverage processing series

(2) For a sensing distance 0,1 m without sensitivity adjustment, change digit 5 by 4 into the reference (ex: XUB**5**BPANL2 becomes XUB**4**BPANL2)

Fixing	M18 x1	M18 x1
Dimensions	M18 x 64 mm / M18 x 78 mm	
Product certifications	CE, UL, CSA, C-Tick	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

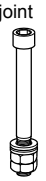
Bracket with ball joint for sensors and reflector XUZC50

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
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)		**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**	–
NO or NC	**NO or NC**	**A**	**A**	**A**	**A**
		B	**B**	**B**	**B**
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**	–

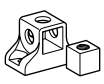
(3) With sensitivity adjustment

(4) With reflector XUZC50 to be ordered separatly

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
indicator (⊗): yes / power on LED (⊗): yes		
–	20…264	20…264
–	20	20
–	⊗ / ⊗	⊗ / ⊗

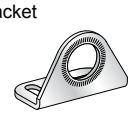
Simple fixings

Fixing support for M12 rod



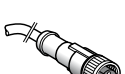
XUZ2003

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)

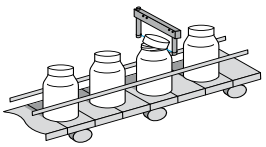
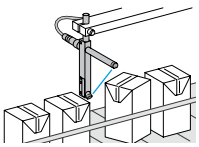


length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M8	**XZCP1041L5**	**XZCP0941L5**	**XZCC8FCM40S**
M12	**XZCP1241L5**	**XZCP1141L5**	**XZCC12FCM40B**

(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
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 & IP67
Product certification	CE - cULus

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

Connection				**M8 connector** 3-pin					**Pre-cabled** L = 2 m.				
Dimensions (mm)					A	B	C	D		A	B	C	D
Transmitter / Receiver	3 wire	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					
Output function	**NO**			**A**									
	NC			**B**									
Supply voltage limits, min./max. (V) including ripple				10…30									
Switching capacity, max. (mA) / Switching frequency (Hz)				100/4kHz									
Overload and short-circuit protection (★) / 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 pin)		M12 (4 pin)		
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 and output function		4-wire, 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 mA / 500 Hz				
Overload and short-circuit protection (★) / LED output state indicator (⊗)		★ / ⊗				

Accessories

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


Straight


Elbowed

M8 (3 pin) — For optical forks without setting

	Straight	Elbowed
2 m	**XZCP0566L2**	**XZCP0666L2**
5 m	**XZCP0566L5**	**XZCP0666L5**

M8 (4 pin) — For optical forks and frame with setting

	Straight	Elbowed
2 m	**XZCP0941L2**	**XZCP1041L2**
5 m	**XZCP0941L5**	**XZCP1041L5**

M12 (4 pin) — For frame with setting

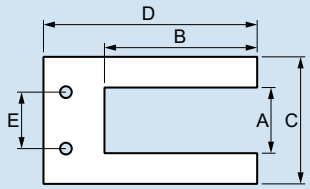
	Straight	Elbowed
2 m	**XZCP1141L2**	**XZCP1241L2**
5 m	**XZCP1141L5**	**XZCP1241L5**

(1) For PVC cable see page 47

Forks with teach mode (1)

System, with teach mode	Thru-beam	Thru-beam laser
Sensing distance	**2…120** mm	**2…120** mm
Fixing (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 / IP 65	
Product certification	CE - cULus	

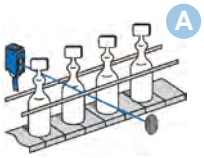
Sensors for DC applications (solid-state output: transistor)

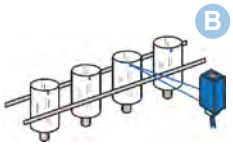
Connection	**M8 connector** - 4 Pin												
Type of output	3-wire PNP/NPN programmable NO/NC												
Dimensions (mm)		A	B	C	D	E		A	B	C	D	E	
Transmitter / Receiver 	**XUYFANEP40002**	2	42	32	57	14	**XUYFALNEP40002**	2	42	41	57	14	
	XUYFANEP60002	2	59		77		**XUYFALNEP60002**	2	59		77		
	XUYFANEP100002	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)	100/10 kHz						100/10 kHz						
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗						★ / ⊗						

(1) To order a fork without teach mode, delete **A** of the reference. Ex: XUYF**A**NEP40002 becomes XUYFNEP40002

System		Ultrasonic thru-beam 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 pin)	
Case M (metal) / Setting-up assistance LEDs ⊗		M / ⊗	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)		+5…+ 55 / IP 65	- 20…+ 60 / IP 65
Product certification		CE	CE - cULus

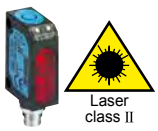
(1) : remote adjustment available.





Accurate detection or very long sensing distance

Robustness and compactness

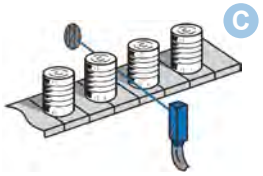


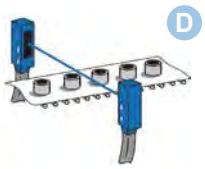
Application			A	B		
System			**Thru-beam**	**Diffuse**	**Reflex**	**Diffuse contrast**
Sensing distance			**100** m (2)	**0.07** m	**10…1000** mm (3)	**40…150** mm
Fixing (mm)			M18 x 1	M8 x 1	Direct, 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment			Teach mode	–	Teach mode	
Case M (metal) P (plastic) / Setting-up assistance LEDs ⊗			P / ⊗	M / –	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 10…+ 45°C	- 25…+ 55	- 20…+ 60°C	
Degree of protection (conforming to IEC 60529)			IP 67	IP 67	IP 67	
Product certification			CE - UL - CSA	CE - cULus	CE - cULus	
Dimensions (mm) Ø x L or H x W x D			Ø 18 x 64	Ø 8 x 40	35.8 x 12 x 20	

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

Connection		**Pre-cabled**		**PVR (2 m)**		
Transmitter / Receiver	3-wire PNP	NO function	**–**	**XUAH0515**	**–**	**–**
Connection		**Connector**	**M12**	**M8** 4-pin		
Transmitter / Receiver	3-wire PNP	NO function	**–**	**XUAH0515S**	**–**	**–**
	3-wire PNP	programmable NO / NC	**XUBLAPCNM12**	**–**	**XUYBCO929LSP**	**XUYPCCO929LSP**
	3-wire 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
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗

(1) Reflex and thru-beam systems also available.
(2) or min. size of object: 0.2 mm
(3) With specific reflector XUY1111, format 50 x 50 mm. To be ordered separately.





Miniature series sensors

compact 50x50mm

Application			C	D				
System			**Polarised reflex**	**Thru-beam**	**Polarised reflex**	**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
Fixing (mm)			2 x Ø 3 holes / fixing centres 9.5		2 x Ø 4.3 holes / fixing centres 30			
Sensitivity adjustment			Potentiometer	Potentiometer	Teach mode	Teach mode	potentiometer	Teach mode
Case P (plastic) / Setting-up assistance LEDs ⊗			P / ⊗					
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			0…+ 50°C / IP 65 & IP 67		-20…+ 60°C / IP67 & 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 Pin		**M12 connector** - 4 pin			
	PNP	**NO** function	**XUYBCO989SP**	**XUYRCO989SP**	–	–	–	–
	NPN	**NO** function	**XUYBCO989SN**	**XUYRCO989SN**	–	–	–	–
	PNP	programmable **NO / NC**			**XUK9LAPSMM12** (6)	**XUK2LAPSMM12R** (6)	**XUK8LAPPNM12** (6)	**XUK5LAPSMM12** (6)
Transmitter			–	**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
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗					

(4) 50 x 50 reflector included.
(5) For 2 m pre-cabled version, delete **CO** from the reference. (Example: XUYB**CO**989SP becomes XUYB989SP or XUYR**CO**989SP 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

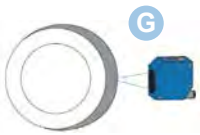
High access
gain for resistance
to accumulation of dirt

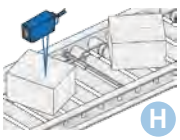
Application	E			E	
System	**Diffuse**	**Reflex**	**Diffuse**	**Diffuse**	**Thru-beam**
Sensing distance	**0.20...0.80** m	**0.20...30** m (1)	**0.20...6** m (2)	**0.05...0.40** m	**50** m
Fixing (mm)	fixing ctrs: 30 - 11P cable gland	3 trous 5,8mm		M18 x 1	M18 x 1
Sensitivity adjustment	–	Teach mode		Potentiometer	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ⊗	P / ⊗	P / ⊗		M / ⊗	M / ⊗
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25…+ 60 / IP 67	- 20…+ 50 / IP67		- 25…+ 55 / IP 67	- 25…+ 55 / IP 67
Product certification	CE - UL - CSA	CE, cULus		CE - UL - CSA	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	86 x 27 x 83	93 x 42 x 95		M18 x 95	M18 x 95

Sensors for DC applications

Connection		Screw terminals	M12 connector - 5 pins		M12 connector	M12 connector
Transmitter / Receiver	analogue 4-20 mA / 0-10 V	**XUJK803538** (3)	–	–	–	–
	analogue 4-20 mA	–	–	–	**XU5M18AB20D**	–
	analogue 4-20mA + 1 PNP	–	–	–	–	**XU2M18AP20D** (2)
	analogue 4-20mA + 2 PNP	–	**XUE1AA2NM12**	**XUE5AA2NM12**	–	–
Supply voltage limits, min./max. (V) including ripple		20…30	18…30		10…30	10…30
Switching capacity, max. (mA) / Switching frequency (Hz)		max: 20, min: 4 / 10000	100 / 38 (fast mode), 16 (slow mode)		max: 20, min: 4 / 20	100 / 30
Overload and short-circuit protection (★) / 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) With 3-wire PNP output.





