

The essential guide of Detection

helping you easily
select the right product

2010



A complete offer for resolving your most commonly encountered detection problems:

- product selection simplified
- product availability simplified
- installation and setting-up simplified
- maintenance simplified
- detection simplified using a single supplier.

Improved simplicity for improved productivity.



OsiSense

It's the schneider Electric range name of all the detection products. Select the sensor according to your specific requirements, in a selection of selling products.

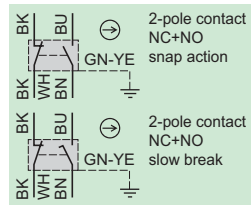


Detection

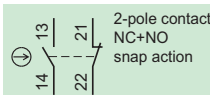


Limit switches	2 to 11
<i>Detection by contact of rigid objects</i>	
Object speed ≤ 1.5 m/s, OsiSense XC	
Sensors for pressure control	12 to 17
<i>Detection by contact with fluid</i>	
Electronic or electromechanical pressure and vacuum switches, pressure sensors -1...600 bars, OsiSense XM	
Inductive proximity sensors	18 to 28
<i>Detection without contact of metal objects</i>	
Sensor / object distance ≤ 60 mm, OsiSense XS	
Capacitive proximity sensors	29
<i>Detection without contact of insulating materials or conductive materials</i>	
Sensor / object distance ≤ 20 mm, OsiSense XT	
Photo-electric sensors	30 to 41
<i>Detection without contact of any object</i>	
Detection from a few millimetres to several tens of metres, OsiSense XU	
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<i>Detection without contact of any object of any material</i>	
Detection from a few millimetres up to 8 metres, OsiSense XX	
Rotary encoders	44 and 45
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Complete range of RFID tags and compact stations, OsiSense XG	
Safety switches	48
Preventa XCS	

XCMD



XCKT



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

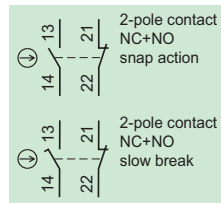
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	M12 head metal end plunger
Mechanical durability (millions of operating cycles)	10	10	10	10	10	10
Actuation speed (in m/s)	0.5	0.5	1.5	1.5	1.5	0.5
Switches 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	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.

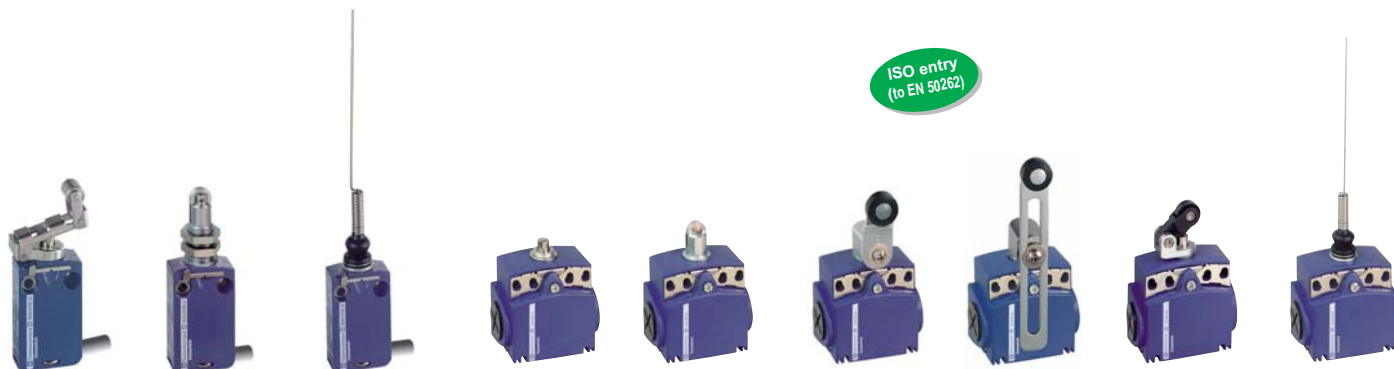


Compact XCKD metal and XCKP plastic conforming to standard EN 50047

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	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: XCKD2110P16 becomes XCKD2110G11.

For other cable entries, see customised assembly on page 1/34.



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	Thermoplastic roller lever plunger, horizontal actuation	"Cat's whisker"	"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 1/34.

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 or 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								
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: ZCMD21L1 becomes ZCMD25L1

Connection of miniature bodies

Specific pre-cabled connection components					Option: pre-wired M12 connector, L = 2 m	
	for ZCMD21	for ZCMD39	for ZCMD25	for ZCMD37	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.

switches

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

Compact								 			
Type of contact											
Ref. metal body	ZCD21	ZCD39	ZCD25	ZCD27	ZCD28	ZCD29	ZCD37	ZCD21M12	—	—	—
Ref. plastic body	ZCP21	ZCP39	ZCP25	ZCP27	ZCP28	ZCP29	ZCP37	—	ZCP21M12	ZCT21P16 (1)	ZCT25P16 (1)

(1)

Connection of compact bodies

Interchangeable outlet for cable gland							Option: pre-wired M12 connector, L = 2 m	
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	XZCP1164L2	XZCP1141L2
Plastic	ZCPEP16	ZCPEP20	ZCPEG11	ZCPEG13	ZCPEN12	ZCPEF12		

ZCT Pg 11 cable gland versions: replace the suffix P16 by G11.

Example:
ZCT21P16 becomes ZCT21G11

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

Example:
ZCT21P16 becomes ZCT21N12

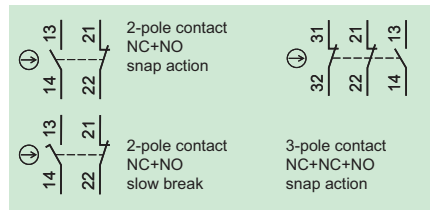
1 Cable entry 1/2" NPT
1 Cable entry Pg11

OsiSense XC

Limit switches

Classic - XCKM, XCKL, complete switches

XCKM



ISO entry
(to EN 50262)



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

Type of operator		Metal end plunger	Steel roller plunger	Roller lever plunger, horizontal actuation in 1 direction	Thermoplastic roller lever	“Cat’s whisker”
Mechanical durability (millions of operating cycles)		20	20	20	15	10
Actuation speed (in m/s)		0.5	0.5	1.5	1.5	0.5
Product certification		CE - UL - CSA - CCC - GOST - C-TICK - BV				
Degree of protection conforming to IEC 60529		IP 665				
Rated operational characteristics		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 13.5 cable entries delete the reference suffix H29. Example: XCKM110H29 becomes XCKM110.
⊕ Positive opening operation.

Classic - XCKM, XCKL,

Customised assembly - Body/contact sub-assemblies



Type XCKM metal, 3 cable entries

Type of contact	13 14 21 22 2-pole NC+NO snap action	13 14 21 22 2-pole NC+NO slow break	31 32 21 22 14 13 3-pole NC+NC+NO snap action	31 32 21 22 14 13 3-pole NC+NC+NO slow break
Reference of body with contact block	⊕ ZCKM1H29	⊕ ZCKM5H29	⊕ ZCKMD39H29	⊕ ZCKMD37H29
XCKL reference of body with contact block (2)	⊕ ZCKL1	⊕ ZCKL5	—	—
Reference of contact block only	⊕ XE2SP2151	⊕ XE2NP2151	⊕ XE3SP2141	⊕ XE3NP2141

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

Operating heads, complete or for customer assembly



Complete switch

=



Body/contact assembly

+



Head

+



Lever

Rotary or multi-directional heads

with thermoplastic
roller lever (2)

with steel roller
lever (2)

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.

OsiSense XC

Limit switches

Industrial - XCKJ, complete switches

XCKJ

13

14

21

22

2-pole contact
NC+NO
snap action

31

32

21

22

14

13

3-pole contact
NC+NC+NO
snap action

13

14

21

22

2-pole contact
NC+NO
slow break

31

32

21

22

14

13

3-pole contact
NC+NC+NO
snap action

ISO entry
(to EN 50262)



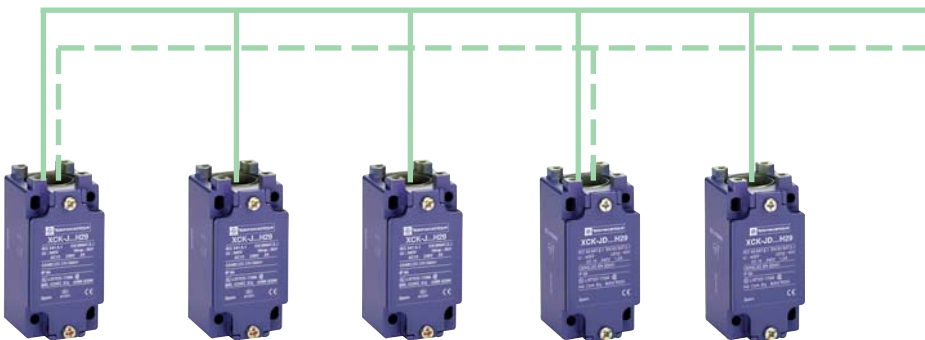
Type XCKJ metal, fixed body, conforming to standard EN 50041						
Type of operator	Metal end plunger	Steel roller plunger	Thermoplastic roller lever	Steel roller lever	Variable length thermoplastic roller lever	Polyamide Ø 6 mm rod lever L = 200 mm
Mechanical durability (millions of operating cycles)	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	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	N2-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
	M12 5P	1/2" NPT 2-pole NC+NO snap action	⇒ XCKJ161H7	⇒ XCKJ167H7	⇒ XCKJ10511H7	⇒ XCKJ10513H7	XCKJ10541H7	XCKJ10559H7
		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: XCKJ161H29 becomes XCKJ161.
⇒ Positive opening operation.

Industrial - XCKJ,

Customised assembly - Body/contact sub-assemblies



Type XCKJ metal, 1 cable entry						
Type of contact						
		2-pole NC+NO snap action	2-pole NC+NO slow break	2 C/O snap action Simultaneous	3-pole NC+NC+NO snap action	3-pole NC+NC+NO 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



Référence

⊕ ZCKE67

⊕ ZCKE61

⊕ ZCKE21

⊕ ZCKE23

⊕ ZCKE62

⊕ ZCKE66

⊕ ZCKE629

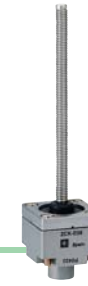
with metal
side plunger

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
steel, L = 200 mm (2)

square rod lever,
steel, Ø 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

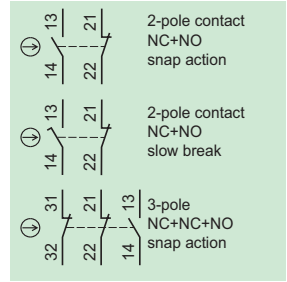
ZCKE09

ZCKY71

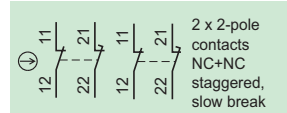
ZCKY61

- (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.

