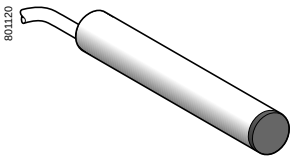
Inductive proximity sensors

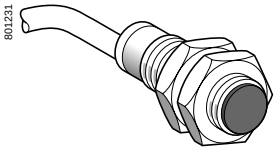
OsiSense XS, general purpose

Cylindrical, standard range, flush mountable

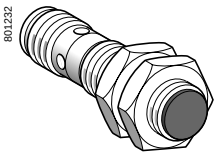
Three-wire DC, solid-state output



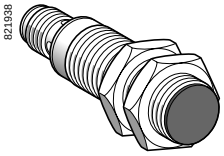
XS506B1●●L2



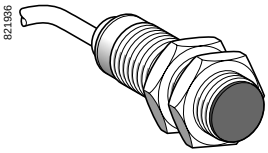
XS508B1●●L2



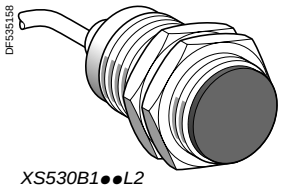
XS512B1●●M12



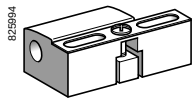
XS518B1●●M12



XS518B1●●●L2



XS530B1●●L2



XSZB1●●

Sensors, 3-wire ⎓ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
1.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS506B1PAL2**	0.035
			M8 connector	**XS506B1PAM8**	0.025
			M12 connector	**XS506B1PAM12**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS506B1NAL2**	0.035
			M8 connector	**XS506B1NAM8**	0.025
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS506B1PBL2**	0.035
			M8 connector	**XS506B1PBM8**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS506B1NBL2**	0.035
			M8 connector	**XS506B1NBM8**	0.025
Ø 8, threaded M8 x 1					
1.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS508B1PAL2**	0.035
			M8 connector	**XS508B1PAM8**	0.025
			M12 connector	**XS508B1PAM12**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS508B1NAL2**	0.035
			M8 connector	**XS508B1NAM8**	0.025
			M12 connector	**XS508B1NAM12**	0.025
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS508B1PBL2**	0.035
			M8 connector	**XS508B1PBM8**	0.025
			M12 connector	**XS508B1PBM12**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS508B1NBL2**	0.035
			M8 connector	**XS508B1NBM8**	0.025
			M12 connector	**XS508B1NBM12**	0.025
Ø 12, threaded M12 x 1					
2	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS512B1PAL2**	0.075
			M12 connector	**XS512B1PAM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS512B1NAL2**	0.075
			M12 connector	**XS512B1NAM12**	0.035
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS512B1PBL2**	0.075
			M12 connector	**XS512B1PBM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS512B1NBL2**	0.075
			M12 connector	**XS512B1NBM12**	0.035
Ø 18, threaded M18 x 1					
5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS518B1PAL2**	0.120
			M12 connector	**XS518B1PAM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS518B1NAL2**	0.120
			M12 connector	**XS518B1NAM12**	0.060
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS518B1PBL2**	0.120
			M12 connector	**XS518B1PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS518B1NBL2**	0.120
			M12 connector	**XS518B1NBM12**	0.060
Ø 30, threaded M30 x 1.5					
10	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS530B1PAL2**	0.205
			M12 connector	**XS530B1PAM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS530B1NAL2**	0.205
			M12 connector	**XS530B1NAM12**	0.145
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS530B1PBL2**	0.205
			M12 connector	**XS530B1PBM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS530B1NBL2**	0.205
			M12 connector	**XS530B1NBM12**	0.145

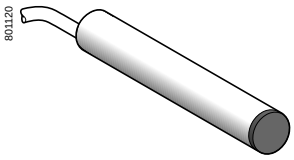
Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

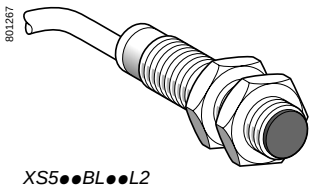
*(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: **XS508B1PAL2** becomes **XS508B1PAL5** with a 5 m cable.*

(2) For more information, see page 122.

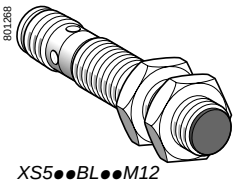
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Three-wire DC, solid-state output



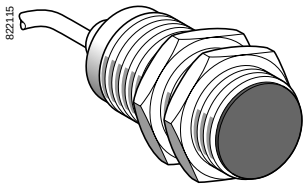
XS506BL●●L2



XS5●●BL●●L2



XS5●●BL●●M12



XS530BL●●L2

Sensors, 3-wire ⎓ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
1.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS506BLPAL2**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS506BLNAL2**	0.035
Ø 8, threaded M8 x 1					
1.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS508BLPAL2**	0.035
			M12 connector	**XS508BLPAM12**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS508BLNAL2**	0.035
			M12 connector	**XS508BLNAM12**	0.025
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS508BLPBL2**	0.035
			M12 connector	**XS508BLPBM12**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS508BLNBL2**	0.035
			M12 connector	**XS508BLNBM12**	0.025
Ø 12, threaded M12 x 1					
2	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS512BLPAL2**	0.075
			M12 connector	**XS512BLPAM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS512BLNAL2**	0.075
			M12 connector	**XS512BLNAM12**	0.035
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS512BLPBL2**	0.075
			M12 connector	**XS512BLPBM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS512BLNBL2**	0.075
			M12 connector	**XS512BLNBM12**	0.035
Ø 18, threaded M18 x 1					
5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS518BLPAL2**	0.120
			M12 connector	**XS518BLPAM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS518BLNAL2**	0.120
			M12 connector	**XS518BLNAM12**	0.060
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS518BLPBL2**	0.120
			M12 connector	**XS518BLPBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS518BLNBL2**	0.120
			M12 connector	**XS518BLNBM12**	0.060
Ø 30, threaded M30 x 1.5					
10	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS530BLPAL2**	0.205
			M12 connector	**XS530BLPAM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS530BLNAL2**	0.205
			M12 connector	**XS530BLNAM12**	0.145
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS530BLPBL2**	0.205
			M12 connector	**XS530BLPBM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS530BLNBL2**	0.205
			M12 connector	**XS530BLNBM12**	0.145

Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: **XS508BLPAL2** becomes **XS508BLPAL5** with a 5 m cable.*

(2) For more information, see page 122.

Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Three-wire DC, solid-state output

Characteristics

Sensor type			XS5●●B1●●M8, XS5●●B1●●M12 XS5●●BL●●M8, XS5●●BL●●M12	XS5●●B1●●L2 XS5●●BL●●L2
Product certifications			UL, CSA, CE, E2	
Connection	Connector		M8 on Ø 6.5 and Ø 8, M12 on Ø 8, Ø 12, Ø 18 and Ø 30	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 6.5 and Ø 8	**mm**	**0…1.2**	
	Ø 12	**mm**	**0…1.6**	
	Ø 18	**mm**	**0…4**	
	Ø 30	**mm**	**0…8**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈ (except Ø 6.5 and Ø 8: IP 67)
	Conforming to DIN 40050		IP 69K for Ø 12 to Ø 30	
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass (except XS506 and XS508BL: stainless steel, grade 303)	
	Sensing face		PPS	
	Cable		–	PvR 3 x 0.34 mm^2 except **XS506** and **XS508**: 3 x 0.11 mm^2
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 50 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	⎓ 12…48 for XS5●●BL ⎓ 12…24 for XS5●●B1 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…58 for XS5●●BL ⎓ 10…36 for XS5●●B1	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	**XS506, XS508, XS512**	**Hz**	5000	
	XS518	**Hz**	2000	
	XS530	**Hz**	1000	
Delays	First-up	**ms**	⩽ 10	
	Response	**ms**	⩽ 0.1: **XS506, XS508** and **XS512** ⩽ 0.15: **XS518** ⩽ 0.3: **XS530**	
	Recovery	**ms**	⩽ 0.1: **XS506, XS508** and **XS512** ⩽ 0.35: **XS518** ⩽ 0.7: **XS530**	

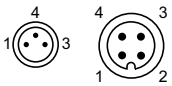
Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Three-wire DC, solid-state output

Wiring schemes

Connector

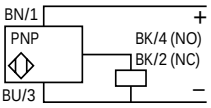
M8 M12



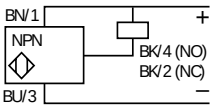
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



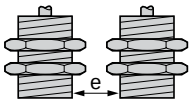
NPN

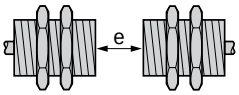


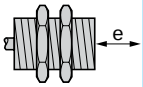
For M8 connector, NO and NC outputs on terminal 4

Setting-up

Minimum mounting distances (mm)

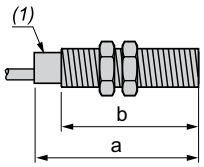






Flush mountable sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 3	e ≥ 18	e ≥ 4.5
Ø 8	e ≥ 3	e ≥ 18	e ≥ 4.5
Ø 12	e ≥ 4	e ≥ 24	e ≥ 6
Ø 18	e ≥ 10	e ≥ 60	e ≥ 15
Ø 30	e ≥ 20	e ≥ 120	e ≥ 30

Dimensions

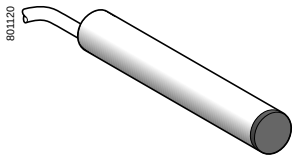


(1) LED

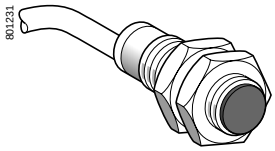
Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		**a**	**b**	**a**	**b**	**a**	**b**
Ø 6.5	**XS506B1**	33	–	42	–	45	–
Ø 8	**XS508B1**	33	25	42	26	45	24
Ø 12	**XS512B1**	35	25	–	–	50	30
Ø 18	**XS518B1**	39	28	–	–	50	28
Ø 30	**XS530B1**	43	32	–	–	55	32

Sensors		Pre-cabled (mm)		M12 connector (mm)	
Long case model		**a**	**b**	**a**	**b**
Ø 6.5	**XS506BL**	51	–	–	–
Ø 8	**XS508BL**	51	42	62	40
Ø 12	**XS512BL**	53	42	62	42
Ø 18	**XS518BL**	62	52	74	52
Ø 30	**XS530BL**	62	52	74	52

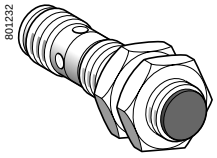
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire DC



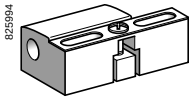
XS506BS●●L2



XS512BS●●L2



XS5●●BS●●M12



XSZB1●●

Sensors, 2-wire ⎓ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
1.5	NO terminals 1 & 4 *(2)*	Pre-cabled (L = 2 m) *(1)*	**XS506BSCAL2**	0.035
		Remote M12 connector	**XS506BSCAL01M12**	0.050
	NC	Pre-cabled (L = 2 m) *(1)*	**XS506BSCBL2**	0.035
Ø 8, threaded M8 x 1				
1.5	NO terminals 1 & 4 *(2)*	Pre-cabled (L = 2 m) *(1)*	**XS508BSCAL2**	0.035
		Remote M12 connector	**XS508BSCAL01M12**	0.050
		Remote M12 connector	**XS508BSCAL08M12**	0.050
	NC	Pre-cabled (L = 2 m) *(1)*	**XS508BSCBL2**	0.035
		Remote M12 connector	**XS508BSCBL01M12**	0.050
Ø 12, threaded M12 x 1				
2	NO	Pre-cabled (L = 2 m) *(1)*	**XS512BSDAL2**	0.075
		M12 connector	**XS512BSDAM12**	0.035
	NO terminals 1 & 4 *(2)*	M12 connector	**XS512BSCAM12**	0.035
		Remote M12 connector	**XS512BSCAL08M12**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS512BSDBL2**	0.075
		M12 connector	**XS512BSDBM12**	0.035
Ø 18, threaded M18 x 1				
5	NO	Pre-cabled (L = 2 m) *(1)*	**XS518BSDAL2**	0.120
		M12 connector	**XS518BSDAM12**	0.060
	NO terminals 1 & 4 *(2)*	M12 connector	**XS518BSCAM12**	0.060
		Remote M12 connector	**XS518BSCAL08M12**	0.085
	NC	Pre-cabled (L = 2 m) *(1)*	**XS518BSDBL2**	0.120
		M12 connector	**XS518BSDBM12**	0.060
Ø 30, threaded M30 x 1.5				
10	NO	Pre-cabled (L = 2 m) *(1)*	**XS530BSDAL2**	0.205
		M12 connector	**XS530BSDAM12**	0.145
	NO terminals 1 & 4 *(2)*	M12 connector	**XS530BSCAM12**	0.145
		Remote M12 connector	**XS530BSCAL08M12**	0.170
	NC	Pre-cabled (L = 2 m) *(1)*	**XS530BSDBL2**	0.205
		M12 connector	**XS530BSDBM12**	0.145

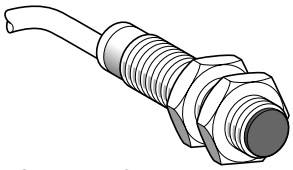
Accessories *(3)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: XS508BSCAL2 becomes **XS508BSCAL5** with a 5 m cable.*
(2) The NO output is connected to terminals 1 and 4 of the M12 connector.
(3) For more information, see page 122.

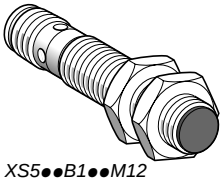
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire DC

801267

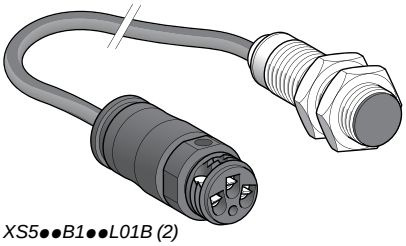


XS5●●B1●●L2

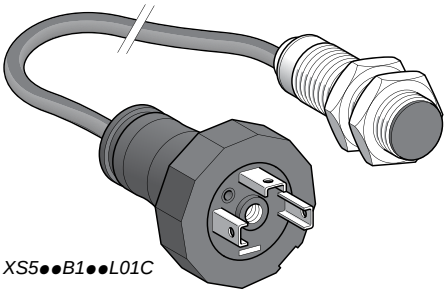
801268



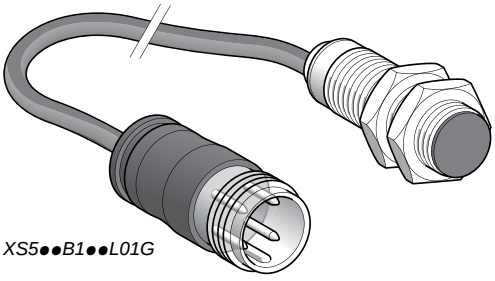
XS5●●B1●●M12



XS5●●B1●●L01B (2)