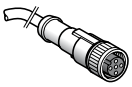
Application	F	G	H
System	**Diffuse, analogue output**		**Diffuse**
	0-10 V	**4-20 mA**	
Sensing distance	**40...60** mm	**80...300** mm	**0...100** mm
Minimum size of object	1 mm	1.5 x 3.5 mm	85 mm
Fixing (mm)	direct: 3 M4 holes, fixing centres 40 mm		direct on conveyor with specific fixing parts
Sensitivity adjustment	Potentiometer		No
Case P (plastic) / Setting-up assistance LEDs ⊗	P / ⊗		Aluminium tube / x
Temperature range (°C)	0…+ 45°		- 25...+ 55°
Product certification	CE - cULus		CE - UL
Dimensions (mm) H x W x D	50 x 17 x 50		Tube Ø 12 , variable length from 200 to 900 mm (example 415 mm)

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

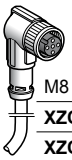
Connection	M12 connector	M12 connector	Remote M12 connector
Transmitter / Receiver 0…10 V	**XUYPCO925L1ANSP**	**XUYPCO925L3ANSP**	**XUY415N4HL03M12**
Supply voltage limits, min./max (V) including ripple	18…28		18…30
Switching capacity, max.	3 mA / 0…10 V analogue output	3 mA / 4…20 mA analogue output	100 mA
Switching frequency (Hz)	40		1000
Overload and short-circuit protection (★) / LED output state indicator (⊗)	★ / ⊗		★ / ⊗

Accessories

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



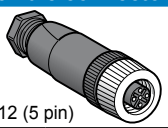
	M8 straight	M12 straight
2 m	**XZCP0941L2**	**XZCP1141L2**
5 m	**XZCP0941L5**	**XZCP1141L5**



	M8 elbowed	M12 elbowed
	XZCP1041L2	**XZCP1241L2**
	XZCP1041L5	**XZCP1241L5**

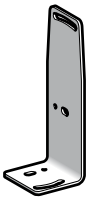
(1) For PVC cable see page 47

Female connectors



M12 (5 pin)	
straight	**XZCC12FCM50B**
elbowed	**XZCC12FDM50B**

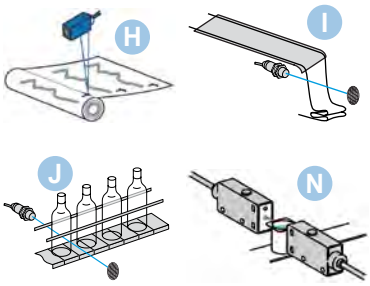
Fixing for XUE



For compact **XUZA618**

OsiSense XU — 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
Fixing (mm)	direct: fixing centres 40 x 40	direct: 21 x 28, M5 screws	direct: fixing ctrs. 40x40
Sensitivity adjustment	Teach button	Teach button	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 / IP 65	- 10…+ 55 / IP 67	- 10…+ 55 / IP 65
Product certification	CE - cULus	CE	CE - cULus
Dimensions (mm) Ø x L or H x W x D	50 x 15 x 50	96 x 31 x 64	50 x 25 x 50

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

Connection			**M12 connector**	**M12 connector**	**M12 connector** - 8 pin
Transmitter / Receiver	3-wire PNP	NO function	**XUKR1PSMM12**	–	**XUKC1PSMM12**
	3-wire NPN	NO function	**XUKR1NSMM12**	–	**XUKC1NSMM12**
	3-wire 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
Fixing (mm)			M18 x 1	M3 holes, fixing centers 24	M18 x 1	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 / IP 67	- 25...+ 55 / IP67	0…+ 55 / IP 67	- 25…+ 55 / IP 65
Product certification			CE - CSA - UL	CE - cURus	CE - UL - CSA - C-TICK	
Dimensions (mm) Ø x L or H x W x D			Ø 18 x 95	33 x 20 x 11	Ø 18 x 64	50 x 18 x 50

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

Connection			**Pre-cabled, PVC** (2 m)			
Transmitter / Receiver	3-wire PNP	programmable NO / NC	–	**XUMTAPCNL2**	**XUBTAPSNL2** (5)	–
	3-wire NPN	programmable NO / NC	–	**XUMTANCNL2**	**XUBTANSNL2** (5)	–
	3-wire PNP / NPN	programmable NO / NC	–	–	–	**XUKT1KSML2**
Connection			**M12 connector**	**M8 connector**	**M12 connector**	**M12 connector**
Transmitter / Receiver	3-wire PNP	fonction NO	**XU5M18U1D**	–	–	–
	3-wire PNP	programmable NO / NC	–	**XUMTAPCNM8** (3)	**XUBTAPSNM12** (5)	–
	3-wire NPN	programmable NO / NC	–	**XUMTANCNM8**	**XUBTANSNM12** (5)	–
	3-wire 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 XUBTAPS**N**L2 becomes XUBTAPS**W**L2
(5) Also available in stainless steel for food and beverage processing applications. To order, replace the letter **A** by **S** in the ref. Example: XUBT**A**PSNL2 becomes XUBT**S**PSNL2.

Accessories

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

L = 5 m, without LED		**Wired, elbowed**	**Wired, straight**	**Screw terminal**
M8 (or S)	4 pin	**XZCP0666L5**	**XZCP0566L5**	**XZCC8FCM30S**
M12 (or D)	4 pin	**XZCP1241L5**	**XZCP1141L5**	**XZCC12FCM40B**
M12	8 pin	–	**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

Telemecanique Sensors

Other versions: **please consult our Customer Care Centre.**

Food/beverage processing series

ECOLAB

Application	Stainless steel version for resistance to harsh agents		
System	**Polarised reflex**	**Background suppression**	**Thru-beam**
Sensing distance	**0.4…11** m (1)	**0.03…0.55** m	**0…15** m
Fixing (mm)	2 x Ø 4.3 holes …		
Case M (metal)	M (stainless steel 316L)		
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	-20 … +60°C (100°C for cleaning and sterilization phase whilst not in service) / IP67, IP69K		
Product certification	CE, Ecolab		
Dimensions (mm) H x W x D	50 x 50 X 23		

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

Connection	**M12 connector** - 4 pin		
Transmitter / Receiver 4-wire PNP	**XUK9SPSMM12**	**XUK8SPSMM12**	**XUK2SKSMM12T** (transmitter) **XUK2SPSMM12R** (receiver)
Supply voltage limits, min./max. (V) including ripple	10…30		
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 600	100 / 400	100 / 500

(1) With reflector XUZC100 to be ordered separately

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
Fixing (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 / IP 67	- 25…+ 55 / IP 67	- 25…+ 55 / IP 67
Product certification	CE - UL - CSA - C-TICK			
Dimensions (mm) Ø x L	Ø 18 x 64	Ø 18 x 62	Ø 18 x 62	Ø 18 x 64

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

Connection			**Pre-cabled, PvR (2 m)**			
Transmitter / Receiver	3-wire PNP	programmable NO / NC	**XUB0SPSNL2**	**XU9N18PP341**	**XU5N18PP341**	**XU2N18PP341**
	3-wire NPN	programmable NO / NC	**XUB0SNSNL2**	**XU9N18NP341**	**XU5N18NP341**	**XU2N18NP341**
Connection			**M12 connector**			
Transmitter / Receiver	3-wire PNP	programmable NO / NC	**XUB0SPSNM12**	**XU9N18PP341D**	**XU5N18PP341D**	**XU2N18PP341D**
	3-wire 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 XU9N18PP341**W** or XU9N18PP341**W**D.
(3) Also available with 90° head, to order replace the 8e digit **N** by **W**. Example XUB0SPS**N**L2 becomes XUB0SPS**W**L2
(4) Background suppression: **0.12 m** - Diffuse: **0.3 m** - Reflex polarised: **3 m** - Thru beam: **20 m**

Accessories

Pre-wired connectors

L = 5 m

Elbowed
XZCPA1241L5

Straight
XZCPA1141L5

Ecolab reflector 50x50 (2)

XUZC50CR

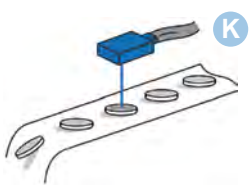
Stainless steel fixing bracket

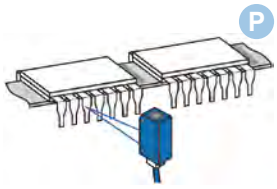
XUZA118
(for M18)

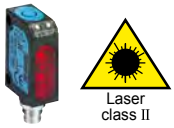
XUZA51S
(for compact)

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

Photo-electric sensors
with background suppression





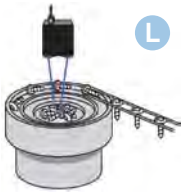


Application	K	P	K
System	**Background suppression**	**Diffuse with background suppression** Sensing distance 1	Sensing distance 2
Sensing distance	**1.5…80** mm	**10…60** mm	**30…110** mm
Minium size of object	–	0.3 mm	0.7 mm
Fixing (mm)	2 x Ø 3 holes / fxg. ctrs. 14.5	direct: 2 M3 holes, fixing centres 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 / IP 65 & IP 67	- 20…+ 60°C / IP 67	
Product certification	CE - cULus	CE - cULus	
Dimensions (mm) H x W x D	32 x 13 x 20	35.8 x 12 x 20	

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

Connection			**M8 connector** (1) - 4 Pin	**M8 connector**- 4 Pin	**M8 connector**- 4 Pin
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
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗

(1) For 2 m pre-cabled connection delete CO from the reference. Example: XUYPS**CO**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	–
Fixing (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 / IP 65	0…+ 60 / IP 40
Product certification	CE - cULus	
Dimensions (mm) H x W x D	60 x 18 x 60	60 x 18 x 60

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

Connection			**M8 connector**	
Transmitter / Receiver	3-wire 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

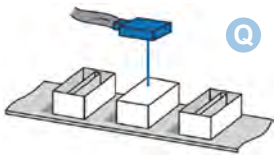

Elbowed

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

(1) For PVC cable see page 47

Telemecanique Sensors

Other versions: **please consult our Customer Care Centre.**



objects on conveyors

Application				
System			**Diffuse with adjustable background suppression**	
Sensing distance			**20…300** mm	**0…1** m	**2** m
Fixing (mm)			Fixing : M3 holes, fixing centers 24 mm	Direct fixing centres 40 x 40, M4 screws	Direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment			potentiomètre	–	–
Case P (plastic) / Setting-up assistance LEDs ⊗			P / ⊗	P / ⊗	P / ⊗
Temperature range (°C) / Degree of protection (conforming to IEC 60529)			- 25…+ 55 / IP67	- 25…+ 55 / IP 65	- 25...+ 55 / IP 67
Product certification			CE- cURus	CE - UL - CSA	CE - UL - CSA
Dimensions (mm) H x W x D			33 x 20 x 11	50 x 18 x 50	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-wire PNP / NPN	programmable NO / NC	–	**XUK8AKSNL2**	**XUX8AKSAT16** (3)
	PNP	programmable NO / NC	**XUM8APCNL2**	–	–
	NPN	programmable NO / NC	**XUM8ANCNL2**	–	–
Connection			**M8 connector**	**M12 connector**	
Transmitter / Receiver	3-wire PNP / NPN	programmable NO / NC	–	**XUK8AKSNM12**	**XUX8AKSAM12**
	PNP	programmable NO / NC	**XUM8APCNM8** (1)	–	–
	NPN	programmable NO / NC	**XUM8ANCNM8**	–	–
Supply voltage limits, min./max. (V) including ripple				10…36	10…36
Switching capacity, max. (mA) / Switching frequency (Hz)				100 / 250	100 / 150

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

Système				
			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 / IP 67	- 25…+ 55°C / IP 65	- 25...+ 55 / IP 67
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
Overload and short-circuit protection (★) / LED output state indicator (⊗)			(2) / ⊗	–	–

(2) 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 / IP 65	- 10…+ 55 / IP 65 (1)	0…+ 60 / IP 65	- 10…+ 55 / IP 65 (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

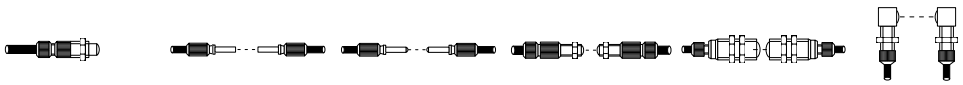
Sensors for DC applications (solid-state output: transistor)

Connection			**Pre-cabled, PVC (2 m)**			
References	3-wire **PNP** programmable	**NO / NC**	–	**XUDA1PSML2**	–	**XUDA2PSML2**
Amplifier	3-wire **NPN** programmable	**NO / NC**	–	**XUDA1NSML2**	–	**XUDA2NSML2**
Connection			**M8 connector** - 4 Pin			
References	3-wire **PNP** programmable	**NO / NC**	–	**XUDA1PSMM8**	–	**XUDA2PSMM8**
Amplifier	3-wire **NPN** programmable	**NO / NC**	–	**XUDA1NSMM8**	–	**XUDA2NSMM8**
	3-wire **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
Overload and short-circuit protection (★) / LED output state indicator (⊗)			★ / ⊗	★ / ⊗	★ / ⊗	★ / ⊗

(1) IP 65 with Ø 1 fibre/ IP 64 with Ø 0.5 fibre.