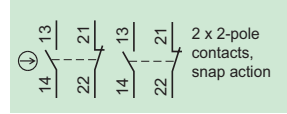
XCKS



XCKMR



XCR



ISO entry
(to EN 50262)



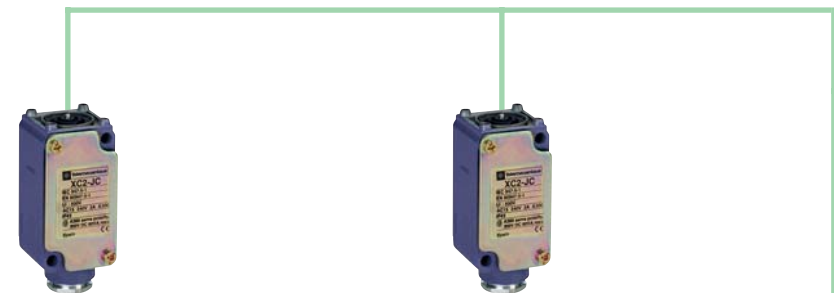
Type XCKS plastic, double insulated, conforming to standard EN 50041

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	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 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
	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 NC+NC+NO 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 with 2-pole snap action contacts							
2 x NC+NO contacts actuated in each direction		—	—	—	—	—	—
1 x NC+NO contact actuated in each direction		—	—	—	—	—	—
Complete switch 2 x single-pole C/O snap action contacts		—	—	—	—	—	—
2 x 2-pole NC+NC staggered, slow break contacts		—	—	—	—	—	—

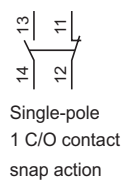
⇒ Positive opening operation. (1) For Pg 13.5 cable entry delete the reference suffix H29. Example: XCKJ161H29 becomes XCKJ161.

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

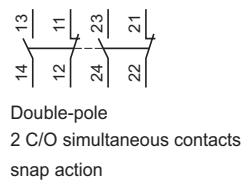


Type XC2J metal, fixed body, 1 cable entry incorporating cable gland

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 6 mm, "crossed"	Square rod lever 6 mm	Large roller rod lever Ø 50 mm	Square rod levers 6 mm, "crossed" or "T"	Conveyor belt shift monitoring switches	
					Galvanised steel operating lever	Stainless steel operating lever
	2	10	10	10	0.3	0.3
	1.5	1.5	1.5	1.5	1.5	1.5
	CE - UL - CSA - GOST	CE - CSA - CCC - GOST				
IP 545					IP 665	
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		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				
118 x 59 x 77		85 x 75 x 95				
		105 x 70				
		85 x 87 x 146				

-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	-	-	-	-	-
-	⇒ XCRA11(2)	⇒ XCRA15	⇒ XCRE18(2)	-	-
-	⇒ XCRB11(2)	-	⇒ XCRF17(3)	-	-
-	-	-	-	XCRT115	XCRT315 (4)
XCKMR54D1H29 (2)	-	-	-	-	-

(2) Steel rods, L = 200 mm

(3) Steel "T" rods, L = 200 mm, W = 300 mm.

(4) Polyester 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°.



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, sea 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 70 (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

Available in bulk packs for selling in lots, please consult us.

The XMLG range also includes pressure switches, please consult us.

Electronic sensors XMLE

Electrical connection by DIN 43650 connector



Setting range (bar) (1)	-1...0	0...1	0...10	0...25	0...100	0...250	0...600
Fluids controlled	Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C						
Ambient air temperature	- 15...+ 80°C						
Degree of protection (conforming to IEC 60529)	IP 65						
Product certification	CE - UL - CSA - GOST						
Voltage limits	24 V DC, 11...33 V DC						
Dimensions (mm) Ø x L	Ø 40 x 90 (not including connector)						
Fluid connection (2)	G 1/4" A (male)						
Electrical connection (3)	DIN 43650 connector						
Type of output (4)	Transmitter	4...20 mA, 2-wire technique					
	Pressure switch	PNP or NPN, normally closed (NC)					
Analogue output 4...20 mA	XMLEM01U1C21	XMLE001U1C21	XMLE010U1C21	XMLE025U1C21	XMLE100U1C21	XMLE250U1C21	XMLE600U1C21
NPN output	XMLEM01U1C31	XMLE001U1C31	XMLE010U1C31	XMLE025U1C31	XMLE100U1C31	XMLE250U1C31	XMLE600U1C31
PNP output	XMLEM01U1C41	XMLE001U1C41	XMLE010U1C41	XMLE025U1C41	XMLE100U1C41	XMLE250U1C41	XMLE600U1C41

(1) Other sizes, please consult us.

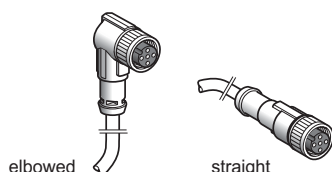
(2) Other fluid connections, please consult us.

(3) Other types of connection, please consult us.

(4) Other types of output; 0...5 V, 0...10 V, etc., please consult us.

Suitable female plug-in connectors

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



M12

XZCP1241L5

XZCP1141L5

Other connectors



Screw terminal

XZCC12FCM40B

DIN 43650A

XZCC43FCP40B

Electronic sensors XMLF



Setting range of lower limit (PB): vacuum switches (bar) of upper limit (PH): pressure switches		-0.08...-1	0.08...1	0.2...2.5	0.8...10	3.2...40
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		G 1/4" (female) (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLFM01D2025	XMLF001D2025	XMLF002D2025	XMLF010D2025	XMLF040D2025
solid-state output, 200 mA (4)	0...10 V	XMLFM01D2125	XMLF001D2125	XMLF002D2125	XMLF010D2125	XMLF040D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLFM01D2035	XMLF001D2035	XMLF002D2035	XMLF010D2035	XMLF040D2035
Analogue sensors	4...20 mA	XMLFM01D2015	XMLF001D2015	XMLF002D2015	XMLF010D2015	XMLF040D2015
	0...10 V	XMLFM01D2115	XMLF001D2115	XMLF002D2115	XMLF010D2115	XMLF040D2115
Possible differential (bar)	Min. at low setting	0.03	0.03	0.08	0.3	1.2
(pressure switches)	Min. at high setting	0.03	0.03	0.08	0.3	1.2
	Max. at high setting	0.95	0.95	2.38	9.5	38



Setting range of upper limit (PH): pressure switches (bar)		8...100	12.8...160	20...250	32...400	48...600
Fluids controlled		Hydraulic oils, air, fresh water, sea water, corrosive fluids from -15...+80°C				
Ambient air temperature		- 25...+ 80°C				
Degree of protection (conforming to IEC 60529)		IP 67				
Product certification		CE - UL - CSA - VIT-SEPRO - GOST				
Voltage limits (V)		24 V DC (17...33 V DC)				
Dimensions (mm) H x W x D		113 x 46 x 58				
Fluid connection		G 1/4" (female) (1)				
Electrical connection		M12 connector (2)				
Configurable with digital display, connection by M12 connector (3)						
Universal sensors,	4...20 mA	XMLF100D2025	XMLF160D2025	XMLF250D2025	XMLF400D2025	XMLF600D2025
solid-state output, 200 mA (4)	0...10 V	XMLF100D2125	XMLF160D2125	XMLF250D2125	XMLF400D2125	XMLF600D2125
Dual stage pressure switches, solid-state output, 200 mA		XMLF100D2035	XMLF160D2035	XMLF250D2035	XMLF400D2035	XMLF600D2035
Analogue sensors	4...20 mA	XMLF100D2015	XMLF160D2015	XMLF250D2015	XMLF400D2015	XMLF600D2015
	0...10 V	XMLF100D2115	XMLF160D2115	XMLF250D2115	XMLF400D2115	XMLF600D2115
Possible differential (bar)	Min. at low setting	3	4.8	7.5	12	18
(pressure switches)	Min. at high setting	3	4.8	7.5	12	18
	Max. at high setting	95	152	237.5	380	570

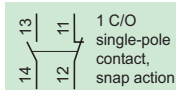
(1) Available with other fluid connections: 1/4" NPT female and SAE 7/16-20 UNF.

(2) For M12 connection accessories, see previous page.

(3) AC 120 V version with 2.5 A relay output and SAE 7/8-16 UN connector also available.

(4) Programmable NPN or PNP and NO or NC.

Sensors for pressure control Electromechanical pressure and vacuum switches XMLA and B



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	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, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 70°C
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Type XMLA - fixed differential, single threshold detection

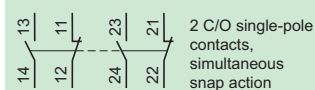
Setting range (bar) of upper limit (PH): pressure switches	-0.28...-1 (4)	—	0.03...1	0.15...2.5
Dimensions (mm) H x W x D	113 x 35 x 75	113 x 35 x 75	162 x 110 x 110	158 x 55 x 77.5
With setting scale 1 C/O single-pole, snap action contact	XMLAM01V2S12	—	XMLA001R2S12	XMLA002A2S12
Natural differential (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

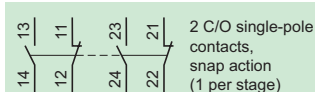
Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.5...5	0.05...1	0.3...2.5
With setting scale 1 C/O single-pole, snap action contact	XMLBM02V2S12	XMLBM05A2S12	XMLB001R2S12	XMLB002A2S12
Possible differential (bar) Min. at low setting	0.13 (3)	0.5	0.04	0.16
subtract from PH to 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

XMLC



XMLD



Fluids controlled	Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils, air up to 160°C	Hydraulic oils, fresh water, sea water, air up to 160°C
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Type XMLC - adjustable differential, regulation between 2 thresholds

Setting range (bar) of upper limit (PH): pressure switches	-0.14...-1 (4)	-0.55...5	0.05...1	0.3...2.5
Dimensions (mm) H x W x D	113 x 46 x 85	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	XMLCM05A2S12	XMLC001R2S12	XMLC002B2S12
Possible differential (bar) Min. at low setting	0.13 (4)	0.45	0.03	0.13
subtract from PH to give PB Min. at high setting	0.14 (4)	0.45	0.04	0.17
Max. at high setting	0.8 (4)	6	0.8	2

Type XMLD - fixed differential, dual stage, for detection at each threshold

Setting range (bar)	2 nd stage switching point (PB2)	-0.12...-1 (4)	—	0.12...1	0.34...2.5
	1 st 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
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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: XMLA010A2S12 becomes XMLA010A2S11)

Hydraulic oils, fresh water, sea water, air up to 70°C	Hydraulic oils up to 160°C
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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: XMLB010A2S12 becomes XMLB010A2C11.
- (2) For vacuum switch: natural differential to be added to PB to give PH.
- (3) For vacuum switch: possible differential to be added to PB to give PH.
- (4) Setting range (bar) of lower limit (PB): vacuum switch.