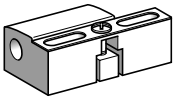


XS5●●B1●●L01C



XS5●●B1●●L01G

825994



XSZB1●●

Sensors, 2-wire ⎓ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1				
1.5	NO	Pre-cabled (L = 2 m) *(1)*	**XS508B1DAL2**	0.035
		Remote M12 connector	**XS508B1DAL08M12**	0.050
		M12 connector	**XS508B1DAM12**	0.025
	NO terminals 1 & 4 *(3)*	M12 connector	**XS508B1CAM12**	0.025
		Remote M12 connector	**XS508B1CAL08M12**	0.050
	NC	Pre-cabled (L = 2 m) *(1)*	**XS508B1DBL2**	0.035
		M12 connector	**XS508B1DBM12**	0.025
Ø 12, threaded M12 x 1				
2	NO	Pre-cabled (L = 2 m) *(1)*	**XS512B1DAL2**	0.075
		Remote 7/8" connector	**XS512B1DAL08U78**	0.050
		M12 connector	**XS512B1DAM12**	0.035
	NO terminals 1 & 4 *(3)*	M12 connector	**XS512B1CAM12**	0.035
		Remote M12 connector	**XS512B1CAL08M12**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS512B1DBL2**	0.075
		M12 connector	**XS512B1DBM12**	0.035
		Remote M12 connector	**XS512B1DBL08M12**	0.060
Ø 18, threaded M18 x 1				
5	NO	Pre-cabled (L = 2 m) *(1)*	**XS518B1DAL2**	0.120
		Low temperature version (-40 °C)	**XS518B1DAL2TF** *(5)*	0.120
		Remote screw terminal connector *(2)*	**XS518B1DAL01B**	0.085
		Remote EN 175301-803-A connector	**XS518B1DAL01C**	0.085
		Remote M18 connector	**XS518B1DAL01G**	0.085
		M12 connector	**XS518B1DAM12**	0.060
	NO terminals 1 & 4 *(3)*	M12 connector	**XS518B1CAM12**	0.060
		Remote M12 connector	**XS518B1CAL08M12**	0.085
	NC	Pre-cabled (L = 2 m) *(1)*	**XS518B1DBL2**	0.120
		M12 connector	**XS518B1DBM12**	0.060
		Remote M12 connector	**XS518B1DBL08M12**	0.085
		Remote screw terminal connector *(2)*	**XS518B1DBL01B**	0.120
Ø 30, threaded M30 x 1.5				
10	NO	Pre-cabled (L = 2 m) *(1)*	**XS530B1DAL2**	0.205
		Low temperature version (-40 °C)	**XS530B1DAL2TF** *(5)*	0.205
		M12 connector	**XS530B1DAM12**	0.145
		Remote screw terminal connector *(2)*	**XS530B1DAL01B**	0.205
		Remote EN 175301-803-A connector	**XS530B1DAL01C**	0.205
		Remote M18 connector	**XS530B1DAL01G**	0.205
	NO terminals 1 & 4 *(3)*	M12 connector	**XS530B1CAM12**	0.145
		Remote M12 connector	**XS530B1CAL08M12**	0.170
	NC	Pre-cabled (L = 2 m) *(1)*	**XS530B1DBL2**	0.205
		M12 connector	**XS530B1DBM12**	0.145
		Remote screw terminal connector *(2)*	**XS530B1DBL01B**	0.205

Accessories *(4)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: XS508B1DAL2 becomes **XS508B1DAL5** with a 5 m cable.*
(2) Protective cable gland included with sensor.
(3) The NO output is connected to terminals 1 and 4 of the M12 connector.
(4) For more information, see page 122.
*(5) For a 5 m cable replace L2 by **L5**.*
Example: *XS518B1DAL2TF becomes **XS518B1DAL5TF** with a 5 m cable.*
For a PUR cable, replace the letter L by P in the reference.
*Example: XS518B1DAL2TF becomes **XS518B1DAP2TF**.*
*For a 5 m PUR cable, replace P2 by **P5**.*
*Example: XS518B1DAP2TF becomes **XS518B1DAP5TF** with a 5 m PUR cable.*

Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire DC

Characteristics

Sensor type			XS5●●B1●●M12, XS5●●BS●●M12	XS5●●B1D●L2, XS5●●BS●●L2
Product certifications			UL, CSA, CE	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
	Remote connector		M12 (L01M12), screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead M12 (L08M12) and 7/8" (L08U78) remote connectors on 0.80 m flying lead	
Operating zone	Ø 6.5	**mm**	**0…1.2**	
	Ø 8	**mm**	**0…1.2**	
	Ø 12	**mm**	**0…1.6**	
	Ø 18	**mm**	**0…4**	
	Ø 30	**mm**	**0…8**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈ (except Ø 6.5 and Ø 8: IP 67)
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70; TF products: -40…+70	
Materials	Case		Nickel plated brass (except XS506 and XS508B1: stainless steel, grade 303)	
	Sensing face		PPS	
	Cable		–	PvR 2 x 0.34 mm^2 (except XS506 and XS508: 2 x 0.11 mm^2) PUR available *(1)*
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	⎓ 12…48 non polarised for XS5●●B1● ⎓ 12…24 non polarised for XS5●●BS (except Ø 6.5 short and Ø 8 short: polarised) with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…58 for XS5●●B1● ⎓ 10…36 for XS5●●BS	
Switching capacity		**mA**	1.5...100 with overload and short-circuit protection	
Voltage drop, closed state		**V**	≤ 4.2	
Residual current, open state		**mA**	≤ 0.5	
Maximum switching frequency	**XS506, XS508**	**Hz**	1000 for XS5●●BS, 1400 for XS5●●B1●	
	XS512	**Hz**	1000	
	XS518	**Hz**	1200	
	XS530	**Hz**	1300	
Delays	First-up	**ms**	≤ 10	
	Response	**ms**	≤ 0.5: **XS506, XS508** and **XS512** ≤ 0.6: **XS518** ≤ 0.6: **XS530**	
	Recovery	**ms**	≤ 0.2 (except **XS530** ≤ 0.4)	

*(1) For PUR cable, replace the letter L in the reference by **P**. Example: XS506BSCAL2 becomes **XS506BSCAP2** with a PUR cable.*

Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire DC

Wiring schemes

Connector

M12

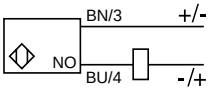
Pre-cabled

BU: Blue
BN: Brown

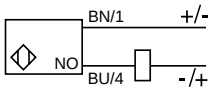
2-wire ⎓ non polarised

NO output

XS5●●B●DA●●●

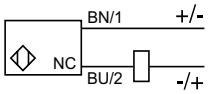


XS5●●B1CA●●●



NC output

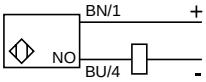
XS5●●B●DB●●●



2-wire ⎓ polarised

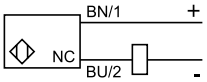
NO output

XS5●●BSCA●●●



NC output

XS5●●BSCB●●●

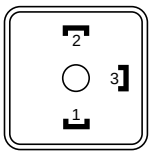


Remote connectors L01B, L01C, L01G

Screw terminal (L01B)

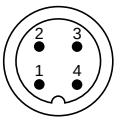
The terminal numbering differs according to the version (2-wire ⎓, 3-wire ⎓, 2-wire ∿).