Ecofibre system, assemble your own plastic fibres

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



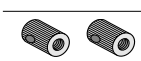
End fittings						
Sensing distance (mm)	**70**	**200**	**800**	**1200**	**4000**	**1200**
Type	with threaded end fitting	with plain end fitting, Ø 3, L = 9 mm	with plain end fitting, Ø 3, L = 9 mm	with threaded end fitting	with threaded end fitting	90° mirror, with threaded end fitting
Thread	M8 x 1,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

Accessories

For thru-beam system plastic fibre optics

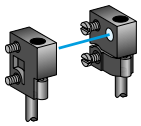
Lenses

For increasing sensing distance (pair) **XUFZ01**



With 90° mirror (pair) **XUFZ02**

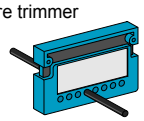
Fixing clamp with lens (set of 2)



Front screw fixing for fibre optics XUFZ920 **XUFZ04**

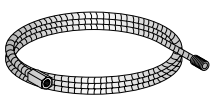
For all system plastic fibre optics

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

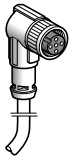
For M4 thread **XUFZ210**

For M6 thread **XUFZ310**

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

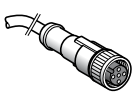
Cable length 5 m, without LED

pre-wired, elbowed



XZCP1041L5

pre-wired, straight



XZCP0941L5

(1) For PVC cable see page 47

Plastic fibre optic light guides (length 2 m)

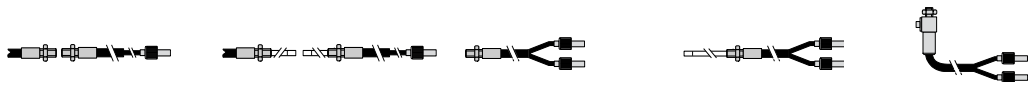
	M4 / M2.6 (1)	M4 / L = 90 mm	M3 / M2.6 (1)	Long range fibres with integrated lens M8 / L = 20 mm	Long range fibres M4 / M2.6 (1)	Flexible fibres M4 / M2.6 (1)
System	**Thru-beam**					
Sensing distance (mm)	**200 or 1500** (2)	**180**	**50 or 1000** (2)	**2500**	**300 or 2000** (2)	**100 or 750** (2)
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**
Fixing	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	Ø 1+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**
Fixing	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**
Fixing	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 / Metal wound: - 25…+ 120 / Flexible stainless steel: - 25…+ 200				
References PVC sheath	**XUYFVERSD61**	**–**	**XUYFVPSD61**	**XUYFVPSC61**	**XUYFVPSL61**
Metal wound	**XUYFVERMD61**	**XUYFVERSC61**	**XUYFVPMD61**	**XUYFVPMC61**	**XUYFVPML61**
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** or **10** cm depending on model	**15** or **50** cm depending on model	**50** mm
	Mode thru beam	**20** cm	**61** or **100** cm depending on model	
Operating zone for proximity mode		0.64…5.1 cm (XX512A1…) 0.64…10.2 cm (XX512A2…)	1.9…15.2 cm (XX518A1…) 5.1…50.8 cm (XX518A3…)	2…50 mm
Sensitivity adjustment		Fixed	Adjustable using remote control for XX518 A3. Fixed for XX518A1, XXT18, XXR18	Fixed
Case M (metal), P (plastic)		P	P	M
Product certification		CE	CE	CE
Temperature range (°C)		- 20…+ 65	0…+ 50 (XX518A1…) / - 20…+ 65 (XX518A3…) / 0... 60 (XXT18, XXR18)	0…+ 60
Degree of protection (conforming to IEC 60529)		IP 67		
Dimensions (mm) Ø x L		M12 x 50	M18 x 65	M18 x 75 (M12) M18 x 65 (Cable)

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

Connection			**M8 connector**	**M12 connector**	**Pre-cabled (2 m), M12 connector**
3-wire	**PNP**	**NO** function	**XX512A2PAM8** (10 cm)	**XX518A3PAM12** (50 cm)	**XXV18B1PAL2** (cable) **XXV18B1PAM12** (M12)
	NPN	**NO** function	**XX512A2NAM8** (10 cm)	**XX518A3NAM12** (50 cm)	**XXV18B1NAL2** (cable) **XXV18B1NAM12** (M12)
4-wire	**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 (⊗) / Power on LED (⊗)			⊗ / ⊗	⊗ / ⊗ 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

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

Connection			**M12 connector**		
4-wire	**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 (⊗) / Power on LED (⊗)			–	⊗ / ⊗	–
Transmission frequency (kHz)			–	300	–

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

Connection		**M8 connector**	**M12 connector**	
4-wire	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	Adjustable using teach mode		
Case M (metal), P (plastic)	P			P
Product certification	CE			CE
Temperature range (°C)	0…+ 70	0…+ 70		- 20…+ 60
Degree of protection (conforming to IEC 60529)	IP 67	IP 65		
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**			**M12 connector**
3-wire	**PNP**	**NO** function	**XX6V3A1PAM12**	–	–	–
	NPN	**NO** function	**XX6V3A1NAM12**	–	–	–
4-wire	**PNP/NPN**	**NO** function	–	**XX630A1KAM12**	–	–
	PNP	**NO + NC** function	–	**XX630A1PCM12** (2)	–	**XX630A3PCM12**
	NPN	**NO + NC** function	–	**XX630A1NCM12** (2)	–	**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 (⊗) / Power on LED (⊗)			⊗ / ⊗			
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)

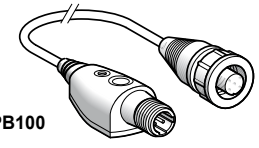
Connection			**M12 connector**			
4-wire	**Analogue**	**0…10 V** output	**XX9V3A1F1M12**	**XX930A1A1M12** (2)	–	**XX930A3A1M12**
		4…20 mA output	**XX9V3A1C2M12**	**XX930A1A2M12** (2)	–	**XX930A3A2M12**
Supply voltage limits, min./max. (V) including ripple			10…28	10…28	–	10…28
Short-circuit protection (★)			★	★	–	★
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗	⊗ / ⊗	–	⊗ / ⊗
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: XX630**A**1PCM12 becomes XX630**S**1PCM12.
(3) 2 NO

Accessories

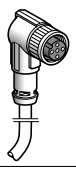
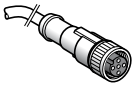
Programming

Remote control
teach button for use with sensors XX●18A3●●●, XX●V1●●●, XX●V3●●● and XX●D1



XXZPB100

Suitable female plug-in connectors

		PUR Pre-wired connectors (1) elbowed	straight	**Other connectors** screw terminal
				
L = 5 m (without LED)				
M8	for XX512A1…	**XZCP1041L5**	**XZCP0941L5**	**XZCC8FCM40V**
	for XX512A2…	**XZCP0666L5**	**XZCP0566L5**	**XZCC8FCM30V**
M12	for all sensors except XX512...	**XZCP1241L5**	**XZCP1141L5**	**XZCC12FCM40B**

(1) For PVC cable see page 47

For fixing see page 46

OsiSense XX 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** or **100** cm depending on 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	Fixed	Adjustable using remote control	Adjustable using remote control
Case P (plastic)		P	P	P	P
Product certification		CE	CE	CE	CE
Temperature range (°C)		- 20…+ 65	0…+ 50	- 20…+ 65	0...+ 70
Degree of protection (conforming to IEC 60529)		IP 67			
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	**M12 connector**		
3-wire	**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 (⊗) / Power on LED (⊗)			⊗ / ⊗			
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			–		**M12 connector**	
4-wire	**Analogue**	**0…10 V** output	–	–	**XX9V1A1F1M12**	**XX9D1A1F1M12**
		4…20 mA output	–	–	**XX9V1A1C2M12**	**XX9D1A1C2M12**
Supply voltage limits, min./max. (V) including ripple			–	–	10…28	10…28
Short-circuit protection (★)			–	–	★	★
LED output state indicator (⊗) / Power on LED (⊗)			–	–	⊗ / ⊗	⊗ / ⊗
Transmission frequency (kHz)			–	–	300	180

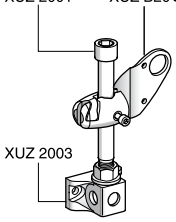
Thru beam mode with “Discrete” output for DC applications (24 V)