Hydraulic oils, fresh water, sea water, air up to 160°C	Hydraulic oils up to 160°C
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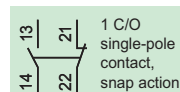
0.3...4	0.7...10	1.3...20	3.5...35	7...70	12...160	22...300	30...500
113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85	113 x 46 x 85
XMLC004B2S12	XMLC010B2S12	XMLC020B2S12	XMLC035B2S12	XMLC070D2S12	XMLC160D2S12	XMLC300D2S12	XMLC500D2S12
0.15	0.45	0.7	1	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

OsiSense XM

Sensors for pressure control

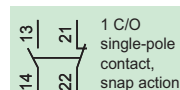
Electromechanical pressure switches XMX, XMA



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	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

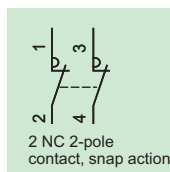


Setting range of upper limit (PH) (bar)	1...6	1.3...12	3.5...25
Fluids controlled	Air, water (fresh water, sea water) from 0...+70°C		
Ambient air temperature	- 25...+ 70°C		
Degree of protection (conforming to IEC 60529)	IP 54		
Rated operational characteristics	AC-15; B300 (Ue = 240 V, Ie = 1.5 A - 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		

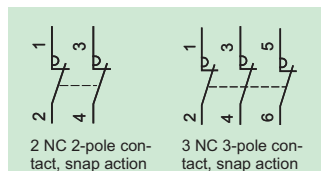
Type XMA with external setting screw (transparent cover)

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

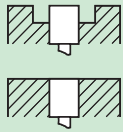
Electromechanical pressure switches for power circuits, adjustable differential for regulation between 2 thresholds



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			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)	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.
subtract from PH to give PB	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.



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	XMPE06B2431	XMPA12B2131	XMPE12B2431	XMPA25B2131
	3 NC 3-pole, snap action contact		XMPA06C2131	XMPE06C2431	XMPA12C2131	XMPE12C2431	XMPA25C2131
Possible differential (bar)		Min. at low setting	0.8	0.8	1	1	3.4
subtract from PH to give PB		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



Non flush
mountable

Flush
mountable



	Flush standard and increased range			
	M8		M12	
Nominal sensing distance S_n	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

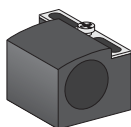
Dimensions (mm) Ø x L Cable / connector		—	—	M12 x 53 / M12 x 62	
2-wire	Cable (2 m)	—	—	XS512B1MAL2	XS612B1MAL2
	Connector 1/2"-20 UNF	—	—	XS512B1MAU20	XS612B1MAU20
Supply voltage limits, min./max. (V) including ripple		—	—	20...264	20...264
Switching capacity, max. (mA)		—	—	200	200
LED output state 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





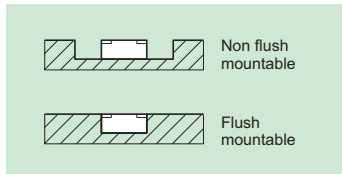
M18				M30				Non flush increased range		
5 mm				8 mm				M12	M18	M30
0...4				0...6.4				7 mm	12 mm	22 mm
0...8				0...12				0...5.6	0...9.6	0...17.6
- 25...+ 70								- 25...+ 70		
CE - UL - CSA - CCC (in progress) - C-TICK								CE - UL - CSA - CCC (in progress) - C-TICK		
(with connector: IP 67)								pre-cabled: IP 69K conforming to DIN 40050, IP 68 (with connector: IP 67)		

A		A		A		A		A		A	
B		B		B		B		B		B	
	M18 x 39 / M18 x 50			M30 x 43 / M30 x 55			—				
	XS518B1P AL2	XS118B3P AL2	XS530B1P AL2	XS130B3P AL2	—						
	XS518B1P AM12	XS118B3P AM12	XS530B1P AM12	XS130B3P AM12	—						
	XS518B1N AL2	XS118B3N AL2	XS530B1N AL2	XS130B3N AL2	—						
	XS518B1N AM12	XS118B3N AM12	XS530B1N AM12	XS130B3N AM12	—						
	XS518BSD AL2	XS618B3D AL2	XS530BSD AL2	XS630B3D AL2	—						
	XS518BSD AM12	XS618B3D AM12	XS530BSD AM12	XS630B3D AM12	—						
	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	
XS518BLPAM12		XS618B1PAM12		XS530BLPAM12		XS630B1PAM12		XS612B4PAM12	
XS518BLNAL2		XS618B1NAL2		XS530BLNAL2		XS630B1NAL2		XS612B4NAL2	
XS518BLNAM12		XS618B1NAM12		XS530BLNAM12		XS630B1NAM12		XS612B4NAM12	
XS518B1DAL2		XS618B1DAL2		XS530B1DAL2		XS630B1DAL2		-	
XS518B1DAM12		XS618B1DAM12		XS530B1DAM12		XS630B1DAM12		-	
10...58		10...58		10...58		10...58		10...58	
200 / 100		200 / 100		200 / 100		200 / 100		200 / -	
★ / ☉		★ / ☉		★ / ☉		★ / ☉		★ / ☉	
≤ 0.5		≤ 0.5		≤ 0.5		≤ 0.5		-	
≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / ≤ 4		≤ 2 / -	
2000 / 3000		1000 / 1000		1000 / 2000		500 / 500		2500 / -	

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	
XS518B1MAU20		XS618B1MAU20		XS530B1MAU20		XS630B1MAU20		XS618B4MAU20	
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	
☉		☉		☉		☉		☉	
≤ 0.8		≤ 0.8		≤ 0.8		≤ 0.8		≤ 0.8	
≤ 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	

Pre-wired connectors		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
		5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP1865L5	XZCP1965L5	5 m	XZCP1141L5
		10 m	XZCP0566L10	XZCP0666L10	10 m	XZCP1865L10	XZCP1965L10	10 m	XZCP1141L10
									XZCP1241L2
									XZCP1241L5
									XZCP1340L2
									XZCP1340L5
									XZCP1340L10



	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				Suitable female plug-in connectors			
	flat	90°		M8	Straight	Elbowed	
	8x22x8	XSZBJ00	XSZBJ90	Metal ring	XZCC8FDM30S	XZCC8FCM30S	
	15x32x8	XSZBF00	XSZBF90	M12 (4 pin)			
	26x26x13	XSZBE00	XSZBE90	Metal ring	XZCC12FDM40B	XZCC12FCM40B	
	40x40x15	XSZBC00	XSZBC90	Plastic ring	XZCC12FDP40B	XZCC12FCP40B	



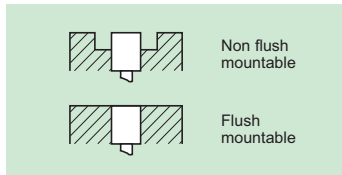
Ø 40 x 40 x 117				Ø 26 x 26 x 13	Ø 40 x 40 x 15	Ø 80 x 80 x 26
15 mm	20 mm increased range	20 mm	40 mm increased range	15 mm	25 mm	60 mm
0...12	0...16	0...16	0...32	0...8 / 0...12	0...12 / 0...20	0...32 / 0...48
				5...10 / 5...15	8...15 / 8...25	20...40 / 20...60
flush mountable		non flush mountable		flush mountable or non flush mountable via teach mode		
- 25...+ 70				- 25...+ 70		
CE - UL - CSA - CCC - C-TICK				CE - UL - CSA - CCC - C-TICK		
IP 67				pre-cabled: IP 68 (with connector: IP 67)		

Screw terminals (2)				Pre-cabled (2 m)		
XS7C40DP210	—	XS8C40DP210	—	—	—	—
XS7C40DA210	—	XS8C40DA210	—	—	—	—
—	—	—	—	—	—	—
XS7C40PC440	XS7C40PC449	XS8C40PC440	XS8C40PC449	—	—	—
XS7C40NC440	XS7C40NC449	XS8C40NC440	XS8C40NC449	—	—	—
—	—	—	—	XS8E1A1PAL2	XS8C1A1PAL2	XS8D1A1PAL2
—	—	—	—	XS8E1A1PBL2	XS8C1A1PBL2	XS8D1A1PBL2
—	—	—	—	XS8E1A1NAL2	XS8C1A1NAL2	XS8D1A1NAL2
—	—	—	—	XS8E1A1NBL2	XS8C1A1NBL2	XS8D1A1NBL2
M8 connector				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
2-wire = 1500 / 4-wire = 1000		2-wire = 800 / 4-wire = 1000 (20mm) 500 (40mm)		2000	1000	150

Screw terminals (2)				Pre-cabled (2 m)		
—	—	—	—	XS8E1A1MAL2	XS8C1A1MAL2	XS8D1A1MAL2
—	—	—	—	XS8E1A1MBL2	XS8C1A1MBL2	XS8D1A1MBL2
XS7C40FP260	—	XS8C40FP260	—	—	—	—
XS7C40MP230	—	XS8C40MP230	—	—	—	—
				1/2"-20 UNF connector		
—	—	—	—	XS8E1A1MAL01U20	XS8C1A1MAL01U20	XS8D1A1MAU20
—	—	—	—	XS8E1A1MBL01U20	XS8C1A1MBL01U20	XS8D1A1MBU20
20...264				20...264	20...264	20...264
AC version = 500 — AC/DC version = 300 / 200				200 AC or DC	300 AC / 200 DC	300 AC / 200 DC
— / ⊗ / —				— / ⊗ / ⊗	— / ⊗ / ⊗	— / ⊗ / ⊗
AC version = ≤ 1.5 — AC/DC version = ≤ 0.8 / 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: 13P. Also available in M20, 1/2" NPT output and M12, 7/8" connectors.