EN 175301-803-A (L01C)



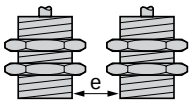
The NO or NC outputs are connected to terminal 2.

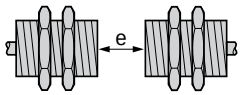
M18 (L01G)

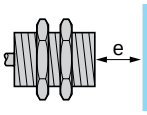


Setting-up

Minimum mounting distances (mm)

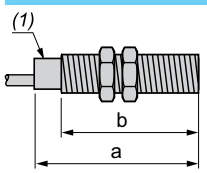






	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 3	e ≥ 18	e ≥ 4.5
Ø 8	e ≥ 3	e ≥ 18	e ≥ 4.5
Ø 12	e ≥ 4	e ≥ 24	e ≥ 6
Ø 18	e ≥ 10	e ≥ 60	e ≥ 15
Ø 30	e ≥ 20	e ≥ 120	e ≥ 30

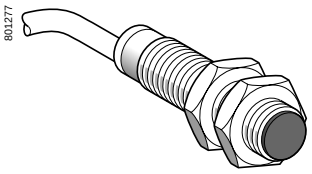
Dimensions



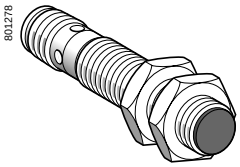
(1) LED

Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		**a**	**b**	**a**	**b**	**a**	**b**
Ø 6.5	**XS506BS**	33	–	42	–	45	–
Ø 8	**XS508BS**	33	25	42	26	45	24
Ø 12	**XS512BS**	35	25	–	–	50	30
Ø 18	**XS518BS**	39	28	–	–	50	28
Ø 30	**XS530BS**	43	32	–	–	55	32
Sensors		**Pre-cabled** (mm)		**M12 connector** (mm)			
Long case model		**a**	**b**	**a**	**b**		
Ø 8	**XS508B1**	51	42	62	40		
Ø 12	**XS512B1**	54	42	61	42		
Ø 18	**XS518B1**	56	44	64	44		
Ø 30	**XS530B1**	54	41	72	41		

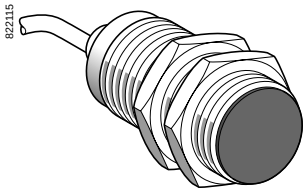
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire AC or DC *(1)*



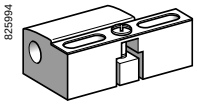
XS5●●B1M●L2



XS5●●B1M●U20



XS530B1●●L2



XSZB1●●

Sensors, 2-wire ⏦ 24-240 V, long case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
2	NO	Pre-cabled (L = 2 m) *(2)*	**XS512B1MAL2**	0.075
		1/2"-20 UNF connector	**XS512B1MAU20**	0.025
	NC	Pre-cabled (L = 2 m) *(2)*	**XS512B1MBL2**	0.075
		1/2"-20 UNF connector	**XS512B1MBU20**	0.025

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
5	NO	Pre-cabled (L = 2 m) *(2)*	**XS518B1MAL2**	0.100
		1/2"-20 UNF connector	**XS518B1MAU20**	0.060
	NC	Pre-cabled (L = 2 m) *(2)*	**XS518B1MBL2**	0.100
		1/2"-20 UNF connector	**XS518B1MBU20**	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
10	NO	Pre-cabled (L = 2 m) *(2)*	**XS530B1MAL2**	0.205
		1/2"-20 UNF connector	**XS530B1MAU20**	0.145
	NC	Pre-cabled (L = 2 m) *(2)*	**XS530B1MBL2**	0.205
		1/2"-20 UNF connector	**XS530B1MBU20**	0.145

Accessories *(3)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

(1) Ø8 plastic, double insulation version available (see page 66).
*(2) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: **XS512B1MAL2** becomes **XS512B1MAL5** with a 5 m cable.*
(3) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire AC or DC

Characteristics

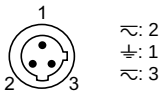
Sensor type			XS5●●B1M●U20	XS5●●B1M●L2
Product certifications			UL, CSA, CE	
Connection	Connector		1/2"-20 UNF	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 12	**mm**	**0…1.6**	
	Ø 18	**mm**	**0…4**	
	Ø 30	**mm**	**0…8**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈
	Conforming to DIN 40050		IP 69K	
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		–	PvR 2 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	∿ or ⎓ 24…240 (∿ 50/60 Hz)	
Voltage limits (including ripple)		**V**	∿ or ⎓ 20…264	
Switching capacity	**XS512B1M●●●**	**mA**	5…200 *(1)*	
	XS518B1M●●●, XS530B1M●●●	**mA**	∿ 5…300 or ⎓ 5…200 *(1)*	
Voltage drop, closed state		**V**	≤ 5.5	
Residual current, open state		**mA**	≤ 0.8	
Maximum switching frequency	**XS512B1●●●, XS518B1M●●●**	**Hz**	∿ 25 or ⎓ 1000	
	XS530B1M●●●	**Hz**	∿ 25 or ⎓ 500	
Delays	First-up	**ms**	≤ 20 **XS512B1M●●●** ≤ 25 **XS518B1M●●●** and **XS530B1M●●●**	
	Response	**ms**	≤ 0.5	
	Recovery	**ms**	≤ 0.2 **XS512B1M●●●** ≤ 0.5 **XS518B1M●●●** ≤ 2 **XS518B1M●●●**	

(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector

1/2"-20 UNF

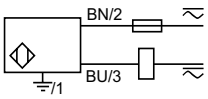


Pre-cabled

BU: Blue
BN: Brown

2-wire ∿ or ⎓

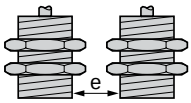
NO or NC output

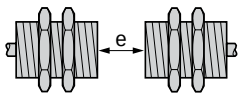


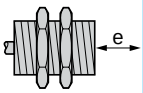
⏚: *on connector models only*

Setting-up

Minimum mounting distances (mm)

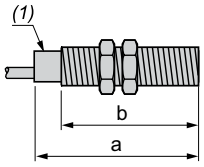






Sensor	Side by side	Face to face	Facing a metal object
Ø 12	e ≥ 8	e ≥ 48	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

Dimensions



(1) LED

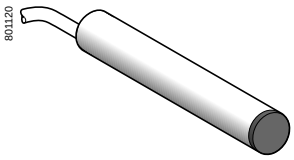
Sensor	XS6			
	Pre-cabled (mm)		**Connector** (mm)	
	a	**b**	**a**	**b**
XS512B1M	53	42	62	42
XS518B1M	62	52	73	52
XS530B1M	62	52	73	52

Inductive proximity sensors

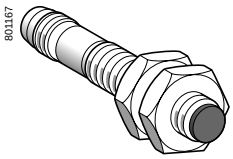
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