Connection		–			
4-wire	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

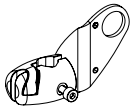
Fixings - 3D fixings with ball joint

XUZ 2001 XUZ B20●●



3D kit example

Bracket with ball joint for cylindrical sensors

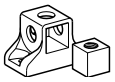


for	
Ø 12	**XUZB2012**
Ø 18	**XUZB2003**
Ø 30	**XUZB2030**

M12 rod for ball joint

XUZ2001

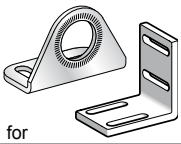
Fixing support for M12 rod



XUZ2003

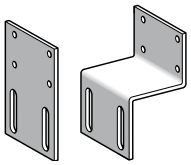
Simple fixings

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

Cabling system

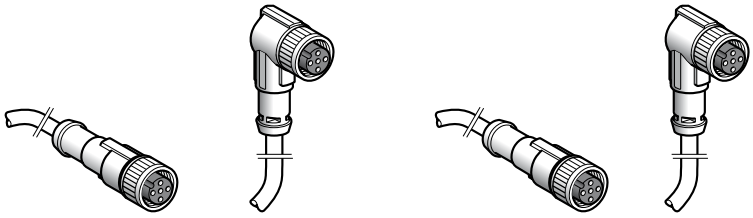
Pre-wired female connectors

PVC cable
M8 and M12 connector

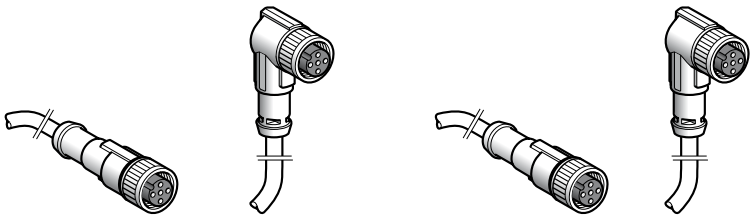
PVC cable
1/2" and 7/8" connector

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

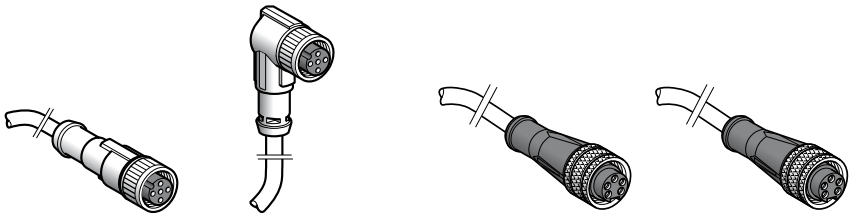
Reinforced PVC cable, stainless steel ring
M8, M12,1/2" and 7/8" connector



Connector Size		M8			
		Straight 3 pin	Elbowed 3 pin	Straight 4 pin	Elbowed 4 pin
References	PVC cable	XZCPV0566L●	XZCPV0666L●	XZCPV0941L●	XZCPV1041L●
	PUR cable	XZCP0566L●	XZCP0666L●	XZCP0941L●	XZCP1041L●
	PVC cable IP69K	XZCPA0566L●	–	XZCPA0941L●	–

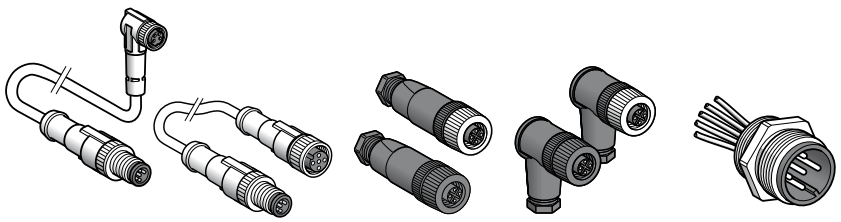


Connector Size		M12			
		Straight 4 pin	Elbowed 4 pin	Straight 5 pin	Elbowed 5 pin
References	PVC cable	XZCPV1141L●	XZCPV1241L●	XZCPV1164L●	XZCPV1264L●
	PUR cable	XZCP1141L●	XZCP1241L●	XZCP1164L●	XZCP1264L●
	PVC cable IP69K	XZCPA1141L●	XZCPA1241L●	XZCPA1164L●	–



Connector Size		1/2"		7/8"	
		Straight 3 pin	Elbowed 3 pin	Straight 3 pin	Straight 5 pin
References	PVC cable	XZCPV1865L●	XZCPV1965L●	XZCPV1670L●	–
	PUR cable	XZCP1865L●	XZCP1965L●	XZCP1670L●	XZCP1764L●
	PVC cable IP69K	XZCPA1865L●	XZCPA1965L●	–	–

Complete each reference by adding the length of cable, as 2 for 2 m, 5 for 5 m and 10 for 10 m
Eg: XZCPV1141L**2** is pre-wired connector M12 connectors with 4 contacts and 2 m PVC cable



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

OsiSense XCC — Opto-electronic rotary encoders
Incremental






(6)

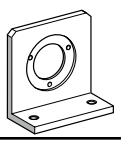
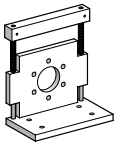
Diameter of housing (mm)		Ø 40	Ø 40	Ø 58	Ø 58	Stainless steel 316L	Ø 58 Parametrable	Ø 90
Shaft Ø (mm)		**Ø 6**	**Ø 6**	**Ø 6**	**Ø 10**		**Ø 14** (1)	**Ø 12**
Type of shaft (2)		**solid shaft**	**through shaft**	**solid shaft**	**solid shaft**		**through shaft**	**solid shaft**
Maximum rotational speed (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)		IP 54	IP 52	IP 65 / IP 67 (3)	IP 65 / IP 67 (3)	IP69K	IP 65	IP 66
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	4.5…5.5 V
	Push-pull	11…30 V	11…30 V	5…30 V	5…30 V		5…30 V	11…30 V
Connection		**Pre-cabled (2 m)**, radial		**M23 male connector**, radial		**Pre-cabled (2 m)**, axial	**M23 male connector**, radial	
Resolution (Points)	Output stage							
100	5 V, RS 422	**XCC1406PR01R**	**XCC1406TR01R**	**XCC1506PS01X**	**XCC1510PS01X**	**–**	**–**	**XCC1912PS01RN**
	Push-pull	**XCC1406PR01K**	**XCC1406TR01K**	**XCC1506PS01Y**	**XCC1510PS01Y**	**–**	**–**	**XCC1912PS01KN**
360	5 V, RS 422	**XCC1406PR03R**	**XCC1406TR03R**	**XCC1506PS03X**	**XCC1510PS03X**	**–**	**–**	**XCC1912PS03RN**
	Push-pull	**XCC1406PR03K**	**XCC1406TR03K**	**XCC1506PS03Y**	**XCC1510PS03Y**	**XCC1510SPA03Y**	**–**	**XCC1912PS03KN**
500	5 V, RS 422	**XCC1406PR05R**	**XCC1406TR05R**	**XCC1506PS05X**	**XCC1510PS05X**	**–**	**–**	**XCC1912PS05RN**
	Push-pull	**XCC1406PR05K**	**XCC1406TR05K**	**XCC1506PS05Y**	**XCC1510PS05Y**	**–**	**–**	**XCC1912PS05KN**
1000	5 V, RS 422	**XCC1406PR10R**	**XCC1406TR10R**	**XCC1506PS10X**	**XCC1510PS10X**	**–**	**–**	**XCC1912PS10RN**
	Push-pull	**XCC1406PR10K**	**XCC1406TR10K**	**XCC1506PS10Y**	**XCC1510PS10Y**	**–**	**–**	**XCC1912PS10KN**
1024	5 V, RS 422	**XCC1406PR11R**	**XCC1406TR11R**	**XCC1506PS11X**	**XCC1510PS11X**	**–**	**–**	**XCC1912PS11RN**
	Push-pull	**XCC1406PR11K**	**XCC1406TR11K**	**XCC1506PS11Y**	**XCC1510PS11Y**	**XCC1501SPA11Y**	**–**	**XCC1912PS11KN**
2500	5 V, RS 422	**–**	**–**	**XCC1506PS25X**	**XCC1510PS25X**	**–**	**–**	**XCC1912PS25RN**
	Push-pull	**–**	**–**	**XCC1506PS25Y**	**XCC1510PS25Y**	**–**	**–**	**XCC1912PS25KN**
3600	5 V, RS 422	**–**	**–**	**–**	**–**	**–**	**–**	**XCC1912PS36RN**
	Push-pull	**–**	**–**	**–**	**–**	**–**	**–**	**XCC1912PS36KN**
256…4096	5 V, RS 422	**–**	**–**	**–**	**–**	**–**	**XCC1514TSM02X**	**–**
	Push-pull	**–**	**–**	**–**	**–**	**–**	**XCC1514TSM02Y**	**–**
5000	5 V, RS 422	**–**	**–**	**XCC1506PS50X**	**XCC1510PS50X**	**–**	**–**	**XCC1912PS50RN**
	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

		Bore diameter (encoder side)	Bore diameter (machine side)	Reference
with spring		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**

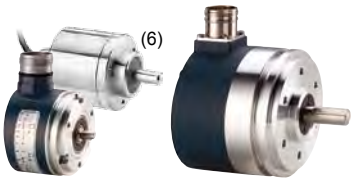
Telemecanique Sensors

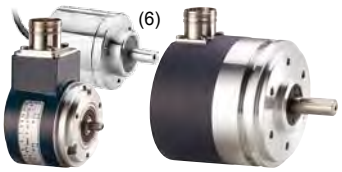
Other versions: **please consult our Customer Care Centre.**

Absolute - single turn

Absolute - multiturn

Communicating multiturn absolute



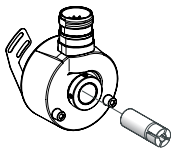


Diameter of housing (mm)			**Ø 58**	**Ø 90**	**Ø 58**	**Ø 90**	**Ø 58 CANopen**	**Ø 58 PROFIBUS-DP**
Shaft Ø (mm)			**Ø 10**	**Ø 12**	**Ø 10**	**Ø 12**	**Ø 10**	**Ø 10**
Type of shaft (2)			**solid shaft**	**solid shaft**	**solid shaft**	**solid shaft**	**solid shaft** (4)	**solid shaft** (4)
Maximum 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	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)			IP 65 / IP 67 (3) / IP69K (6)	IP 66	IP 65 / IP 67 (3) / IP69K (6)	IP 66	IP 64	IP 64
Supply voltage			11…30 V					
Connection			**M23 male connector**, radial / 2m Axial cable (6)				**2** x **M12** + **1** x **Pg 9**	**3** x **Pg 9**
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 turns	SSI, 25 bits (5)	Gray	–	–	**XCC3510PS48SGN** **XCC3510SPA48SGN** (6)	–	–	–
8192 points / 4096 turns	SSI, 25 bits (5)	Binaire			**XCC3510PS84SBN**	**XCC3912PS84SBN**	–	–
		Gray	–	–	**XCC3510PS84SGN**	**XCC3912PS84SGN**	–	–
8192 points / 4096 turns	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 binary - // 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 functions
- 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		IP 67		
Serial link	Type	RS 485		Ethernet (dual port)
	Protocol	Modbus and Uni-Telway		MODBUS TCP/IP and EtherNet/IP
	Speed (Bauds)	9600…115 200 (automatic detection)		10/100MB
Ambient air temperature (°C)		For operation: - 25…+ 70 °C, for storage: - 40…+ 85 °C		
Nominal supply voltage		24 VDC PELV (Protective Extra Low Voltage)		
Connection		M12, 5-pin male, shielded connector on flying lead. Only for connection to the communication network and the supply		M12 (Ethernet) - M8 4pin (Power supply)
References		**XGCS4901201**	**XGCS8901201**	**XGCS850C201**

Electronic tags		Flat form 40		ISO badge (1)	Disc	Flat form 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 (mm)	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		IP 68		IP 65		IP 68	
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.