Pre-wired connectors		M8 (3 pin)			1/2"			M12 (4 pin)			
 Straight	 Elbowed		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



	M8	M12	M18	M30
Nominal sensing distance S_n	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

Connection				Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x H x D				M8 x 33	M12 x 33	M18 x 33.5	M30 x 40.5
2-wire (non polarised)	NO or NC	programmable	–	–	–	–	
	PNP	NO + NC	complementary outputs	–	–	–	
4-wire	NPN	NO + NC	complementary outputs	–	–	–	
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 or W x H x D				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	XS4P30NB340D	
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

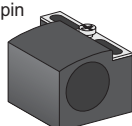
Connection			Pre-cabled, PvR (2 m)			
Dimensions (mm) Ø x L or W x D x H			M8 x 50	M12 x 50	M18 x 60	M30 x 60
2-wire	AC/DC	NO function	XS4P08MA230	XS4P12MA230	XS4P18MA230	XS4P30MA230
		not short-circuit protected (1)	NC function	XS4P08MB230	XS4P12MB230	XS4P18MB230
	AC	NO or NC programmable	–	–	–	–
		AC/DC	NO or NC programmable	–	–	–
Connection			1/2" connector			
Dimensions (mm) Ø x L or W x H x D			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
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

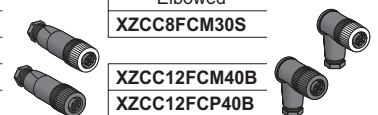
Fixing clamp with indexing pin for cylindrical sensors



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



Miniature cylindrical metal (assembly)



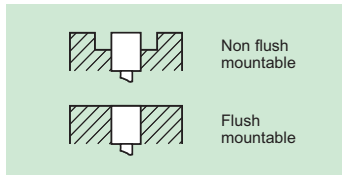
	Ø 4	M5	Ø 6.5	
Nominal sensing distance S_n	1 mm	1 mm	1.5 mm	2.5 mm
Operating zone (mm)	0...0.8	0...0.8	0...1.2	0...2
Suitability for flush mounting (metal environment)	flush mountable			
Temperature range (°C)	- 25...+ 70			
Product certification	CE - UL - CSA - CCC - C-TICK			
Degree of protection (conforming 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)		function 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, S_n = 0.8 mm

Pre-wired connectors											
		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



		M12	M18	M30
Sensing distance S_n	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 programmable	NO/NC	flush mountable (metal)	–	–	–
			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 programmable	NO/NC	flush mountable (metal)	–	–	–
			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	XS2M12MB250K	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

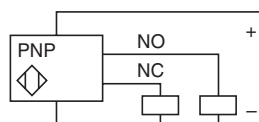
PNP + NPN outputs, NO or NC programmable



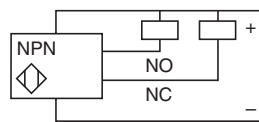
	M8	M12	M18	M30	M12	M18	M30
	1.5 mm	2 mm	5 mm	10 mm	2 mm	5 mm	10 mm
	2.5 mm	4 mm	8 mm	15 mm	4 mm	8 mm	15 mm
	0...1.2	0...1.6	0...4	0...8	0...1.6	0...4	0...8
	0...2	0...3.2	0...6.4	0...12	0...3.2	0...6.4	0...12
	flush mountable or non flush mountable depending on model				flush mountable or non flush mountable 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

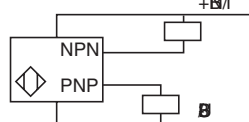
PNP



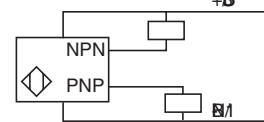
NPN



NO



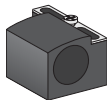
NC



Accessories

Fixing clamps

With indexing pin for cylindrical sensors



M8	XSZB108
M12	XSZB112
M18	XSZB118
M30	XSZB130

Suitable female plug-in connectors, including pre-wired versions

length 5 m
without LED

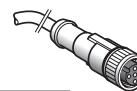
M8 (or S)
M12 (or D)
1/2" (or K)

pre-wired,
elbowed



XZCP0666L5
XZCP1241L5
XZCP1965L5

pre-wired,
straight

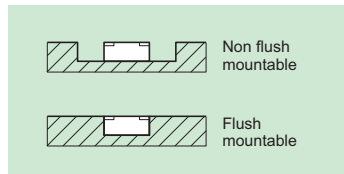


XZCP0566L5
XZCP1141L5
XZCP1865L5

screw terminal



XZCC8FCM30S
XZCC12FCM40B
XZCC20FCM30B



	26 x 26 x 13	40 x 40 x 15	M30	M18	M30
Nominal sensing distance S_n	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)			—	—	—	—		

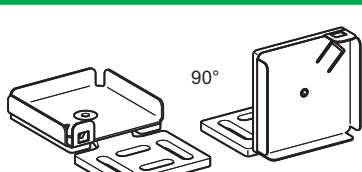
Multi-current/multi-voltage sensors for AC/DC applications

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

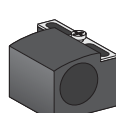



flat

90°

	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

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...+ 70	- 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

Pre-wired connectors		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

Suitable female plug-in connectors

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



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

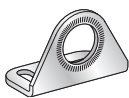
Connection			Pre-cabled, non poisonous PVC (2 m)			
Dimensions (mm)			—	M18 x 60	—	M30 x 62
2-wire (2)	AC/DC	NO function	—	XS218SAMAL2	—	XS230SAMAL2
Connection			1/2"-20 UNF connector			
Dimensions (mm)			—	M18 x 72	—	M30 x 74
2-wire (2)	AC/DC	NO function	—	XS218SAMAU20	—	XS230SAMAU20
Supply voltage 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

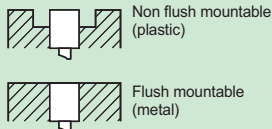


(1) Plastic range available. M12, M18, M30:
To order, replace the second letter **S** in the reference by **A**
(example: XS212SAPAL2 becomes XS212AAPAL2).

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

Accessories

Fixing clamps		M12 pre-wired connector		M12 jumper cable	
Plastic 	fixing centres 24.1 mm, with locking screw	female, 4-pin, stainless steel clamping ring		male, 3-pin, stainless steel clamping ring	
	for sensor Ø 18 plain XUZZB2005	Straight connector 5 m cable XZCPA1141L5		Straight connector 5 m XZCRA151140A5	
Stainless steel 	for sensor	Elbowed connector 5 m cable XZCPA1241L5		1/2" pre-wired connector	
	Ø 12 XSZBS12 Ø 18 XUZA118 Ø 30 XSZBS30			Straight 5 m XZCP1865L5 Elbowed 5 m XZCP1965L5	



Suitability for flush mtg.		M12	M18	M30	Ø 32	40 x 40 x 117
Nominal sensing distance S_n	flush mountable	2 mm	5 mm	10 mm	15 mm	15 mm
	non flush mountable	—	8 mm	15 mm	20 mm	—
Operating zone S_a (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	—
	NO function	flush mountable	—	XT118B1FBL2	XT130B1FBL2	XT132B1FBL2	—
		non flush mountable	—	—	XT230A1FBL2	XT232A1FBL2	—
Connection			Screw terminals				
2-wire AC (1)	NO or NC programmable flush mountable		—	—	—	—	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

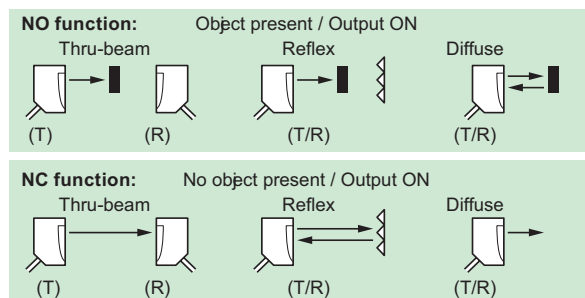
(1) For these sensors without short-circuit protection, it is essential to connect a 0.4 A quick-blow fuse in series with the load.

(2) The operating distance depends on the objet material.

(3) Only for detecting insulating materials.

Accessories

Suitable female plug-in connectors, including pre-wired versions			
length 5 m without LED	pre-wired, elbowed	pre-wired, straight	screw terminal
M12	XZCP1241L5	XZCP1141L5	XZCC12FCM40B



				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
			PNP/NPN	—	—	—	—
	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
			PNP/NPN	—	—	—	—
	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
			PNP/NPN	—	—	—	—
	AC/DC 1C/O relay		—	—	—	—	
Output function		NO 		A	A	A	A
		NC 		B	B	B	B
Thru beam Transmitter			DC	XUB0BKSNL2T	XUB0BKSNM12T	XUB0AKSNL2T	XUB0AKSNM12T
			AC/DC	—	—	—	—
Multimode		Sensing distance		Background suppression: 0.12 m - Diffuse: 0.3 m Reflex polarised: 2 m - Thru beam: 18 m			
	Output type	DC3 NO/NC	PNP	XUB0BPSNL2	XUB0BPSNM12	XUB0APSNL2	XUB0APSNM12
			NPN	XUB0BNSNL2	XUB0BNSNM12	XUB0ANSNL2	XUB0ANSNM12
			PNP/NPN	—	—	—	—
	AC/DC 1C/O relay		—	—	—	—	
Thru beam Transmitter			DC	XUB0BKSNL2T	XUB0BKSNM12T	XUB0AKSNL2T	XUB0AKSNM12T
			AC/DC	—	—	—	—

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

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

Fixing	M18 x1	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

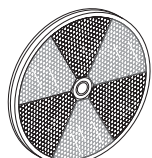
Supply voltage limits, min./max. (V) including ripple	10...36	10...36
Switching frequency (Hz)	500	500
Common characteristics for DC versions	Switching capacity, max. (mA): 100 / Overload and short-circuit protection (★) / LED output state	

AC/DC common characteristics

Supply voltage limits, min./max. (V) including ripple	—	—
Switching frequency (Hz)	—	—
LED output state indicator (⊗) / power on LED (⊗)	—	—

Accessories

Reflectors

  		Reflectors (mm)
XUZC24		Ø 21 XUZC21
XUZC80		24 x 21 XUZC24
XUZC50		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



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)	
–	–	XUK5AP ANL2	XUK5AP ANM12	XUX5AP ANT16	XUX5AP ANM12
–	–	XUK5AN ANL2	XUK5AN ANM12	XUX5AN ANT16	XUX5AN ANM12
XUM5APCNL2	XUM5APCNM8	–	–	–	–
–	–	XUK5ARCNL2	–	XUX5ARCNT16	–
5 m (3)		5 m		11 m (3)	
–	–	XUK9AP ANL2	XUK9AP ANM12	XUX9AP ANT16	XUX9AP ANM12
–	–	XUK9AN ANL2	XUK9AN ANM12	XUX9AN ANT16	XUX9AN ANM12
XUM9APCNL2	XUM9APCNM8	–	–	–	–
–	–	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)	
–	–	XUK2AP ANL2R	XUK2AP ANM12R	XUX2AP ANT16R	XUX2AP ANM12R
–	–	XUK2AN ANL2R	XUK2AN ANM12R	XUX2AN ANT16R	XUX2AN ANM12R
XUM2APCNL2R	XUM2APCNM8R	–	–	–	–
–	–	XUK2ARCNL2R	–	XUX2ARCNT16R	–
NO or NC	NO or NC	A	A	A	A
		B	B	B	B
XUM2AKCNL2T	XUM2AKCNM8T	XUK2AKSNL2T	XUK2AKSNM12T	XUX0AKSAT16T	XUX0AKSAM12T
–	–	XUK2ARCNL2T	–	XUX2ARCTT16T	–
Background suppression: 0.1 m - Diffuse: 0.4 m		Background suppression: 0.28 m - Diffuse: 0.8 m		Background suppression: 1.3 m - Diffuse: 2 m	
Reflex polarised: 3 m - Thru beam: 10 m		Reflex polarised: 4 m - Thru beam: 30 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