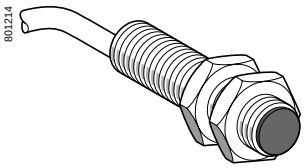
Three-wire DC, solid-state output



XS106B3●●L2



XS108B3●●M8



XS112B3●●L2

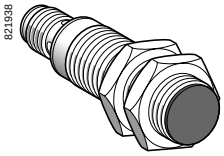
Sensors, 3-wire ⎓ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Unit reference	Weight kg
Ø 6.5, plain						
2.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS106B3PAL2**	0.060
			M8 connector	1	**XS106B3PAM8**	0.030
			M12 connector	1	**XS106B3PAM12**	0.050
			Pre-cabled (L = 2 m)	20	**XS106B3PAL2TQ**	0.980
			M8 connector	20	**XS106B3PAM8TQ**	0.320
		NPN	Pre-cabled (L = 2 m)	1	**XS106B3NAL2**	0.060
			M8 connector	1	**XS106B3NAM8**	0.030
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS106B3PBL2**	0.060
			M8 connector	1	**XS106B3PBM8**	0.030
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS106B3NBL2**	0.060
			M8 connector	1	**XS106B3NBM8**	0.030
Ø 8, threaded M8 x 1						
2.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS108B3PAL2**	0.070
			M8 connector	1	**XS108B3PAM8**	0.030
			M12 connector	1	**XS108B3PAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS108B3PAL2TQ**	1.120
			M8 connector	20	**XS108B3PAM8TQ**	0.460
			M12 connector	20	**XS108B3PAM12TQ**	0.940
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS108B3NAL2**	0.070
			M8 connector	1	**XS108B3NAM8**	0.030
			M12 connector	1	**XS108B3NAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS108B3NAL2TQ**	1.120
			M8 connector	20	**XS108B3NAM8TQ**	0.460
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS108B3PBL2**	0.070
			M8 connector	1	**XS108B3PBM8**	0.030
			M12 connector	1	**XS108B3PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS108B3NBL2**	0.070
			M8 connector	1	**XS108B3NBM8**	0.030
			M12 connector	1	**XS108B3NBM12**	0.060
Ø 12, threaded M12 x 1						
4	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS112B3PAL2**	0.090
			M12 connector	1	**XS112B3PAM12**	0.030
			Pre-cabled (L = 2 m)	20	**XS112B3PAL2TQ**	1.600
			M12 connector	20	**XS112B3PAM12TQ**	0.470
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS112B3NAL2**	0.090
			M12 connector	1	**XS112B3NAM12**	0.030
			Pre-cabled (L = 2 m)	20	**XS112B3NAL2TQ**	1.600
			M12 connector	20	**XS112B3NAM12TQ**	0.470
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS112B3PBL2**	0.090
			M12 connector	1	**XS112B3PBM12**	0.030
			M12 connector	20	**XS112B3PBM12TQ**	0.470
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS112B3NBL2**	0.090
			M12 connector	1	**XS112B3NBM12**	0.030

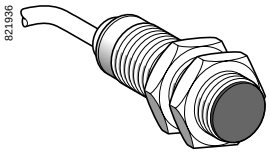
*(1) For a 5 m long cable replace L2 by **L5**.*
*Example: XS106B3PAL2 becomes **XS106B3PAL5** with a 5 m cable.*

Characteristics: page 37
Dimensions: page 37
Connections: page 37
Setting-up: page 37

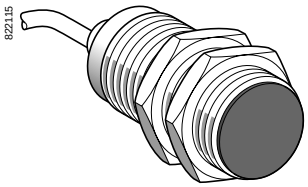
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, increased range, flush mountable
Three-wire DC, solid-state output



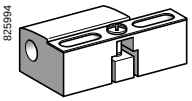
XS118B3●●M12



XS118B3●●L2



XS130B3●●L2



XSZB1●●

Sensors, 3-wire ⎓ 12-24 V, short case model *(continued)*

Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Unit reference	Weight kg
Ø 18, threaded M18 x 1						
8	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS118B3PAL2**	0.110
			M12 connector	1	**XS118B3PAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS118B3PAL2TQ**	2.000
			M12 connector	20	**XS118B3PAM12TQ**	1.140
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS118B3NAL2**	0.110
			M12 connector	1	**XS118B3NAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS118B3NAL2TQ**	2.000
			M12 connector	20	**XS118B3NAM12TQ**	1.140
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS118B3PBL2**	0.110
			M12 connector	1	**XS118B3PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS118B3NBL2**	0.110
			M12 connector	1	**XS118B3NBM12**	0.060
Ø 30, threaded M30 x 1.5						
15	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS130B3PAL2**	0.180
			M12 connector	1	**XS130B3PAM12**	0.130
			Pre-cabled (L = 2 m)	20	**XS130B3PAL2TQ**	3.360
			M12 connector	20	**XS130B3PAM12TQ**	2.000
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS130B3NAL2**	0.180
			M12 connector	1	**XS130B3NAM12**	0.130
			M12 connector	20	**XS130B3NAM12TQ**	2.000
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS130B3PBL2**	0.180
			M12 connector	1	**XS130B3PBM12**	0.130
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS130B3NBL2**	0.180
			M12 connector	1	**XS130B3NBM12**	0.130

Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8 (M8 x1)	**XSZB108**	0.006
	Ø 12 (M12 x1)	**XSZB112**	0.006
	Ø 18 (M18 x1)	**XSZB118**	0.010
	Ø 30 (M30 x 1.5)	**XSZB130**	0.020

*(1) For a 5 m cable, replace L2 by **L5**.*
*Example: XS118B3PAL2 becomes **XS118B3PAL5** with a 5 m cable.*
(2) For more information, see page 122.

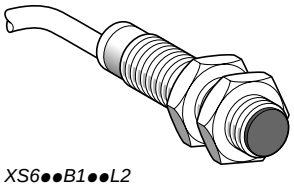
Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

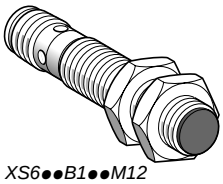
Three-wire DC, solid-state output

801267

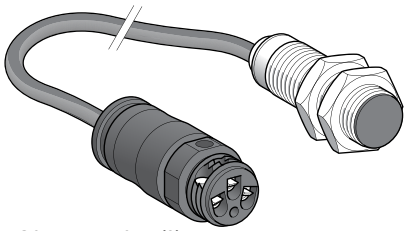


XS6●●B1●●L2

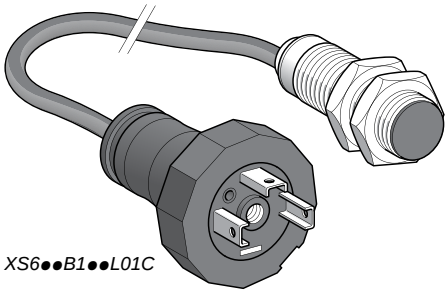
801268



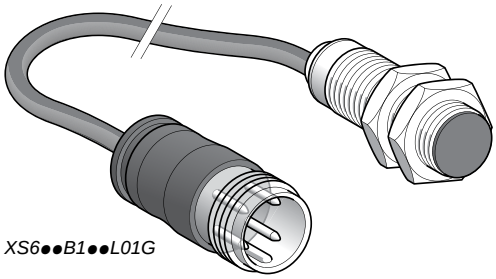
XS6●●B1●●M12



XS6●●B1●●L01B (2)