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
Protocols	Modbus TCP/IP	Profibus DP	EtherNet/IP
Supply voltage	24 VDC PELV. M12, 4-pin male, A coding, connector		
Conformity to standards	CE - UL	CE	CE
Station connection	M12, 5-pin female, A coding, connector		
Degree of protection conforming to IEC 60529	IP 65		
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 class 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 Profibus	for Ethernet	Pre-wired connector	"T" connector
Description	Modbus connecting cable M12 connectors Male / Female	Pre-wired connector M12 male / Bare wires	Modbus connecting cable M12 female / Mini-DIN 8	Profibus connecting cables M12 connectors Male / Female	Ethernet connecting cable M12 male / RJ 45	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 a Modbus box and a PLC	Connection between Profibus box and Profibus network	Connection between an Ethernet box and the Ethernet network	24 VDC supply to connection boxes	For chaining of smart antennas on RS485 network
L = 2 m	**TCSMCN1M1F2**	**TCSMCN1F2**	**TCSMCN1F9M2P**	**FTXDP1220**	**XGSZ12E4503** (3)	**XGSZ09L2**	**TCSCTN011M11F**
L = 5 m	**TCSMCN1M1F5**	**TCSMCN1F5**	**–**	**FTXDP1250**	**XGSZ12E4510** (4)	**XGSZ09L5**	

(3) L = 3 m (4) L=10 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

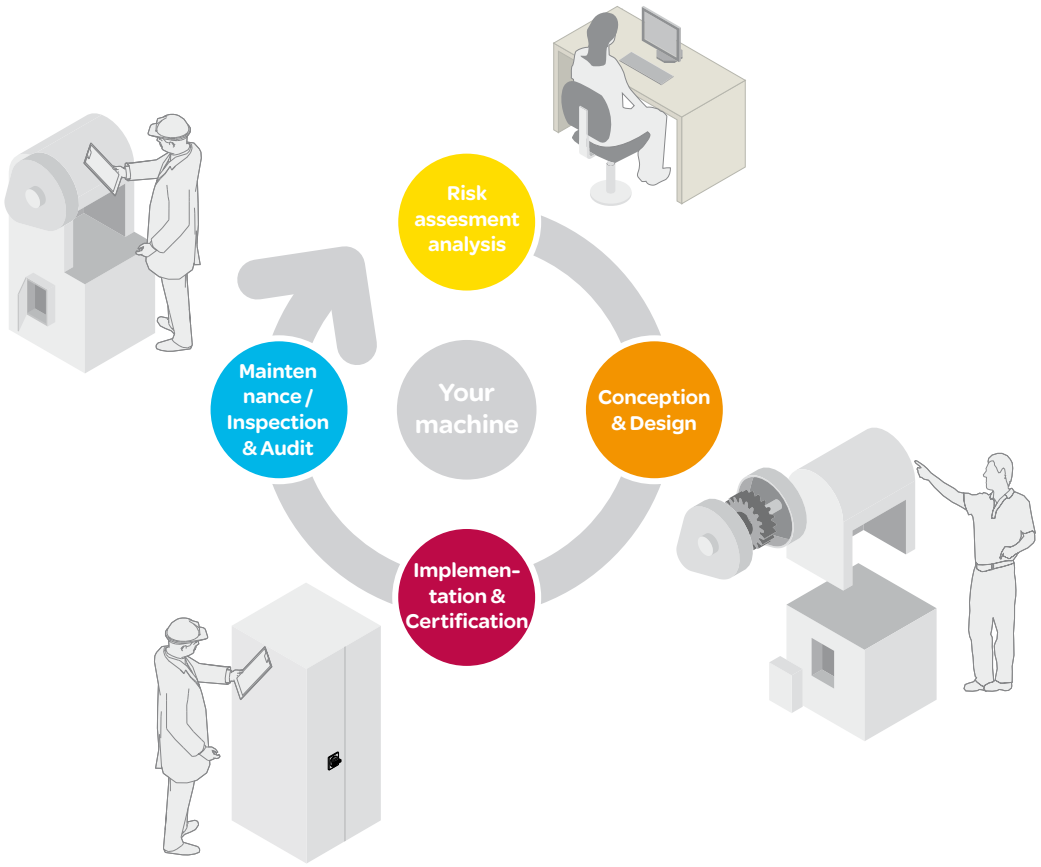
OsiSense XG smart antenna guide

DIA4ED3051001

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

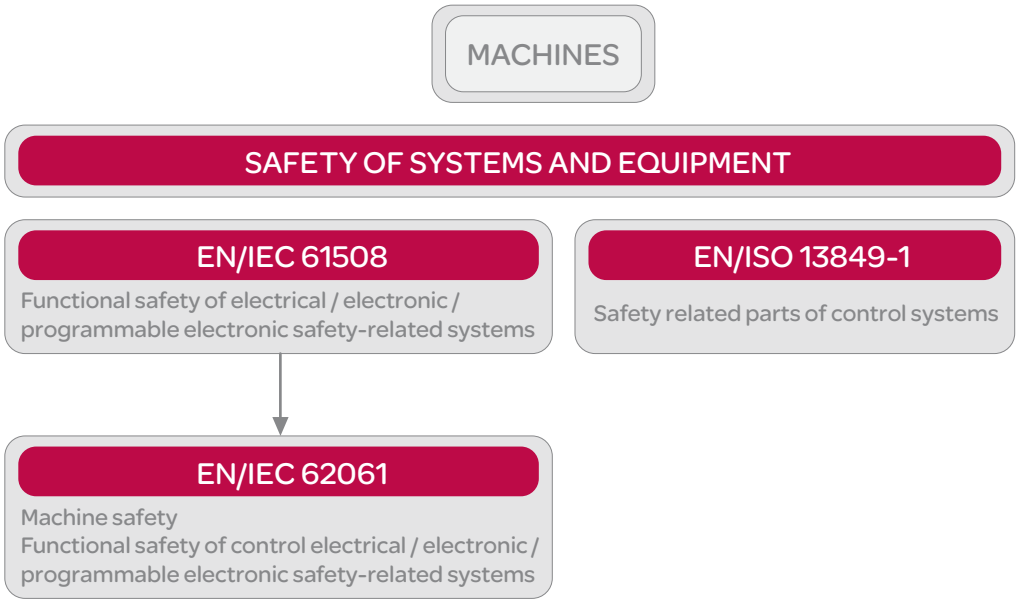
The previous Machinery Directive 98/37/EC was elaborated to help manufacturers ensuring a minimum safety level for machinery and equipment sold within the EU (European Union).

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

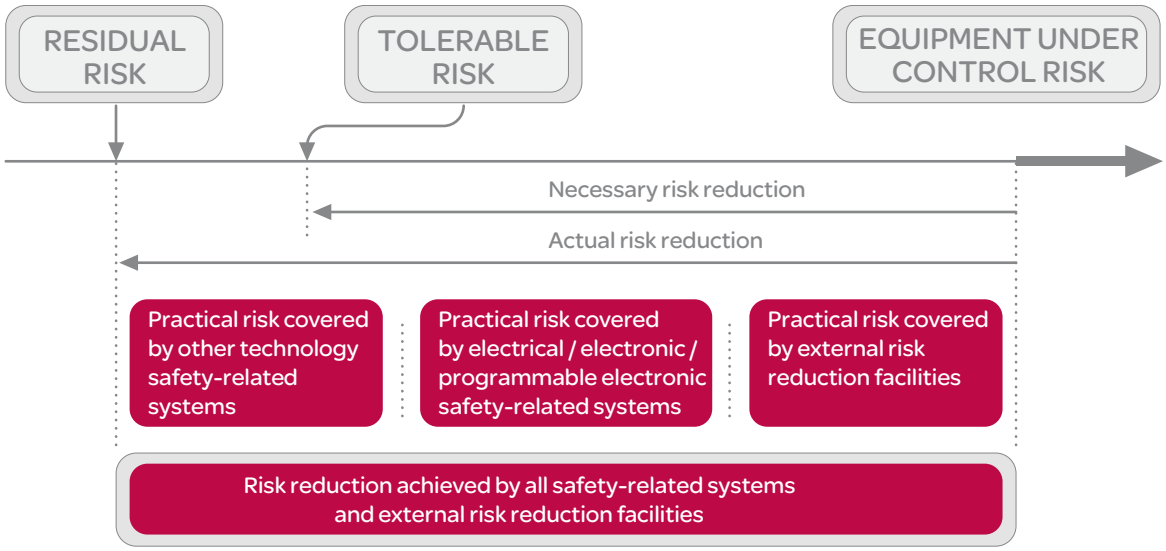
• Safety integrity level (SIL), Performance level (PL)



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)	Class 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
$\lambda_d = \lambda_{dd} + \lambda_{du}$

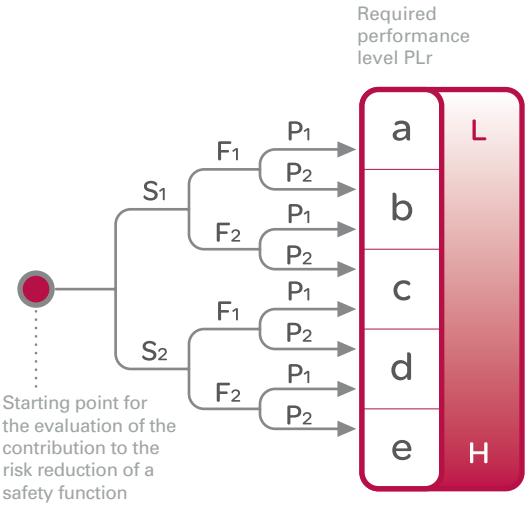
In practice, detected dangerous failure are dealt with by fault

- 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



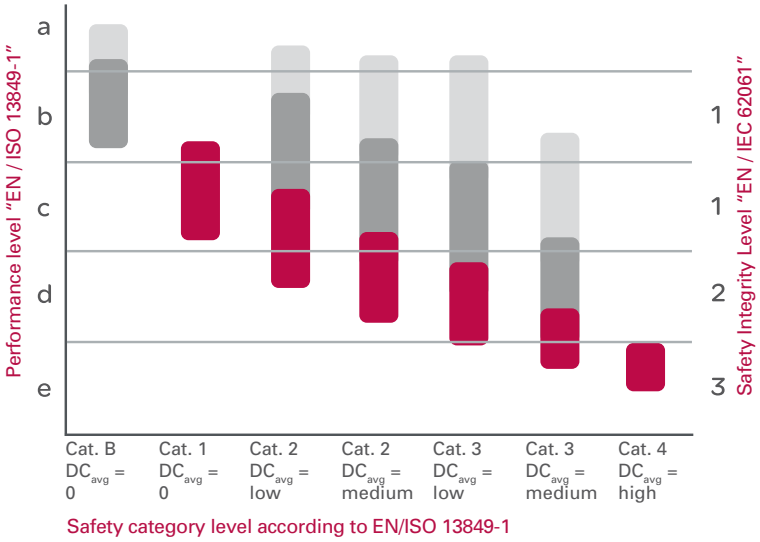
S = Severity of injury
S1 = Slight (normally reversible injury)
S2 = Serious (normally irreversible) injury including death
F = Frequency and/or exposure time to the hazard
F1 = Seldom to less often and/or the exposure time is short
F2 = Frequent to continuous and/or the exposure time is long
P = Possibility 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	$\geq 10^{-8} \ldots < 10^{-7}$