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
–	⊗ / ⊗	⊗ / ⊗

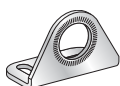
Simple fixings

Fixing support for M12 rod



XUZ2003

Single bracket

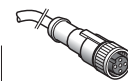


for	standard	with ball joint
XUB...	XUZA118 (stnls. steel)	XUZA218 (plastic)
XUM...	XUZAM02	–
XUK...	XUZA51	–
XUX...	XUZX2000	–

Suitable female plug-in connectors, including pre-wired versions



length 5 m without LED
M8
M12



pre-wired, straight
XZCP0941L5
XZCP1141L5



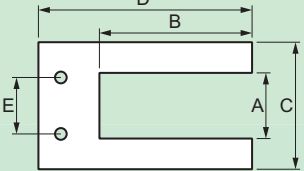
screw terminal
XZCC8FCM40S
XZCC12FCM40B

New



System	Thru-beam with modular red LED light source
Sensing distance	2...180 mm
Fixing (mm)	(see column E below)
Minimum size of object 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	E			A	B	C	D	E
	Transmitter / Receiver	3 wire	NO function	PNP	XUVR0605P ANM8	50	60	74	77,5	40	XUVR0303PANL2	30	40	54	57,5	30	
				NPN	XUVR0605N ANM8												
			NO function	PNP	XUVR0608P ANM8	80	60	104	77,5	70							
				NPN	XUVR0608N ANM8												
			NO function	PNP	XUVR1212P ANM8	120	120	144	142	100							
				NPN	XUVR1212N ANM8												
			NO function	PNP	XUVR1218P ANM8	180	120	204	142	152							
				NPN	XUVR1218N ANM8												
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
	Ø 10 mm	—	—	XUYFRS120S	XUYFRS180S
Type and output function	4-wire, PNP and NPN Output function ON or OFF on passage of object, programmable				
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 pre-wired plug-in connectors



Straight



Elbowed

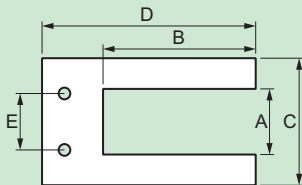
M8 (3 pin)			M8 (4 pin)			M12 (4 pin)		
For optical forks without setting			For optical forks and frame with setting			For frame with setting		
	Straight	Elbowed		Straight	Elbowed		Straight	Elbowed
2 m	XZCP0566L2	XZCP0666L2	2 m	XZCP0941L2	XZCP1041L2	2 m	XZCP1141L2	XZCP1241L2
5 m	XZCP0566L5	XZCP0666L5	5 m	XZCP0941L5	XZCP1041L5	5 m	XZCP1141L5	XZCP1241L5

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	

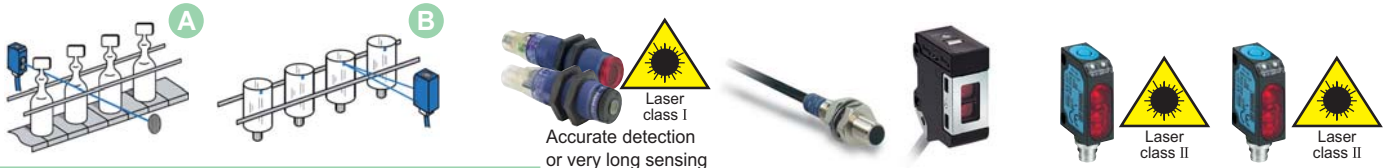
Sensors for DC applications (solid-state output: transistor)

Connection		M8 connector - 4 Pin																		
Type of output		3-wire PNP/NPN programmable NO/NC																		
Dimensions (mm)																				
Transmitter / Receiver																				
		A	B	C	D	E		A	B	C	D	E		A	B	C	D	E		
		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: XUYFANEP40002 becomes XUYFNEP40002



System	Ultrasonic thru-beam	Thru-beam
	Special transparent labels	For all other opaque labels
Sensing distance	3 mm version 5 mm version	XUYFA983003COS XUYFA983005COS
Switching frequency (Hz)	500	10 000
Sensitivity adjustment	Numerical +/- button	Teach button
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



Application	Thru-beam	Diffuse	Diffuse (1)	Reflex	Diffuse contrast
System					
Sensing distance	100 m (2)	0.07 m	0.07 m	10...1000 mm (3)	40...150 mm
Fixing (mm)	M18 x 1	M8 x 1	Direct, 2 M3 holes, f.xg. ctrs. 20 mm	Direct, 2 M3 holes, fixing centres 24 mm	
Sensitivity adjustment	Teach mode	–	Potentiometer	Teach mode	
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	M / –	M / ☉	P	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 45°C	- 25...+ 55	- 25...+ 60	- 20...+ 60°C	
Degree of protection (conforming to IEC 60529)	IP 67	IP 67	IP 67, IP 69K	IP 67	
Product certification	CE - UL - CSA	CE - cULus	CE - cULus - C-TICK	CE - cULus	
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 64	Ø 8 x 40	40.8 x 16.2 x 29.5	35.8 x 12 x 20	

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

Connection	Pre-cabled		PVR (2 m)	PVC (2 m)		
Transmitter / Receiver	3-wire PNP NO function	–	XUAH0515	XUM5BPANL2	–	–
Connection	Connector	M12	M8 4-pin			
Transmitter / Receiver	3-wire PNP NO function	–	XUAH0515S	–	–	–
	3-wire PNP programmable NO / NC	XUBLAPCNM12	–	–	XUYBCO929LSP	XUYPCO929LSP
	3-wire NPN programmable NO / NC	XUBLANCNM12	–	–	–	–
Supply voltage limits, min./max. (V) including ripple		10...30	10...30	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)		100 / 1500	100 / 700	100 / 1000	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

Application		
System	Polarised reflex 50 x 50 reflector included	Thru-beam
Sensing distance	1...1.5 m	4 m
Fixing (mm)	2 x Ø 3 holes / fixing centres 9.5	3 x Ø 3 holes / fixing centres 9.5
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 & IP 67	0...+ 50 / IP 65 & IP 67
Product certification	CE - cULus	CE - cULus
Dimensions (mm) H x W x D	40 x 10 x 13.5	40 x 10 x 13.5

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

Connection	M8 connector (1) - 4 Pin	
PNP NO function	XUYBCO989SP	XUYRCO989SP (receiver)
NPN NO function	XUYBCO989SN	XUYRCO989SN (receiver)
PNP/NPN programmable NO / NC	–	XUYECO989 (transmitter)
Supply voltage limits, min./max. (V) including ripple	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 500	100 / 500
Overload and short-circuit protection (★) / LED output state indicator (☉)	★ / ☉	★ / ☉

(1) For 2 m pre-cabled version delete CO from the reference. Example: XUYPSCO989SP becomes XUYPS989SP.

Materials handing series - Analogue output



Analogue output
Position control



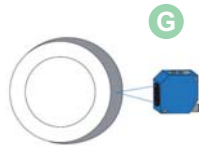
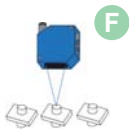
High access gain for resistance
to accumulation of dirt

Application			
System	Diffuse	Diffuse	Thru-beam
Sensing distance	0.20...0.80 m	0.05...0.40 m	50 m
Fixing (mm)	fixing ctrs: 30 - 11P cable gland	M18 x 1	M18 x 1
Sensitivity adjustment	—	Potentiometer	Potentiometer
Case M (metal) P (plastic) / Setting-up assistance LEDs ☒	P / ☒	M / ☒	M / ☒
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 25...+ 60 / IP 67	- 25...+ 55 / IP 67	- 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA - C-TICK
Dimensions (mm) Ø x L or H x W x D	86 x 27 x 83	M18 x 95	M18 x 95

Sensors for DC applications

Connection	Screw terminals	M12 connector	M12 connector
Transmitter / Receiver	analogue 4-20 mA / 0-10 V	—	—
	analogue 4-20 mA	XU5M18AB20D	XU2M18AP20D (5)
Supply voltage limits, min./max. (V) including ripple	20...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	max: 20, min: 4 / 10000	max: 20, min: 4 / 20	100 / 30
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒	★ / ☒	★ / ☒

(5) With 3-wire PNP output.



F G



F G



F G

Application			
System	Diffuse, 0-10 V analogue output		Diffuse, 4-20 mA analogue output
	Sensing distance 1	Sensing distance 2	
Sensing distance	40...60 mm	45...85 mm	80...300 mm
Minimum size of object	1 mm	0.8 mm	1.5 x 3.5 mm
Fixing (mm)	direct: 3 M4 holes, fixing centres 40 mm		
Sensitivity adjustment	Potentiometer		
Case P (plastic) / Setting-up assistance LEDs ☒	P / ☒		
Temperature range (°C)	0...+ 45°		
Product certification	CE - cULus		
Dimensions (mm) H x W x D	50 x 17 x 50		

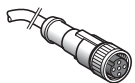
Sensors for DC applications (solid-state output: transistor)

Connection	M12 connector	M12 connector	M12 connector
Transmitter / Receiver 0...10 V	XUYPC0925L1ANSP	XUYPC0925L2ANSP	XUYPC0925L3ANSP
Supply voltage limits, min./max (V) including ripple	18...28		18...28
Switching capacity, max.	3 mA / 0...10 V analogue output		3 mA / 4...20 mA analogue output
Switching frequency (Hz)	40		40
Overload and short-circuit protection (★) / LED output state indicator (☒)	★ / ☒		★ / ☒

Accessories

Suitable female pre-wired plug-in connectors

Fixing, for XUYPC0925



M8 straight M12 straight

2 m	XZCP0941L2	XZCP1141L2
5 m	XZCP0941L5	XZCP1141L5

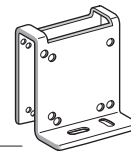


M8 elbow M12 elbow

	XZCP1041L2	XZCP1241L2
	XZCP1041L5	XZCP1241L5

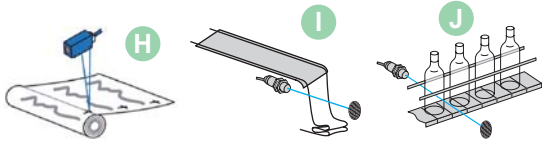
With protective cover

XUY 9251-DF525567



Simple

XUY 925-DF525568



H Contrast sensors

H

H

Application			
System	Diffuse (with teach mode)	Sensor with plastic fibre optics (1)	Diffuse (with teach mode)
Sensing distance	19 mm	18 mm	9 mm (2)
Fixing (mm)	direct: fixing centres 40 x 40	DIN rail	direct: 21 x 28, M5 screws
Sensitivity adjustment	Teach button	Teach button	Teach button
Case M (metal) P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	M / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	- 10...+ 55 / IP 65	0 ... + 40 / IP 65	- 10...+ 55 / IP 67
Product certification	CE - cULus	CE - cULus	CE
Dimensions (mm) Ø x L or H x W x D	50 x 15 x 50	30 x 13 x 60	96 x 31 x 64

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

Connection	M12 connector	M8 connector	M12 connector
Transmitter / Receiver			
3-wire PNP	NO function	XUKR1PSMM12	–
3-wire NPN	NO function	XUKR1NSMM12	–
3-wire PNP / NPN	programmable NO / NC	–	XURK1KSMM12
NPN	NO function	XUYDCFC0966S	–
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 5000	100 / 20 k	200 / 10000

(1) Suitable fibre optics, to be ordered separately:
Sensing distance: 18 mm (L = 0.6 m: XUYFPDC61),
60 mm (L = 1 m: XUYFPDC101)
18 mm (L = 0.6 m / M8: XUYFPDCM861),
60 mm (L = 1 m / M8: XUYFPDCM8101).