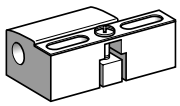


XS6●●B1●●L01C



XS6●●B1●●L01G

825994



XSZB●●●

Sensors, 3-wire ⎓ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1					
2.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS608B1PAL2**	0.035
			M12 connector	**XS608B1PAM12**	0.015
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS608B1NAL2**	0.035
			M12 connector	**XS608B1NAM12**	0.015
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS608B1PBL2**	0.035
			M12 connector	**XS608B1PBM12**	0.015
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS608B1NBL2**	0.035
			M12 connector	**XS608B1NBM12**	0.015
Ø 12, threaded M12 x 1					
4	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS612B1PAL2**	0.075
			M12 connector	**XS612B1PAM12**	0.020
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS612B1NAL2**	0.075
			M12 connector	**XS612B1NAM12**	0.020
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS612B1PBL2**	0.075
			M12 connector	**XS612B1PBM12**	0.020
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS612B1NBL2**	0.075
			M12 connector	**XS612B1NBM12**	0.020
Ø 18, threaded M18 x 1					
8	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS618B1PAL2**	0.100
			M12 connector	**XS618B1PAM12**	0.040
			Remote screw terminal connector	**XS618B1PAL01B** *(2)*	0.100
			Remote EN 175301-803-A connector	**XS618B1PAL01C**	0.100
			Remote M18 connector	**XS618B1PAL01G**	0.100
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS618B1NAL2**	0.100
			M12 connector	**XS618B1NAM12**	0.040
			Remote screw terminal connector	**XS618B1NAL01B** *(2)*	0.100
			Remote EN 175301-803-A connector	**XS618B1NAL01C**	0.100
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS618B1PBL2**	0.100
			M12 connector	**XS618B1PBM12**	0.040
			Remote screw terminal connector	**XS618B1PBL01B** *(2)*	0.100
			Remote EN 175301-803-A connector	**XS618B1PBL01C**	0.100
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS618B1NBL2**	0.100
			M12 connector	**XS618B1NBM12**	0.040
			Remote screw terminal connector	**XS618B1NBL01B** *(2)*	0.100
			Remote EN 175301-803-A connector	**XS618B1NBL01C**	0.100
Ø 30, threaded M30 x 1.5					
15	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS630B1PAL2**	0.205
			M12 connector	**XS630B1PAM12**	0.145
			Remote screw terminal connector	**XS630B1PAL01B** *(2)*	0.205
			Remote EN 175301-803-A connector	**XS630B1PAL01C**	0.205
			Remote M18 connector	**XS630B1PAL01G**	0.205
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS630B1NAL2**	0.205
			M12 connector	**XS630B1NAM12**	0.145
			Remote screw terminal connector	**XS630B1NAL01B** *(2)*	0.205
			Remote EN 175301-803-A connector	**XS630B1NAL01C**	0.205
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS630B1PBL2**	0.205
			M12 connector	**XS630B1PBM12**	0.145
			Remote screw terminal connector	**XS630B1PBL01B** *(2)*	0.205
			Remote EN 175301-803-A connector	**XS630B1PBL01C**	0.205
			Remote M18 connector	**XS630B1PBL01G**	0.205
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS630B1NBL2**	0.205
			M12 connector	**XS630B1NBM12**	0.145
			Remote screw terminal connector	**XS630B1NBL01B** *(2)*	0.205
			Remote EN 175301-803-A connector	**XS630B1NBL01C**	0.205

Accessories *(3)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: XS608B1PAL2 becomes **XS608B1PAL5** with a 5 m cable.*

(2) Protective cable gland included with sensor.

(3) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, increased range, flush mountable
Three-wire DC, solid-state output

Characteristics

Sensor type			XS1/XS6●●B●●●M8	XS1/XS6●●B●●●M12	XS1/XS6●●B●●●L2
Product certifications			UL, CSA, CE, E2		
Connection	Connector		M8	M12	–
	Pre-cabled		–	–	Length 2 m
	Remote connector		Screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead		
Operating zone *(1)*	Ø 6.5 and Ø 8	**mm**	**0… 2**		
	Ø 12	**mm**	**0…3.2**		
	Ø 18	**mm**	**0…6.4**		
	Ø 30	**mm**	**0…12**		
Differential travel		**%**	1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67		IP 65 and IP 68, double insulation ⧈ except Ø 6.5 and Ø 8: IP 67
	Conforming to DIN 40050		IP 69K for Ø 12, 18 and 30 sensors		
Storage temperature		**°C**	-40…+85		
Operating temperature		**°C**	-25…+70		
Materials	Case		Nickel plated brass (except XS608: stainless steel, grade 303)		
	Sensing face		PPS		
	Cable		–		PvR 3 x 0.34 mm² except Ø 6.5 and 8: 3 x 0.11 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms		
Output state indication			Yellow LED, 4 viewing ports at 90°		Yellow LED, annular
Rated supply voltage		**V**	**XS1**: ⎓ 12…24 with protection against reverse polarity **XS6**: ⎓ 12…48 with protection against reverse polarity		
Voltage limits (including ripple)		**V**	**XS1:** ⎓ 10…36; **XS6:** ⎓ 10…58		
Switching capacity		**mA**	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		**V**	≤ 2		
Current consumption, no-load		**mA**	≤ 10		
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	**Hz**	2500		
	Ø 18	**Hz**	1000		
	Ø 30	**Hz**	500		
Delays	First-up	**ms**	≤ 10		
	Response	**ms**	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30		
	Recovery	**ms**	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30		

(1) Detection curves, see page 126.

Wiring schemes

Connector *(1)*

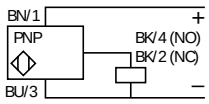
M8

M12

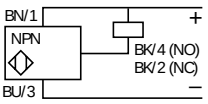
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



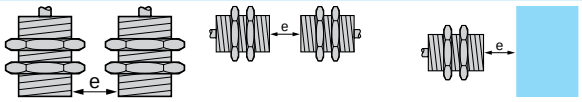
NPN



For M8 connector, NO and NC outputs on terminal 4

Setting-up

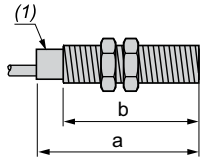
Minimum mounting distances (mm)



Sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 5	e ≥ 30	e ≥ 8
Ø 8	e ≥ 5	e ≥ 30	e ≥ 8
Ø 12	e ≥ 8	e ≥ 50	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e ≥ 30	e ≥ 180	e ≥ 45

(1) For pin arrangement of remote connectors L01B, L01C and L01G, see page 31.

Dimensions



(1) LED

Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		**a**	**b**	**a**	**b**	**a**	**b**
Ø 6.5	**XS106B3**	33	–	42	–	45	–
Ø 8	**XS108B3**	33	25	42	26	45	24
Ø 12	**XS112B3**	35	25	–	–	50	30
Ø 18	**XS118B3**	39	28	–	–	50	28
Ø 30	**XS130B3**	43	32	–	–	55	32

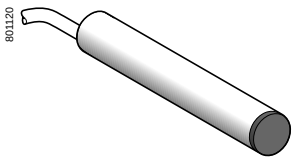
Sensors		Pre-cabled (mm)		M12 connector (mm)	
Long case model		**a**	**b**	**a**	**b**
Ø 8	**XS608B1**	51	42	62	40
Ø 12	**XS612B1**	53	42	62	42
Ø 18	**XS618B1**	62	52	74	52
Ø 30	**XS630B1**	62	52	74	52

Inductive proximity sensors

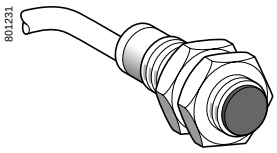
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