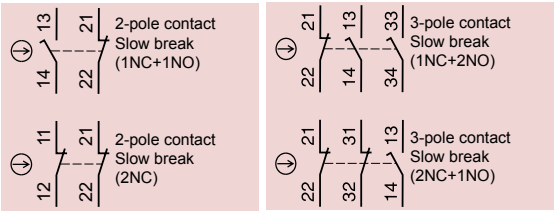
For a SRP/CS (or a combination of SRP/CS) designed according the requirements of the article 6, the PL could be estimated with the figure beside after estimation of several factors such as system structure (categories), mechanism of failures detection [Diagnosis Coverage (DC)], components reliability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

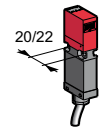


MTTF$_d$ of each channel = low
MTTF$_d$ of each channel = medium
MTTF$_d$ of each channel = high

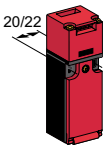
ISO entry (to EN 50262)

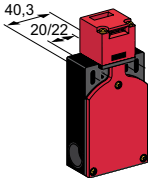
Illustration of contacts with the actuator inserted in the head of the switch





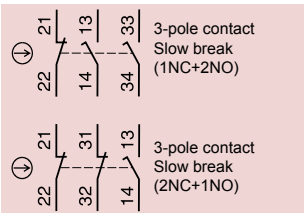
Without locking





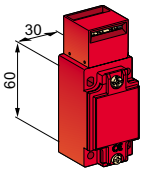
Plastic, double insulated switches			Type XCSMP	Type XCSPA		Type XCSTA
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061			
Actuation speed (min --> max)			0,05m/s --> 1,5m/s	0,1m/s --> 0,5m/s		0,1m/s --> 0,5m/s
Rated operational characteristics (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)
Wiring 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).

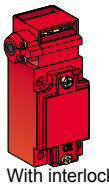


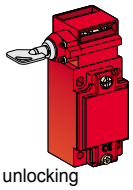
ISO entry (to EN 50262)

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



Without locking

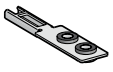

With interlocking, manual unlocking
By button


By key lock

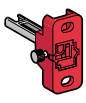
Metal, double insulated switches			Type XCSA		Type XCSB	Type XCSC
Maximum safety level (3)			PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061			
Actuation speed (min --> max)			0,01m/s --> 0,5m/s		0,01m/s --> 0,5m/s	
Rated operational characteristics (conforming to 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	
Wiring 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** ⊖

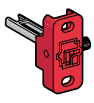
(3) Using an appropriate and correctly connected control system.

Accessoires


Straight actuator


Right-angled actuator


Pivoting actuator, RH door

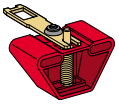

Pivoting actuator, LH door

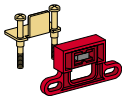
For safety switches XCSMP	Actuators			
References	**XCSZ81**	**XCSZ84**	**XCSZ83**	**XCSZ85**


Straight actuator


Wide actuator L=40 mm (4)


Right-angled actuator


Pivoting actuator

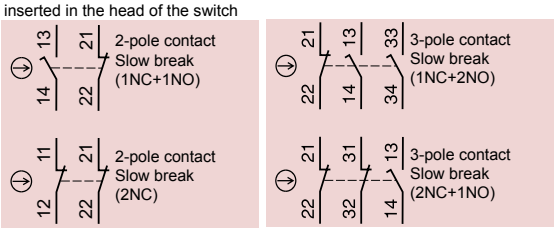

Guard/door retainer

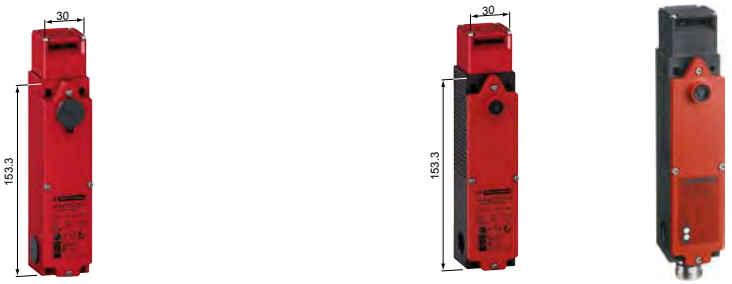
For safety switches XCSPA/TA	Actuators				Retaining device
References	**XCSZ11**	**XCSZ12**	**XCSZ14**	**XCSZ13**	**XCSZ21**

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

ISO entry (to EN 50262)

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, 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 B10d			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)	
Power supply 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**

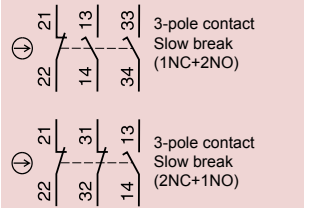


Illustration of contacts with the actuator inserted in the head of the switch

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 and SIL CL3 conforming to EN/IEC 62061			
Degree of protection conforming to IEC 60529			IP66	IP65	IP66	IP65
Reliability data B10d			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	
Power supply for the solenoid and the LEDs			24VAC/DC			
Material case			Zamak			
Wiring 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 pin
M23 to XCSLF***M3 products: Connector M23, 19 pin

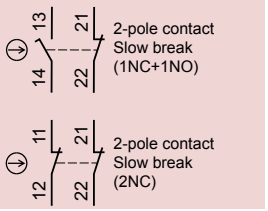
Accessories

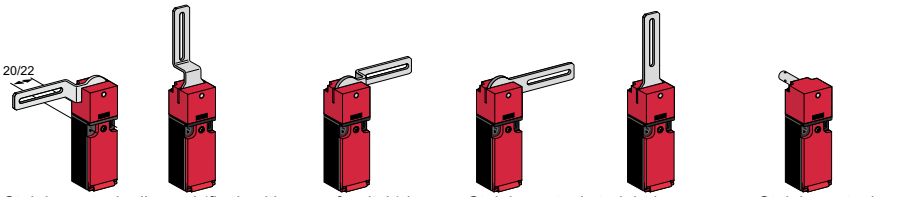
Straight actuator | Wide actuator | Pivoting actuator

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

Safety switches
with rotary lever or spindle

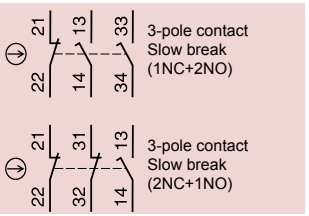
ISO entry (to EN 50262)



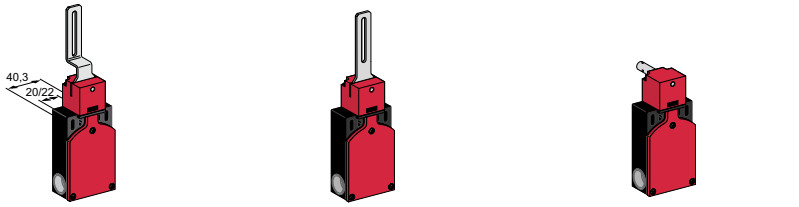


Stainless steel, elbowed (flush with rear of switch) lever | Stainless steel straight lever | Stainless steel spindle, L = 30 mm

Plastic switches		Type XCSPL with rotary lever or XCSPR with spindle 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		IP 67					
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 B10d		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 break before make, slow break	**–**	**–**	**–**	**XCSPL862** →	**–**	**–**
	2NC+1NO break before make, slow break	**–**	**XCSPL982** →	**–**	**XCSPL962** →	**–**	**XCSPR952** →



ISO entry (to EN 50262)

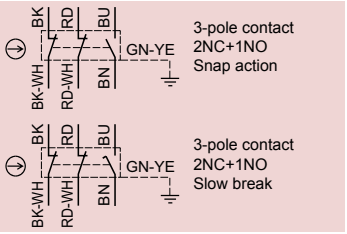


Stainless steel, elbowed (flush with rear of switch) lever | Stainless steel straight lever | Stainless steel spindle Length 30 mm

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		IP 67		
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 B10d		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

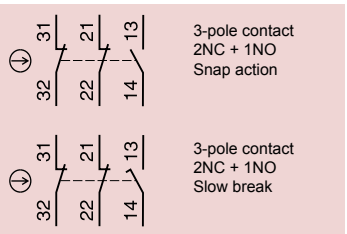



Metal
end plunger


Roller plunger


Thermoplastic
roller lever

Miniature switches		Type XCSM, metal pre-cabled, L = 1 m (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		IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68	IP 66 + IP 67 + IP 68
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 B10d		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
end plunger


Roller
plunger


Thermoplastic
roller lever


Metal
end plunger


Roller
plunger


Thermoplastic
roller lever

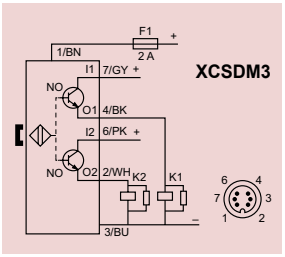
Compact switches		Type XCSD, metal 1 x ISO M20 x 1.5 cable entry (3)			Type XCSP, plastic 1 x ISO M20 x 1.5 cable entry (2)		
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061					
Maximum actuation speed		0.5 m/s		1.5 m/s	0.5 m/s		1.5 m/s
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		IP 66 + IP 67			IP 66 + IP 67		
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 B10d		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.