(2) 7 mm with XURZ02; 18 mm with XURZ01.



Luminescence sensors



Detection of transparent materials



Application				
System	Diffuse (manual)	Lum. detection via fibre optics	Reflex (with teach mode) (50 x 50 reflector included)	
Sensing distance	0.02...0.08 m	dpg. on fibre & fitting (3)	0...1.4 m (4)	1.5 m
Fixing (mm)	M18 x 1	DIN rail	M18 x 1	direct: fixing ctrs. 40 x 40
Sensitivity adjustment	Potentiometer	+/- numeric 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	0 ... + 60 / IP 65	0...+ 55 / IP 67	- 25...+ 55 / IP 65
Product certification	CE - CSA - UL	CE - cULus	CE - UL - CSA - C-TICK	
Dimensions (mm) Ø x L or H x W x D	Ø 18 x 95	30 x 13 x 60	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	–	–	XUBTAPSNL2 (5)
3-wire NPN	programmable NO / NC	–	–	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	–	–	XUBTAPSNM12 (5)
3-wire NPN	programmable NO / NC	–	–	XUBTANSNM12 (5)
3-wire PNP / NPN	programmable NO / NC	–	XUYAFLCO966S	–
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 / 5	100 / 1000	100 / 1500

(3) Suitable fibre optics, to be ordered separately (usable Ø 1 mm): (L = 10 m: XUFZ910) (L = 20 m: XUFZ920) (L = 50 m: XUFZ950). End fittings see the fibre optic page

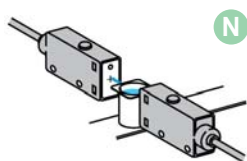
(4) 0...0.8 m for versions with 90° head, to order replace the 8° digit **N** by **W**. Example XUBTAPSNL2 becomes XUBTAPSWL2

(5) Also available in stainless steel for food and beverage processing applications. To order, replace the letter **A** by **S** in the ref. Example: XUBTAPSNL2 becomes XUBTSPSNL2.

Accessories

Suitable female plug-in connectors, including pre-wired versions				Lenses for colour mark	
L = 5 m, without LED	Wired, elbowed	Wired, straight	Screw terminal	Lens for 18 mm sensing distance	Lens for 7 mm sensing distance
M8 (or S) 4 pin	XZCP0666L5	XZCP0566L5	XZCC8FCM30S		
M12 (or D) 4 pin	XZCP1241L5	XZCP1141L5	XZCC12FCM40B		
M12 8 pin	–	XSZMCR03 (3 m)	–		
				XURZ01	XURZ02

Packaging series



Application	Colour sensors		N Detection of aqueous liquids
System	Diffuse	Diffuse (with integral amplifier)	Thru-beam infrared
Sensing distance	0.02 m	0.040...0.060 m	0.2 m (1)
Fixing (mm)	direct: fixing ctrs. 40x40	drct: fxg ctrs. 68x42, M5 screws	direct: fixing ctrs. 20
Sensitivity adjustment	Teach button	Teach button	Potentiometer
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	0...+ 40 / IP 65
Product certification	CE - cULus	CE	CE
Dimensions (mm) Ø x L or H x W x D	50 x 25 x 50	80 x 30 x 57	47 x 13 x 33

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

Connection	M12 connector - 8 pin	Pre-cabled (2 m)	Pre-cabled (2 m)
Transmitter / Receiver 3-wire PNP NO function	XUKC1PSMM12	XURC3PPML2	—
3-wire NPN NO function	XUKC1NSMM12	XURC3NPML2	—
3-wire PNP / NPN programmable NO / NC	—	—	XUMW1KSNL2
Supply voltage limits, min./max. (V) including ripple	10...30	10...30	10.8...26.4
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 1500	100 / 1200	100 / 1000

(1) Nominal sensing distance 50 m. Use between 10 and 20 cm, depending on application.

Food/beverage processing series



Stainless steel version for resistance to harsh agents

System	Multimode (3)	Polarised relex (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

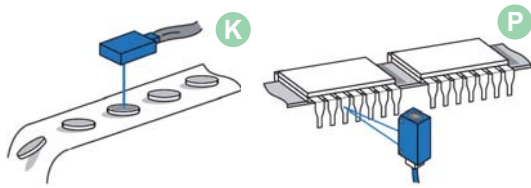
Sensors for DC applications (solid-state output: transistor)

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	10...30
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 250	100 / 500	100 / 500	100 / 500

(2) Also available with 90° head. To order, add the letter **W** after the numbers 341 in the reference. Example: XU9N18PP341 becomes XU9N18PP341W or XU9N18PP341DW.

(3) 0...0.8 m for versions with 90° head, to order replace the 8° digit **N** by **W**. Example XUB0SPSNL2 becomes XUB0SPSWL2

(4) Background suppression: **0.12 m** - Diffuse: **0.3 m** - Reflex polarised: **2 m** - Thru beam: **18 m**

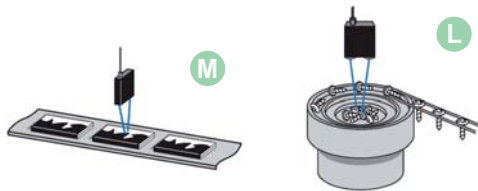


Application	K	P	K
System	Background suppression	Diffuse with background suppression	
Sensing distance	1.5...80 mm	Sensing distance 1	Sensing distance 2
Minimum size of object	—	10...60 mm	30...110 mm
Fixing (mm)	2 x Ø 3 holes / f.xg. ctrs. 14.5	0.3 mm	0.7 mm
Sensitivity adjustment	Potentiometer	direct: 2 M3 holes, fixing centres 24 mm	
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	Teach mode	
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	0...+ 50 / IP 65 & IP 67	P	
Product certification	CE - cULus	- 20...+ 60°C / IP 67	
Dimensions (mm) H x W x D	32 x 13 x 20	CE - cULus	
		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	XUYPSO989SP	—	—
NPN NO function	XUYPSO989SN	—	—
PNP programmable NO / NC	—	XUYPSO929L1SP	XUYPSO929L2SP
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: XUYPSO989SP 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	
Supply voltage limits, min./max. (V) including ripple	XUYPS1LCO965S	XUYPS2CO945S
Switching capacity, max. (mA) / Switching frequency (Hz)	10...30	100 / 370

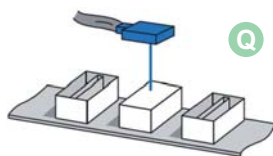
Accessories

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



Straight

Elbowed



Objets sur convoyeur



Application

System

Diffuse with adjustable background suppression

Sensing distance	0...1 m	1.2 m	2 m
Fixing (mm)	direct: fixing ctrs. 40 x 40	M30 x 1.5 or M5, fixing ctrs. 30	direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment	–	Potentiometer	–
Case P (plastic) / Setting-up assistance LEDs ☉	P / ☉	P / ☉	P / ☉
Temperature range (°C) / Degree of protection (conforming to IEC 60529)	– 25...+ 55 / IP 65	– 25...+ 55 / IP 67, Nema 4X	– 25...+ 55 / IP 67
Product certification	CE - UL - CSA	CE - UL - CSA	CE - UL - CSA
Dimensions (mm) H x W x D	50 x 18 x 50	95 x 45 x 44	92 x 30,5 x 71

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

Connection	Pre-cabled, PVC (2 m)	Screw terminals
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUX8AKSNL2	XUX8AKSNL2 (3)
Connection	M12 connector	
Transmitter / Receiver 3-wire PNP / NPN programmable NO / NC	XUX8AKSNM12	XUX8AKSNM12 (3)
Supply voltage limits, min./max. (V) including ripple	10...36	10...38
Switching capacity, max. (mA) / Switching frequency (Hz)	100 / 250	100 / 500
		100 / 150



Système

Diffuse with adjustable background suppression

Sensing distance	70...120 mm	1.2 m	2 m
Fixing (mm)	M18 x 1	M30 x 1.5 or M5, fixing ctrs. 30	direct: fixing ctrs. 30/38 to 40/50/74 M5 screw
Sensitivity adjustment	Potentiometer	Potentiometer	–
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 / IP 67, Nema 4X	– 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	95 x 45 x 44	92 x 30,5 x 71

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

Connection	Cable L = 2m	Cable 2m / Connector 7/8"	Screw terminals
Transmitter / Receiver AC/DC NO function	XU8M18MA230	–	–
programmable NO / NC	–	XUC8ARCTL2 / XUC8ARCTU78	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.