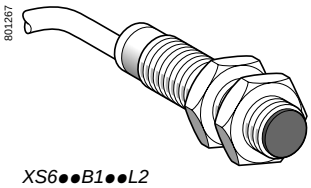
Two-wire DC, solid-state output



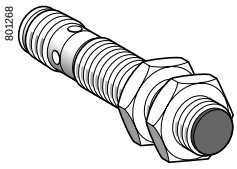
XS606B3●●L2



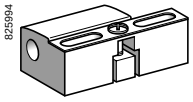
XS612B3●●L2



XS6●●B1●●L2



XS6●●B1●●M12



XSZB1●●

Sensors, 2-wire ⎓ 12-24 V, short case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
2.5	NO	Pre-cabled (L = 2 m) *(1)*	**XS606B3CAL2**	0.060
		Remote M12 connector	**XS606B3CAL01M12**	0.070
	NC	Pre-cabled (L = 2 m) *(1)*	**XS606B3CBL2**	0.060
Ø 8, threaded M8 x 1				
2.5	NO	Pre-cabled (L = 2 m) *(1)*	**XS608B3CAL2**	0.070
		Remote M12 connector	**XS608B3CAL01M12**	0.070
	NC	Pre-cabled (L = 2 m) *(1)*	**XS608B3CBL2**	0.070
		Remote M12 connector	**XS608B3CBL01M12**	0.070
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) *(1)*	**XS612B3DAL2**	0.090
		M12 connector	**XS612B3DAM12**	0.030
	NC	Pre-cabled (L = 2 m) *(1)*	**XS612B3DBL2**	0.090
		M12 connector	**XS612B3DBM12**	0.030
Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) *(1)*	**XS618B3DAL2**	0.110
		M12 connector	**XS618B3DAM12**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS618B3DBL2**	0.110
		M12 connector	**XS618B3DBM12**	0.060
Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) *(1)*	**XS630B3DAL2**	0.180
		M12 connector	**XS630B3DAM12**	0.130
	NC	Pre-cabled (L = 2 m) *(1)*	**XS630B3DBL2**	0.180
		M12 connector	**XS630B3DBM12**	0.180

Sensors, 2-wire ⎓ 12-48 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
2.5	NO	Pre-cabled (L = 2 m) *(1)*	**XS606B1DAL2**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS606B1DBL2**	0.060
Ø 8, threaded M8 x 1				
2.5	NO	Pre-cabled (L = 2 m) *(1)*	**XS608B1DAL2**	0.035
		M12 connector	**XS608B1DAM12**	0.015
	NC	Pre-cabled (L = 2 m) *(1)*	**XS608B1DBL2**	0.035
		M12 connector	**XS608B1DBM12**	0.015
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) *(1)*	**XS612B1DAL2**	0.180
		M12 connector	**XS612B1DAM12**	0.020
	NC	Pre-cabled (L = 2 m) *(1)*	**XS612B1DBL2**	0.075
		M12 connector	**XS612B1DBM12**	0.020
Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) *(1)*	**XS618B1DAL2**	0.100
		M12 connector	**XS618B1DAM12**	0.040
	NC	Pre-cabled (L = 2 m) *(1)*	**XS618B1DBL2**	0.100
		M12 connector	**XS618B1DBM12**	0.040
Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) *(1)*	**XS630B1DAL2**	0.205
		M12 connector	**XS630B1DAM12**	0.145
	NC	Pre-cabled (L = 2 m) *(1)*	**XS630B1DBL2**	0.205
		M12 connector	**XS630B1DBM12**	0.145

Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8 (M8 x1)	**XSZB108**	0.006
	Ø 12 (M12 x1)	**XSZB112**	0.006
	Ø 18 (M18 x1)	**XSZB118**	0.010
	Ø 30 (M30 x 1.5)	**XSZB130**	0.020

*(1) For a 5 m cable, replace L2 by **L5**.*
*Example: XS606B3CAL2 becomes **XS606B3CAL5** with a 5 m cable.*
(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, increased range, flush mountable
Two-wire DC, solid-state output

Characteristics

Sensor type			XS6●●B3●●M12 XS6●●B1D●M12	XS6●●B3●●L2 XS6●●B1D●L2
Product certifications			UL, CSA, CE	
Connection	Connector		M12 or remote M12 connector (L01M12) on 0.15 m flying lead	
	Pre-cabled		Length 2 m	
Operating zone *(1)*	Ø 6.5 and Ø 8	**mm**	**0… 2**	
	Ø 12	**mm**	**0…3.2**	
	Ø 18	**mm**	**0…6.4**	
	Ø 30	**mm**	**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈ (except Ø 6.5 and Ø 8: IP 67)
	Conforming to DIN 40050		IP 69K	
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass (except XS606B1D or XS608B1D: stainless steel, grade 303)	
	Sensing face		PPS	
	Cable		PvR 2 x 0.34 mm² except Ø 6.5 and Ø 8: 2 x 0.11 mm²	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing ports at 90°	
Rated supply voltage		**V**	⎓ 12…48 non polarised for XS6●●B1D ⎓ 12…24 non polarised for XS6●●B3● (except Ø 6.5 short and Ø 8 short: polarised), with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…58 for XS6●●B1D ⎓ 10…36 for XS6●●B3●	
Switching capacity		**mA**	⩽ 100 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 4.2	
Residual current, open state		**mA**	⩽ 0.5 mA	
Maximum switching frequency	Ø 6.5, Ø 8	**Hz**	1400 for XS6●●B1D, 1100 for XS6●●B3●	
	Ø 12	**Hz**	1300	
	Ø 18	**Hz**	1500	
	Ø 30	**Hz**	800	
Delays	First-up	**ms**	⩽ 10	
	Response	**ms**	⩽ 0.5	
	Recovery	**ms**	⩽ 0.2 for Ø 6.5, Ø 8 and Ø 12; 0.3 for Ø 18; 0.6 for Ø 30	

(1) Detection curves, see page 126.

Wiring schemes

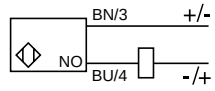
M12 connector

Pre-cabled

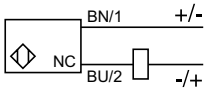
BU: Blue
BN: Brown

2-wire ⎓ non polarised

NO output

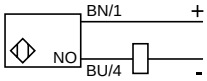


NC output

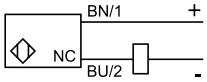


2-wire ⎓ polarised

XS6●●B3CA

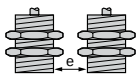


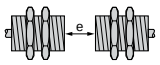
XS6●●B3CB



Setting-up

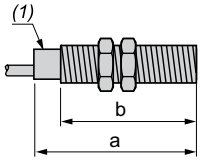
Minimum mounting distances (mm)





Sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ⩾ 5	e ⩾ 30	e ⩾ 8
Ø 8	e ⩾ 5	e ⩾ 30	e ⩾ 8
Ø 12	e ⩾ 8	e ⩾ 50	e ⩾ 12
Ø 18	e ⩾ 16	e ⩾ 100	e ⩾ 25
Ø 30	e ⩾ 30	e ⩾ 180	e ⩾ 45

Dimensions



(1) LED

Sensors		Pre-cabled (mm)		M12 connector (mm)	
Short case model		**a**	**b**	**a**	**b**
Ø 6.5	**XS606B3C**	33	–	–	–
Ø 8	**XS608B3C**	33	25	–	24
Ø 12	**XS612B3D**	35	25	50	30
Ø 18	**XS618B3D**	40	28	50	28
Ø 30	**XS630B3D**	44	32	55	32
Long case model		**a**	**b**	**a**	**b**
Ø 6.5	**XS606B1D**	51	–	–	–
Ø 8	**XS608B1D**	51	42	62	40
Ø 12	**XS612B1D**	53	42	61	42
Ø 18	**XS618B1D**	62	52	74	52
Ø 30	**XS630B1D**	62	52	74	52

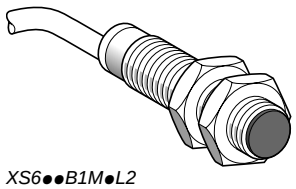
Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