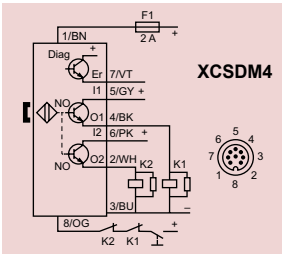
Coded magnetic technology

Plastic coded magnetic system

(1)



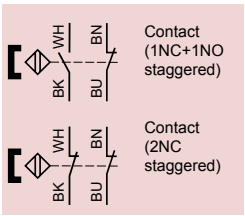
(1)



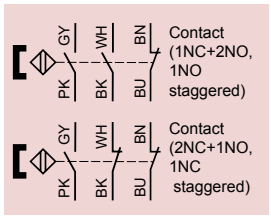
Type of system With integrated safety module			SIL2/Category 3 XCSDM3	SIL3/Category 4 XCSDM4
Maximum safety level			SIL 2 conforming to EN/IEC 61508,PL=d, category 3 conforming to EN/ISO 13849-1	SIL 3 conforming to EN/IEC 61508, PL=e, category 4 conforming to EN/ISO 13849-1
Switches for actuation			**Face to face, face to side, side to side**	
Degree of protection			Pre-cabled: IP66 / IP67, IP69K, connector: IP67	
Type of contact			2 solid-state output PNP/NO, 1,5 A / 24VDC (2 A up to 60°C)	
Rated operational characteristics (conforming to EN IEC 60947-5-1)			Ub: 24 VDC +10% - 20%	
Dimensions W x D x H			34 x 27 x 100 mm	
Operating zone			Sao= 10 mm / Sar= 20 mm	
Reliability data			MTTFd = 182 years; PFH = 3.94E -9; PFD = 1.15E -5; SFF = 92.5%; HFT = 1	
References	Connection	for cable L= 2m	**XCSDM379102**	**XCSDM480102**
		for cable L= 5m	**XCSDM379105**	**XCSDM480105**
		for cable L= 10m	**XCSDM379110**	**XCSDM480110**
		for connector M12	**XCSDM3791M12**	**XCSDM4801M12**

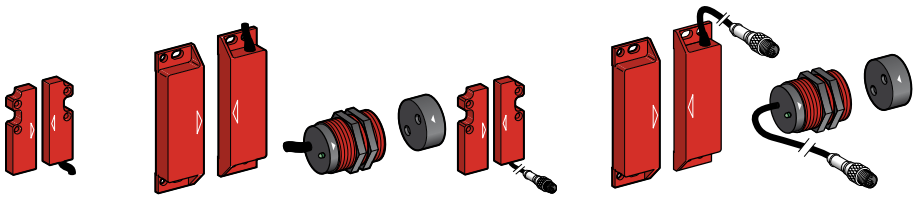
Plastic coded magnetic

(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, category 4 conforming to EN/ISO 13849-1 and 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		IP 66 + IP 67			IP 66 + IP 67		
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 B10d		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

NC + NO contact
slow break

NC + NC contact
slow break



For operating cable length < 20 - 30m		Latching, without indicator light Pg 13.5 threaded cable entry		
Maximum safety level (2)		PL e, category 4 conforming to EN/ISO 13849-1 and SIL CL3 conforming to EN/IEC 62061		
Mechanical life		100, 000 operating cycles		
Shock / vibration resistance		50 gn / 10 gn		
Degree of protection		IP 66 and 67		
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	< 30 m
Operating cable anchoring point		straight	right side	left side
Reliability data B10d		500, 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Contact	1 NC + NO slow break	**XY2CJS15** (4)	**XY2CJR15** (4)	**XY2CJL15** (4)
	1 NC + NC slow break	**XY2CJS17** (4)	**XY2CJR17** (4)	**XY2CJL17** (4)
	2 NC + 1 NO slow break	**XY2CJS19** (4) (5)	**XY2CJR19** (4) (5)	**XY2CJL19** (4) (5)

ISO entry (to EN 50262)


Booted pushbutton reset


Key release pushbutton reset (key n° 421)

For operating cable length ≤ 30 m		Latching, without indicator light 3 x ISO M20 cable entries (1)		with indicator light
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508		
Mechanical life		800 000 operating cycles		
Shock / vibration resistance		50 gn / 10 gn		
Degree of protection		IP 65		
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850: 2006, UL 508 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 B10d		4 000 000 (value given for a service life of 20 years, limited by mechanical or contact wear)		
Contact	1 NC + NO slow break	**XY2CH13250H29**	**XY2CH13450H29**	**XY2CH13253**
	1 NC + NC slow break	**XY2CH13270H29**	**XY2CH13470H29**	**XY2CH13273**
	2 NC + 1 NO slow break	**XY2CH13290H29**	**–**	**XY2CH13293H29**


Booted pusbutton reset


Key release pushbutton reset (key n° 421)

For operating cable length ≤ 70 m		Latching, without indicator light 3 plain holes with Pg13,5 cable entries			
Maximum safety level (2)		PL=e, category 4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508			
Mechanical life (millions of operating cycles)		0.01			
Shock / vibration resistance		50 gn / 10 gn			
Degree of protection		IP 65			
Conformity to standards		EN/IEC 60947-5-5, EN/ISO 13850: 2006, UL 508 and CSA C 22-2 n° 14 (with suffix H7)			
Dimensions W x D x H		229 x 82 x 142 mm			
Operating cable length		≤ 70 m			
Operating cable anchoring point		To left	To right	To left	To right
Reliability data B10d		50.000 (value given for a service life of 20 years, limited by mechanical or contact wear)			
Contact	1 NC + NO slow break	**XY2CE2A250**	**XY2CE1A250**	**XY2CE2A450**	**XY2CE1A450**
	1 NC + NC slow break	**XY2CE2A270**	**XY2CE1A270**	**XY2CE2A470**	**XY2CE1A470**
	2 NC + NO slow break	**XY2CE2A290** (3)	**XY2CE1A290** (3)	**XY2CE2A490** (3)	**XY2CE1A290** (3)

(1) With entry for n° 13 (Pg 13.5) cable gland, delete H29 from the end of the reference (example: XY2-CH13250H29 becomes XY2-CH13250). (2) Using an appropriate and correctly connected control system. (3) With protected LED, 24V or 130 V supply voltage pilot light, add 6 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A296). With protected LED, 230 V supply voltage pilot light, add 7 at the end of the reference. (example : XY2CE1A290 becomes XY2CE1A297). (4) For ISO M20 threaded cable entry version, add H29 to the end of the reference selected. Example: XY2CJS15 becomes XY2CJS15H29. (5) For 1/2" NPT threaded cable entry version, add H7 to the end of the reference selected. Example: XY2CJS19 becomes XY2CJS19H7.

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

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

Maximum safety level achieved by the solution EN ISO 13849-1		**PLd/cat2**	
Maximum safety level achieved by the solution IEC 61508/IEC 62061		**SIL2/SILCL2**	
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 Beams (Body Detection)
Number of safety outputs		2 solid-state PNP	
Response time (depending on model)		4.5…23.5 ms	3…3.5 ms
Operating temperature range		-10°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 years	
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 et 2

Light curtain functions
- Auto/Manual,
- Monitoring of external switching devices (EDM: External Devices Monitoring),
- LED display of operating modes
- 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)			**750…1200 mm (1 to 4 beams)**
Nominal sensing distance (Sn)			**8 m**
Number of circuits	**Safety**		**2N/O**
	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 "muting" function
Modules (integral muting function)		**24 VDC**	**XPSCM1144P** (2)
Thru-beam pairs, axially aligned	**Pre-cabled, L = 5m**	**PNP**	**XU2S18PP340L5** (3)
	M12 connector	**PNP**	**XU2S18PP340D** (3)

(1) Also exists in IP69k model. (2) For version with non removable terminal block, delete the letter P from the end of the reference. Example: XPSCM1144P becomes XPSCM1144).
(3) For alignment at 90° to the mounting axes, insert the letter W in the reference before the last letter. Example: XU2S18PP340L5 becomes XU2S18PP340WL5).

Other versions: **please consult our Customer Care Centre.**

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

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

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		**Type4 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		-10°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
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
Response time (depending on model)		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.

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

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

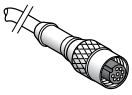
Type		**Cascadable models - Master Segments** (2)		
Nominal sensing distance (Sn)		0…3 m or 1…6 m selectable	0…4 m or 0…12 m selectable	0…4 m or 0…12 m selectable
Resolution (detection capability)		14 mm (Finger detection)	30 mm (Hand detection)	2-3 or 4 Beams (Body Detection)
Number of safety outputs		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		-10°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) (2)	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**	–

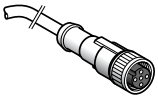
Type		**Cascadable models - Slave2 Segments** (2)		
Reliability data (depending on model) conforming to EN/IEC 61508		PFHd = 1.52E-8 to 2E-8	PFHd = 9.47E-9 to 1.43E-8	PFHd = 6.89E-9 to 8.21E-9
Response time		Depends on the number and the models of segments used. See the “User Manual” for the calculation		
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

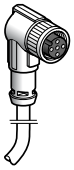
Cabling accessories



XZCP29P11L●●



XZCP1164L●



XZCP1264L●

Type			M12 connector - Pre-wired				
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

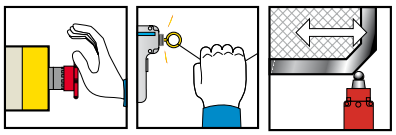
XZCC12FDM50B

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				
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 segments	XZCR1111064D03	XZCR1111064D3	XZCR1111064D5	XZCR1111064D10	XZCR1111064D25

Safety modules for monitoring
emergency stops and limit switches



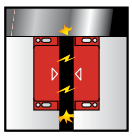
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3							
Number of circuits	Safety	3 N/O	3 N/O	3 N/O	3 N/O	7 N/O	3 N/O + 3 N/O time del.	2 N/O + 1 N/O time del.	2 N/O + 3 N/O time del.
	Additional	1 solid-state	1 N/C	–	1 N/C + 4 solid-state	2 N/C + 4 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: XPSAV11113**P** becomes XPSAV11113).
(2) For a version with spring terminals, replace the letter **P** with the letter **C** at the end of the reference (example: XPSAXE5120**P** becomes XPSAXE5120**C**)

coded magnetic switches



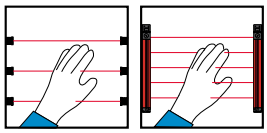
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL e / Cat. 4, SILCL 3		
For monitoring		2 coded magnetic switches maximum N/C + N/O	6 coded magnetic switches maximum N/C + N/O	6 coded magnetic switches maximum 2 N/C
Number of circuits	**Safety**	**2 N/O**	**2 N/O**	**3 N/O**
	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

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
light curtains



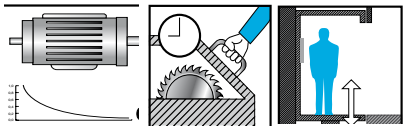
Maximum safety level of the solution attained (EN ISO 13849-1, EN/IEC 62061)		PL c / Cat. 2, SILCL 1	PL e / Cat. 4, SILCL 3		
Number of circuits	Safety	2 N/O	3 N/O	3 N/O	7 N/O
	Additional	4 solid-state	–	1 N/C + 4 solid-state	1 N/C + 4 solid-state
Display (number of LEDs)		4	3	4	4
Width of housing		45 mm	22.5 mm	45 mm	90 mm
Integral Muting function		Yes	No	No	No

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 N/O + 1 N/C	1 N/O time delay	1 N/O pulse	2 N/O
	Additional	2 solid-state	2 N/C + 2 solid-state	2 N/C + 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.

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

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

- *Directive 99/92/EC*

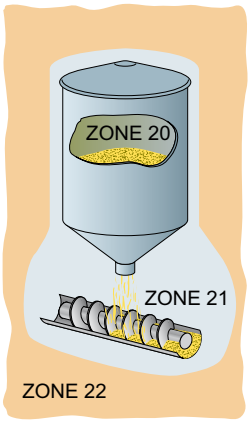
This requires that a risk analysis be performed for all industrial processes. If there is any risk of an explosion:
- the zones are defined and physically identified,
- the installation is classified by governing bodies.

- *Directive 94/9/EC*

This requires certification of the products in accordance with the classification of the zones of use

- *Dust zones*

- 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.
- Zone 21: area where an explosive atmosphere exists in the form of combustible clouds of dust in the air during normal operation occasionally.
- 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 European Directive ATEX94/9/EC, to ensure maximum safety for your installations in a zone where the risk of explosion or fire is high.