	+/- 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)

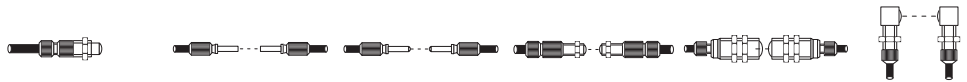
Connection				Pre-cabled, PVC (2 m)			
References	3-wire PNP	programmable	NO / NC	—	XUDA1PSML2	—	XUDA2PSML2
Amplifier	3-wire NPN	programmable	NO / NC	—	XUDA1NSML2	—	XUDA2NSML2
Connection				M8 connector - 4 Pin			
References	3-wire PNP	programmable	NO / NC	—	XUDA1PSMM8	—	XUDA2PSMM8
Amplifier	3-wire NPN	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	Length = 50 m
References	XUFZ910	XUFZ920	XUFZ950



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	XUYA212	XUYA220

Accessories

For thru-beam system plastic fibre optics		For all system plastic fibre optics		Plug-in pre-wired female connectors	
Lenses	For increasing sensing distance (pair) XUFZ01	Fibre trimmer	For trimming fibres to length (included with all fibre optics) XUFZ11	Cable length 5 m, without LED	
With 90° mirror (pair) XUFZ02		Protective metal tubing	Length 1 m, for fibres with threaded end fittings	pre-wired, elbowed	pre-wired, straight
Fixing clamp with lens (set of 2)	Front screw fixing for fibre optics XUFZ04		For M4 thread XUFZ210	XZCP1041L5	XZCP0941L5
			For M6 thread XUFZ310		

Plastic fibre optic light guides (length 2 m)



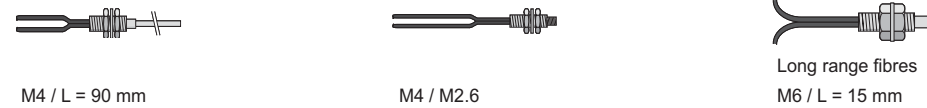
	M4 / M2.6 (1)	M4 / L = 90 mm	M3 / M2.6 (1)	Long range fibres with integrated lens M8 / L = 20 mm	Long range fibres M4 / M2.6 (1)	Flexible fibres M4 / M2.6 (1)
System	Thru-beam					
Sensing distance (mm)	200 or 1500 (2)	180	50 or 1000 (2)	2500	300 or 2000 (2)	100 or 750 (2)
Fibre cross-section						
Fibre 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)

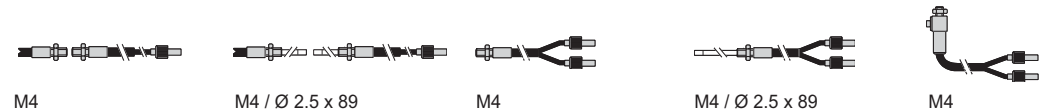


System	Diffuse			
Sensing distance (mm)	70	60	60	15
Fibre cross-section				
Fibre Ø (mm)	Ø 1	Ø 1+16 Ø 0.265	Ø 1	Ø 0.5 + 4 Ø 0.23
Sheath Ø (mm)	Ø 2.2 x 2	Ø 2.2 x 2	Ø 2.2 x 2	Ø 1 x 2
Temperature range (°C)	- 25...+ 60	- 25...+ 60	- 25...+ 60	- 25...+ 60
References	XUFN05321	XUFN05323	XUFN05331	XUFN02323
Fixing	M6 x 0.75	M6 x 0.75 / M4 x 0.7	M6 x 0.75	M4 x 0.7



System	Diffuse		Long range fibres M6 / L = 15 mm
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)



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	XUYFVERSC61	XUYFVPSD61	XUYFVPSC61	XUYFVPSL61
	Metal wound	XUYFVERMD61	XUYFVERSC61	XUYFVPMD61	XUYFVPMC61	XUYFVPMML61
	Flexible stnl. steel	XUYFVERTD61	XUYFVERTC61	XUYFVPTD61	XUYFVPTC61	XUYFVPTL61



	Mini flat	Flat	Combined multi-fixing
Nominal sensing distance S_n	10 cm	25 cm	50 cm
Operating zone (cm)	0.62...10.2	5.1...25.4	5.1...50.8
Sensitivity adjustment	Fixed	Fixed	Adjustable using remote control
Case P (plastic)	P	P	P
Product certification	CE	CE	CE
Temperature range (°C)	- 20...+ 65	0...+ 50	- 20...+ 65
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

Sensors 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
	NPN	NO function	XX7F1A2NAL01M12	XX7K1A2NAM12	XX7V1A1NAM12
4-wire	PNP/NPN	NO function	–	–	–
	PNP	NO + NC function	–	–	–
	NPN	NO + NC function	–	–	–

Application - monitoring levels

2 emptying levels	PNP NO function	–	–	–
2 filling levels	PNP NO function	–	–	–
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
Transmission frequency (Hz)		500	500	300

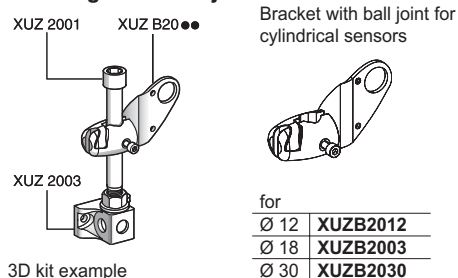
Sensors with “Analogue” output for DC applications (24 V)

Connection			M12 connector
4-wire	Analogue	0...10 V output	XX9V1A1F1M12
		4...20 mA output	XX9V1A1C2M12
Supply voltage limits, min./max. (V) including ripple			10...28
Short-circuit protection (★)			★
LED output state indicator (⊗) / Power on LED (⊗)			⊗ / ⊗
Transmission frequency (Hz)			300

Accessories

Fixings

3D fixings with ball joint



Bracket with ball joint for cylindrical sensors

M12 rod for ball joint



XUZ2001

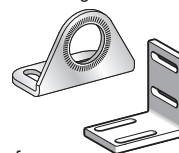
Fixing support for M12 rod



XUZ2003

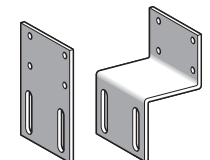
Simple fixings

90° fixing brackets



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

Mounting plates for XX7K



flat	XXZ3074F
cranked	XXZ3074S

					
M12	M18	M30			M30 Long range
5 or 10 cm depending on model	15 or 50 cm depending on model	1 m	1 m	2 m	8 m
0.64...5.1 (XX512A1...) 0.64...10.2 (XX512A2...)	1.9...15.2 (XX518A1...) 5.1...50.8 (XX518A3...)	10...100 –	5.1...99.1 –	12...200	20.3...800 –
Fixed	Adjustable using remote control		Adjustable using teach mode		
P	P	P			P
CE	CE	CE			CE
- 20...+ 65	0...+ 50 (XX518A1...) / - 20...+ 65 (XX518A3...)		0...+ 70		- 20...+ 60
IP 67	IP 67		IP 65		
M12 x 50	M18 x 65	M30 x 78	M30 x 85		M30 x 106

M8 connector	M12 connector	Pre-cabled, PVC (2 m)	M12 connector			M12 connector
XX512A2PAM8 (10 cm)	XX518A3PAM12 (50 cm)	XX518A3PAL2	XX6V3A1PAM12	–	–	–
XX512A2NAM8 (10 cm)	XX518A3NAM12 (50 cm)	XX518A3NAL2	XX6V3A1NAM12	–	–	–
XX512A1KAM8 (5 cm)	XX518A1KAM12 (15 cm)	–	–	XX630A1KAM12	–	–
–	–	–	–	XX630A1PCM12 (1)	–	XX630A3PCM12
–	–	–	–	XX630A1NCM12 (1)	–	XX630A3NCM12

–	XX218A3PHM12 (3)	–	–	XX230A10PA00M12 (2)	XX230A20PA00M12 (2)	–
–	XX218A3PFM12 (3)	–	–	XX230A11PA00M12 (2)	XX230A21PA00M12 (2)	–
10...28						
<100						
★						
⊗ / ⊗	⊗ / ⊗ except XX518A1.. (- / -)		⊗ / ⊗	⊗ / ⊗		⊗ / ⊗
<1						
125	40 / 80 (XX518A1..)		70	10		2
500	300		180	200		75

M12 connector						
–	XX918A3F1M12	–	XX9V3A1F1M12	XX930A1A1M12 (1)	–	XX930A3A1M12
–	XX918A3C2M12	–	XX9V3A1C2M12	XX930A1A2M12 (1)	–	XX930A3A2M12
–	10...28	–	10...28	10...28	–	10...28
–	★	–	★	★	–	★
–	⊗ / ⊗	–	⊗ / ⊗	⊗ / ⊗	–	⊗ / ⊗
–	300	–	180	200	–	75

(1) 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.

(2) 2 NO

(3) 1 NO

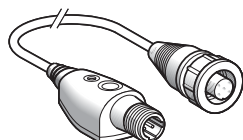
Programming

Remote control

teach button for use with

sensors XX●18A3●●●,

XX●V1●●● and XX●V3●●●



XXZPB100

Suitable female plug-in connectors

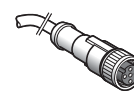
Pre-wired connectors

elbowed

straight

Other connectors

screw terminal



L = 5 m (without LED)

M8	for XX512A1...	XXCP1041L5	XXCP0941L5	XXCC8FCM40V
	for XX512A2...	XXCP0666L5	XXCP0566L5	XXCC8FCM30V
M12	for all sensors except XX512...	XZCP1241L5	XZCP1141L5	XZCC12FCM40B



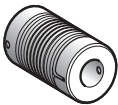
Diameter of housing (mm)	Ø 40	Ø 40	Ø 58	Ø 58	Ø 58 Parametrable	Ø 90
Shaft Ø (mm)	Ø 6	Ø 6	Ø 6	Ø 10	Ø 14 (1)	Ø 12
Type of shaft (2)	solid shaft	through shaft	solid shaft	solid shaft	through shaft	solid shaft
Maximum rotational speed (rpm)	9000	9000	9000	9000	6000	6000
Maximum frequency (kHz)	100	100	300	300	300	100
Maximum load (daN)	2	2	10	10	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)	IP 65	IP 66
Supply voltage	5 V, RS 422	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			

Resolution (Points) Output stage

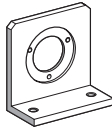
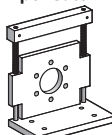
100	5 V, RS 422	XCC1406PR01R	XCC1406TR01R	XCC1506PS01X	XCC1510PS01X	–	XCC1912PS01RN
	Push-pull	XCC1406PR01K	XCC1406TR01K	XCC1506PS01Y	XCC1510PS01Y	–	XCC1912PS01KN
360	5 V, RS 422	XCC1406PR03R	XCC1406TR03R	XCC1506PS03X	XCC1510PS03X	–	XCC1912PS03RN
	Push-pull	XCC1406PR03K	XCC1406TR03K	XCC1506PS03Y	XCC1510PS03Y	–	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	–	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	–	XCC1912PS50KN
360...5760	5 V, RS 422	–	–	–	–	XCC1514TSM03X	–
	Push-pull	–	–	–	–	XCC1514TSM03Y	–
500...8000	5 V, RS 422	–	–	–	–	XCC1514TSM05X	–
	Push-pull	–	–	–	–	XCC1514TSM05Y	–
10 000	5 V, RS 422	–	–	–	–	–	XCC1912PS00RN
	Push-pull	–	–	–	–	–	XCC1912PS00KN
1024...16 384	5 V, RS 422	–	–	–	–	XCC1514TSM11X	–
	Push-pull	–	–	–	–	XCC1514TSM11Y	–
5000...80 000	5 V, RS 422	–	–	–	–	XCC1514TSM50X	–
	Push-pull	–	–	–	–	XCC1514TSM50Y	–

Accessories

Shaft couplings

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

Fixing brackets

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

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 6	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	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 66	IP 65 / IP 67 (3)	IP 66	IP 64	IP 64
Supply voltage	11...30 V					
Connection	M23 male connector, radial				2 x M12 + 1 x Pg 9	3 x Pg 9
Resolution	Output stage	Code				
... 8192 points	Push-pull	Binary	XCC2506PS81KB	XCC2912PS81KBN	–	–
		Gray	XCC2506PS81KGN	XCC2912PS81KGN	–	–
	SSI, 13-bit	Binary	XCC2506PS81SBN	XCC2912PS81SBN	–	–
		Gray	XCC2506PS81SGN	XCC2912PS81SGN	–	–
4096 points / 8192 turns	SSI, 25-bit (5)	Gray	–	–	XCC3510PS48SGN	–
8192 points / 4096 turns	SSI, 25-bit (5)	Binary	–	–	XCC3510PS84SBN	XCC3912PS84SBN
		Gray	–	–	XCC3510PS84SGN	XCC3912PS84SGN
8192 points / 4096 turns	CANopen, 25-bit	Binary	–	–	–	XCC3510PS84CB
	PROFIBUS-DP, 25-bit	Binary	–	–	–	XCC3510PV84FB

(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.

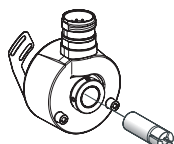
(3) IP 67 with sealed collar XCCRB3.

(4) Versions available with hollow shaft and anti-rotation device.

(5) "Parallel" outputs possible for multiturn absolute encoders using deserialisation jumper cables XCCRM23SUB37●●.

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
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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



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:

- 2 models of 13.56 MHz compact stations (read/write)
- 6 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 compact stations 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 station
- Low sensitivity to metal environments.

Installation

OsiSense XG stations easily integrate in flexible manufacturing production lines:

- quick connection using M12 connector
- screw fixing or clip-on mounting.



Compact stations, 13.56 MHz		C format	D format
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		1 dual colour LED for the communication network, 1 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	
	Protocol	Modbus and Uni-Telway	
	Speed (Bauds)	9600...115 200 (automatic detection)	
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	
References		XGCS4901201	XGCS8901201



Electronic tags		C format		ISO badge (1)	Disc	E format	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					
Memory capacity (bytes)		3 408	13 632	256	112	256	256
Nominal sensing distance (mm) (Read/Write)	With station XGCS49●	33	30	70	48	40	18
	With station XGCS89●	48	40	100	65	55	20
Time (ms)	Read	9.25 + 0.375 x n (2)	16.25 + 0.375 x n (2)	12 + 0.825 x n (2)			
	Write	13 + 0.8 x n (2)	20 + 0.8 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	XGHB445345	XGHB90E340	XGHB320345	XGHB221346	XGHB211345

(1) Customised versions on request. (2) n = number of 16-bit words.

New



Connection boxes	Ethernet box	Profibus box	Tap-off box
Dimensions (mm), W x H x D	130 x 80 x 51		130 x 80 x 51
Protocols	Modbus TCP/IP	Profibus DP	Modbus, Uni-Telway
Supply voltage	24 VDC PELV. M12, 4-pin male, A coding, connector		
Conformity to standards	CE - UL	CE	CE - UL
Station connection	M12, 5-pin female, A coding, connector		
Degree of protection conforming to IEC 60529	IP 65		
References	XGSZ33ETH	XGSZ33PDP	TCSAMT31FP



Terminal	Portable 13.56 MHz RFID diagnostics terminal
Dimensions (mm), W x H x P	120 x 250 x 62
Function	Read/Write operations on electronic tags and diagnostics on compact stations
Operating system	Microsoft® Windows CE.NET Professional® version 4.2
Conformity to standards	CE, FCC class A, Part 15225
Display	72 x 54 mm colour touchscreen; QVGA TFT, 320 x 240 pixels resolution
Degree of protection conforming to IEC 60529	IP 65
Memory	RAM: 64 Mb SDRAM
	Storage: Internal Compact Flash (512 Mb standard, expandable to 128 Mb) + Slot for Compact Flash card
Reference	XGSTP401 (Battery, battery charger, carrying case and 3 styluses included with terminal)



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 compact station and a Modbus 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 RS 485 network
L = 2 m	TCSMCN1M1F2	TCSMCN1F2	TCSMCN1F9M2P	FTXDP1220	TCSECL1M3M3S2 (3)	XGSZ09L2	TCSCTN011M11F
L = 5 m	TCSMCN1M1F5	TCSMCN1F5	—	FTXDP1250	TCSECL1M3M5S2	XGSZ09L5	

(3) L = 3 m

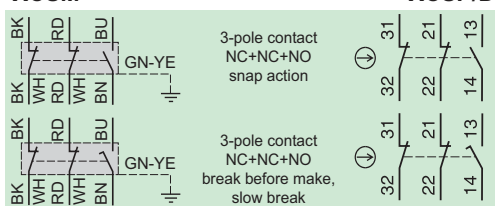
Field expander	RS232/RS485 converter	Technical documentation
To be associated with a compact station XGCS4901201 for conveying and handling applications	For connecting a PC to an OsiSense XG station	OsiSense XG compact stations guide
 50 x 400 mm XGFEC540	 XGSZ24	 DIA4ED3051001

New

250 x 250 mm
XGFEC2525

Preventa Safety switches

XCSM



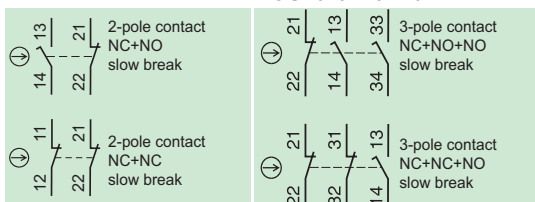
XCSP/D



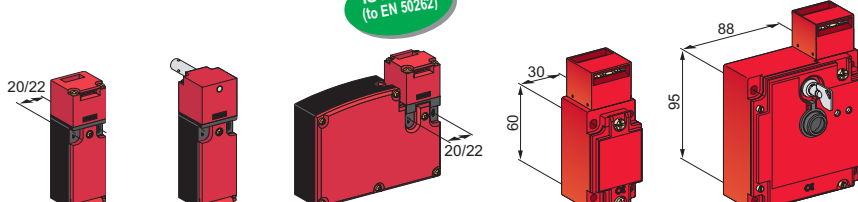
ISO entry
(to EN 50262)

Safety limit switches		Miniature			Compact		
Maximum actuation speed		0.5 m/s	0.5 m/s	1.5 m/s	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	15 N / 45 N	12 N / 36 N	10 N.m / 0.1 N.m
Degree of protection		IP 66 + IP 67 + IP 68			IP 66 + IP 67		
Complete switch, metal	NC+NC+NO snap action	⇒ XCSM3910L1	⇒ XCSM3902L1	⇒ XCSM3915L1	XCSD3910P20	XCSD3902P20	XCSD3918P20
	NC+NC+NO slow break	⇒ XCSM3710L1	⇒ XCSM3702L1	⇒ XCSM3715L1	XCSD3710P20	XCSD3702P20	XCSD3718P20
Complete switch, plastic	NC+NC+NO snap action	—	—	—	XCSP3910P20	XCSP3902P20	XCSP3918P20
	NC+NC+NO slow break	—	—	—	XCSP3710P20	XCSP3702P20	XCSP3718P20

XCSPA/PR/TE



XCSEA/E/PA/PR/TE

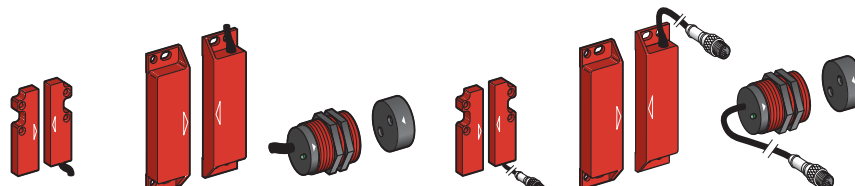
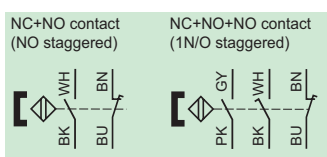


ISO entry
(to EN 50262)

Safety switches						
Actuation speed (min. —> max.)		0.1 —> 0.5 m/s	—	0.1 —> 0.5 m/s	0.1 —> 0.5 m/s	0.1 —> 0.5 m/s
Degree of protection conforming to IEC 60529		IP 67				
Body + head dimensions (mm) W x D x H		30 x 30 x 93.5	30 x 30 x 96	110 x 333 x 93.5	40 x 44 x 113.5	98 x 44 x 146
Solenoid and pilot light supply voltage		—	—	~ or --- 24 V	—	~ or --- 24 V
Complete switch	NC+NO (NO staggered)	⇒ XCSPA592	⇒ XCSPR552	⇒ XCSTE5312	—	—
	NC+NC	⇒ XCSPA792	⇒ XCSPR752	⇒ XCSTE7312	—	—
Complete switch	NC+NO+NO (2 NO staggered)	⇒ XCSPA892	—	—	⇒ XCSEA502	⇒ XCSEA5312
	NC+NC+NO (NO staggered)	⇒ XCSPA992	⇒ XCSPR952	—	⇒ XCSEA702	⇒ XCSEA7342

Accessories for safety switches

	for XCSPA / PR / TE			for XCSEA / E		
Actuators	XCSPZ11	XCSPZ12	XCSPZ13	XCSPZ01	XCSPZ02	XCSPZ03



Coded magnetic switches	Pre-cabled, L = 2 m			Connector on flying lead, L = 15 cm		
Switches for actuation	Face to face, face to side, side to side			Face to face, face to side, side to side		
Degree of protection conforming to IEC 60529 / Type of contact	IP 66 + IP 67 / REED			IP 67 / REED		
Dimensions (mm) W x D x H or Ø x L	16 x 7 x 51	25 x 13 x 88	M30 x 38.5	16 x 7 x 51	25 x 13 x 88	M30 x 38.5
Switch with coded magnet (NC+NO, NO staggered)	XCSDMC5902	XCSDMP5902	XCSDMR5902	XCSDMC590L01M8	XCSDMP590L01M12	XCSDMR590L01M12
Switch with coded magnet (NC+NO+NO, 1 NO staggered)	—	XCSDMP5002	—	—	XCSDMP500L01M12	—

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