Limit switches

Miniature, fixing by the body

Limit switch type With head for movement		**XCMD metal, pre-cabled** Linear (plunger)			
Conformity		**Directive ATEX 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31**			
Zone D (dust)		**21 - 22**			
EC type examination certificate number / marking		**INERIS 04ATEX0014X / Ex II2 D-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 IEC 947-5-1 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31**				
Zone D (dust)		**21 - 22**				
EC type examination certificate number / marking		**INERIS 04ATEX0014X / Ex II2 D-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 IEC 947-5-1 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31						
21 - 22						
INERIS 04ATEX0014X / Ex II2 D-Ex tb IIIC T85°C Db IP66/67						
Steel roller lever	Thermoplastic roller lever	Roller lever with ball 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31							
21 - 22							
INERIS 04ATEX0014X / Ex II2 D-Ex tb IIIC T85°C Db IP66/67							
Thermoplastic roller lever plunger, horiz. or vert. actuation in 1 dir.	Thermoplastic roller lever	Thermoplastic roller lever, Ø 50 mm	Variable length thermoplastic roller lever	Variable length thermoplastic roller lever, Ø 50 mm	"Cat's whisker"	M18 with 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31				
Zone D (dust)	21 - 22				
EC type examination certificate number / marking	INERIS 04ATEX0014X / Ex II2 D-Ex tb IIIC T85°C Db IP66/67				
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 IEC 947-5-1 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; 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31	
Zone D (dust)	21 - 22	
EC type examination certificate number / marking	INERIS 04ATEX0014X / Ex II2 D-Ex tb IIIC T85°C Db IP66/67	
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 IEC 947-5-1 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.






XCKJ metal, fixed body, conforming to standard EN 50041					
Linear (plunger)		Rotary (lever)			
Directive ATEX 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31					
21 - 22					
INERIS 04ATEX0014X / Ex II2 D-Ex tb IIIC T85°C Db IP66/67					
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 (gl)					
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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31					
21 - 22					
INERIS 04ATEX0024X / Ex II2 D-Ex tb IIIC 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					
IP65					
AC15; A300 (Ue = 240 V, Ie = 3 A)/DC13; Q300 (Ue = 250 V, Ie = 0.27 A)					
By 10 A cartridge fuse type gG (gl)					
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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31**		
Zone D (dust)		**21 - 22**		
EC type examination certificate number / marking		**INERIS 04ATEX0058 / Ex II2 D-Ex tb IIIC 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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31**		
Zone D (dust)		**21 - 22**		
EC type examination certificate number / marking		**INERIS 04ATEX0058 / Ex II2 D-Ex tb IIIC 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)		0.7…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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31				
21 - 22				
INERIS 04ATEX0058 / Ex II2 D-Ex tb IIIC 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 (gI)				
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 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31			
21 - 22			
INERIS 04ATEX0058 / Ex II2 D-Ex tb IIIC 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 (gI)			
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-wire DC PNP, flush mountable in metal		
Conformity		**Directive ATEX 94/9/EC, EN 60079-0, EN 60079-31**		
Zone D (dust)		**21 - 22**		
EC type examination certificate number / marking		**INERIS 04ATEX0022X / Ex II2 D-Ex tb IIIC T90°C Db IP68**		
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)		IP68		
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		
Maximum switching capacity		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**	**XS618B1PAL10EX**	**XS630B1PAL10EX**
	NC function	**XS612B1PBL10EX**	**XS618B1PBL10EX**	**XS630B1PBL10EX**

Analog, metal case


M12


M18


M30

Sensor type		Analogue, 2-wire AC/DC, flush mountable in metal		
Conformity		**Directive ATEX 94/9/EC, EN 60079-0, EN 60079-31**		
Zone D (dust)		**21 - 22**		
EC type examination certificate number / marking		**INERIS 04ATEX0022X / Ex II2 D-Ex tb IIIC 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	4…20 mA output	**XS1M12AB120EX**	**XS1M18AB120EX**	**XS1M30AB120EX**

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

Inductive Proximity sensors
Rotation monitoring, metal case

M30

Sensor type	3-wire DC PNP, flush mountable in metal	
Conformity	**Directive ATEX 94/9/EC, EN 60079-0, EN 60079-31**	
Zone D (dust)	**21 - 22**	
EC type examination certificate number / marking	**INERIS 04ATEX0022X / Ex II2 D-Ex tb IIIC 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	
Dimensions	M30 x 81 mm	
Supply voltage (including ripple)	10...58 VDC	
Maximum switching capacity	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
Maximum speed of passing object	6000 impulses/minute	48,000 impulses/minute
Adjustable frequency range	6…150 impulses/minute	120…3000 impulses/minute
References **NC function**	**XSAV11373EX**	**XSAV12373EX**

Namur inductive sensors
Metal or plastic case

M5 M8 M12 M18 M30

Sensor type Case type	2-wire DC, flush mountable in metal Metal		Plastic			
Conformity	Directive ATEX 94/9/EC, EN/IEC 60079-0,EN/IEC 60079-11					
Zone D (dust)	20 (to be used in conjunction with intrinsically safe enclosures, see page 5)					
EC type examination certificate number / marking	INERIS 04ATEX0016X / Ex II1 D-Ex ia IIIC 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					
Maximum switching capacity	≤ 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 NC function	**XSMN08122EX**	**XSAN01122EX**	**XSPN01122EX**	**XSPN02122EX**	**XSPN05122EX**	**XSPN10122EX**

Plastic case

M12 M18 M30 Forme D

Sensor type Case type	2-wire DC, non flush mountable in metal Plastic			
Conformity	Directive ATEX 94/9/EC, EN/IEC 60079-0,EN/IEC 60079-11			
Zone D (dust)	20			
EC type examination certificate number / marking	INERIS 04ATEX0016X / Ex II1 D-Ex ia IIIC 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	100 x 80 x 40 mm
Supply voltage (including ripple)	7…12 VDC			
Maximum switching capacity	≤ 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 NC function	**XSPN04122EX**	**XSPN08122EX**	**XSPN15122EX**	**XSDN401229EX**

(1) Flush mountable in metal

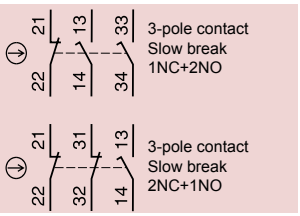
Other characteristics: please refer to the “Detection for OsiSense automation solutions” catalog

Intrinsically safe module
Processing module

Module type		Discrete					
		Inputs		Relay inputs/outputs			
Conformity		**Directive ATEX 94/9/EC, EN 60079-0, EN 60079-11, EN 61241-11**					
Zone D (dust)		**Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)**					
EC type examination certificate number / marking		**LCIE 00ATEX6034X / Ex II(1) GD-[Ex ia Ga]IIC / [Ex ia Da]IIIC**					
Zone 20	Number of input channels	2	4	2		2	
	Number of output channels	–		1		1	
	Type of output channel, load excitation	–		Low consumption solenoid valve, < 7 mA		High consumption solenoid valve, < 40 mA	
				–	with hysteresis	–	with hysteresis
Outside zone	Number of recopying channels	2	4	2		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		Removable screw terminal blocks					
Mounting		On 35 mm DIN rail					
Dimensions, W x D x H		29.5 x 120 x 90 mm					
Supply voltage (including ripple)		24 VDC (0.95…1.1 Un)					
Consumption		5 W					
References		**NY320N2RB1**	**NY340N4RB1**	**NY321L2RB1**	**NY321L1RB1**	**NY321H2RB1**	**NY321H1RB1**

Module type		Discrete			
		Load excitation outputs			
Conformity		**Directive ATEX 94/9/EC, EN 60079-0, EN 60079-11, EN 61241-11**			
Zone D (dust)		**Mounted outside zone (to be used in conjunction with products for zone 20, 21 or 22)**			
EC type examination certificate number / marking		**LCIE 00ATEX6034X / Ex II(1) GD-[Ex ia Ga]IIC / [Ex ia Da]IIIC**			
Zone 20	Number of load excitation channels	2		4	
	Maximum current	< 7 mA	< 40 mA	< 7 mA	< 40 mA
Outside zone	Control voltage	24 VDC ± 10%			
	Control current	State 1 = 6.5 < I < 9 mA and 21.6 < U < 26.4 V; State 0 = I ≤ 0.4 mA and U ≤ 1.2 V			
Temperature range		– 20...+ 60°C			
Connection		Removable screw terminal blocks			
Mounting		On 35 mm DIN rail			
Dimensions, W x D x H		29.5 x 120 x 90 mm			
Supply voltage (including ripple)		24 VDC (0.95…1.1 Un)			
Consumption		5 W			
References		**NY302L0NB1**	**NY302H0NB1**	**NY304L0NB1**	**NY304H0NB1**

Safety switches
and actuators

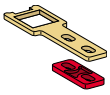


ISO entry (to EN 50262)

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

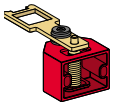
Metal switches type With head		XCSA/B/C, 1 entry fitted with ISO M20 cable gland Without locking	Interlocking, unlocking by button	Interlocking, unlocking by key lock
Conformity		**Directive ATEX 94/9/CE, EN/IEC 60079-0, EN/IEC 60079-31**		
Zone D (dust)		**21 - 22**		
EC type examination certificate number / marking		**INERIS 04ATEX0014X / Ex II2 D-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		
Actuation speed (min → max)		0,1 m/s → 0,5 m/s		
Degree of protection		IP 67		
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 (gl)		
Reliability data B10d		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

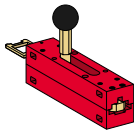


Straight actuator

Wide actuator

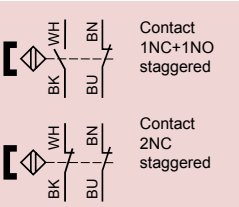


Pivoting actuator



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

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 D (dust)		**0-1-2/20-21-22*(according to protection mode, mD or ia).**
EC type examination certificate number / marking		**INERIS 04ATEX0036 / 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 and SIL CL3 conforming to EN/IEC 62061
Switches for actuation		**Face to face, face to side, side to side**
Degree of protection		IP 66 + IP 67
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 (gl)
Reliability data B10d		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**
	2NC staggered	**XCSDMC7902EX**

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

Emergency stops
Emergency stop rope pull switches

For operating cable up to 70 m long		Latching, without indicator light			
Conformity		**Directive ATEX 94/9/EC, EN/IEC 60079-0, EN/IEC 60079-31**			
Zone D (dust)		**21 - 22**			
EC type examination certificate number / marking		**INERIS 04ATEX0015 / Ex II2 D-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)		0.01			
Temperature range		– 20...+ 60°C			
Degree of protection		IP65			
Connection		2 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 = 3A)/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 B10d		50 000 (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.

Other characteristics: please refer to the “Machine safety” catalog

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