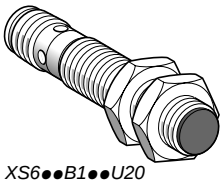
Two-wire AC or DC *(1)*

801267

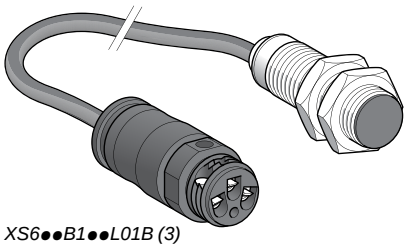


XS6●●B1M●L2

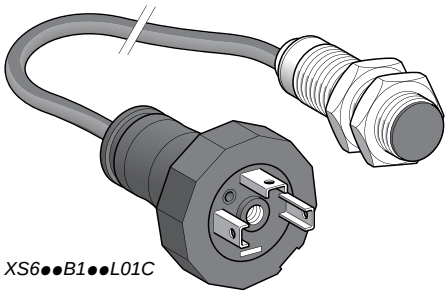
801268



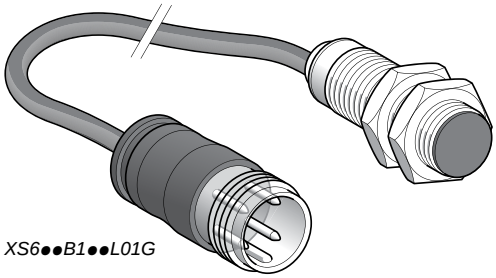
XS6●●B1●●U20



XS6●●B1●●L01B (3)

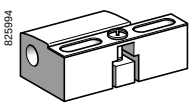


XS6●●B1●●L01C



XS6●●B1●●L01G

825994



XSZB1●●

Sensors, 2-wire ⎓ 24-240 V, long case model

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1				
4	NO	Pre-cabled (L = 2 m) *(2)*	**XS612B1MAL2**	0.075
		1/2”-20 UNF connector	**XS612B1MAU20**	0.025
	NC	Pre-cabled (L = 2 m) *(2)*	**XS612B1MBL2**	0.075
		1/2”-20 UNF connector	**XS612B1MBU20**	0.025
Ø 18, threaded M18 x 1				
8	NO	Pre-cabled (L = 2 m) *(2)*	**XS618B1MAL2**	0.100
		1/2”-20 UNF connector	**XS618B1MAU20**	0.060
		Remote screw terminal connector	**XS618B1MAL01B** *(3)*	0.100
		Remote EN 175301-803-A connector	**XS618B1MAL01C**	0.100
		Remote M18 connector	**XS618B1MAL01G**	0.100
	NC	Pre-cabled (L = 2 m) *(2)*	**XS618B1MBL2**	0.100
		1/2”-20 UNF connector	**XS618B1MBU20**	0.060
		Remote screw terminal connector	**XS618B1MBL01B** *(3)*	0.100
		Remote EN 175301-803-A connector	**XS618B1MBL01C**	0.100
		Remote M18 connector	**XS618B1MBL01G**	0.100
Ø 30, threaded M30 x 1.5				
15	NO	Pre-cabled (L = 2 m) *(2)*	**XS630B1MAL2**	0.205
		1/2”-20 UNF connector	**XS630B1MAU20**	0.145
		Remote screw terminal connector	**XS630B1MAL01B** *(3)*	0.205
		Remote EN 175301-803-A connector	**XS630B1MAL01C**	0.205
		Remote M18 connector	**XS630B1MAL01G**	0.205
	NC	Pre-cabled (L = 2 m) *(2)*	**XS630B1MBL2**	0.205
		1/2”-20 UNF connector	**XS630B1MBU20**	0.145
		Remote screw terminal connector	**XS630B1MBL01B** *(3)*	0.205
		Remote EN 175301-803-A connector	**XS630B1MBL01C**	0.205
		Remote M18 connector	**XS630B1MBL01G**	0.205

Accessories *(4)*			
Description	**For use with sensors**	**Reference**	**Weight kg**
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

(1) Ø8 plastic, double insulation version available (see page 66).

*(2) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: XS612B1MAL2 becomes **XS612B1MAL5** with a 5 m cable.*

(3) Protective cable gland included with sensor.

(4) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, increased range, flush mountable
Two-wire AC or DC

Characteristics

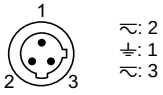
Sensor type			XS6●●B1M●U20	XS6●●B1M●L●
Product certifications			UL, CSA, CE	
Connection	Connector		1/2" - 20 UNF	–
	Pre-cabled		–	Length 2 m
	Remote connector		Screw terminal (L01B), EN 175301-803-A (L01C) and M18 (L01G) remote connectors on 0.15 m flying lead	
Operating zone *(1)*	Ø 12	**mm**	**0… 3.2**	
	Ø 18	**mm**	**0… 6.4**	
	Ø 30	**mm**	**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65, IP 67	IP 65 and IP 68, double insulation ⧈
	Conforming to DIN 40050		IP 69K	
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		PvR 2 x 0.34 mm^2	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: annular on pre-cabled version Yellow LED with 4 viewing ports at 90° on connector version	
Rated supply voltage		**V**	≂ 24…240 (~ 50/60 Hz)	
Voltage limits (including ripple)		**V**	≂ 20…264	
Switching capacity	**XS612B1M●●●**	**mA**	5…200 *(2)*	
	XS618B1M●●● **XS630B1M●●●**	**mA**	∿ 5…300 or ⎓ 5…200 *(2)*	
Voltage drop, closed state		**V**	⩽ 5.5	
Residual current, open state		**mA**	⩽ 0.8	
Maximum switching frequency (DC/AC)	Ø 12	**Hz**	⎓ 1000 / ∿ 25	
	Ø 18	**Hz**	⎓ 1000 / ∿ 25	
	Ø 30	**Hz**	⎓ 500 / ∿ 25	
Delays	First-up	**ms**	⩽ 25 for Ø 18 and Ø 30; ⩽ 20 for Ø 12	
	Response	**ms**	⩽ 0.5	
	Recovery	**ms**	⩽ 0.2 for Ø 12; ⩽ 0.5 for Ø 18; ⩽ 2 for Ø 30	

(1) Detection curves, see page 126.
(2) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector *(1)*

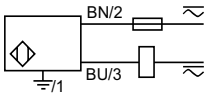
1/2"-20 UNF



Pre-cabled

BU: Blue
BN: Brown

2-wire ∿ or ⎓
NO or NC output

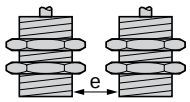


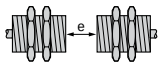
⏚: *on connector models only*

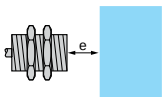
(1) For pin arrangement of remote connectors L01B, L01C and L01G, see page 31.

Setting-up

Minimum mounting distances (mm)

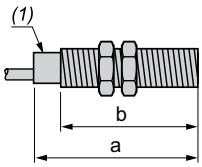






Sensors	Side by side	Face to face	Facing a metal object
Ø 12	e ⩾ 8	e ⩾ 50	e ⩾ 12
Ø 18	e ⩾ 16	e ⩾ 100	e ⩾ 25
Ø 30	e ⩾ 30	e ⩾ 180	e ⩾ 45

Dimensions



Sensors		Pre-cabled (mm)		Connector (mm)	
		a	b	a	b
Ø 12	**XS612B1M●**	53	42	62	42
Ø 18	**XS618B1M●**	62	52	73	52
Ø 30	**XS630B1M●**	62	52	73	52

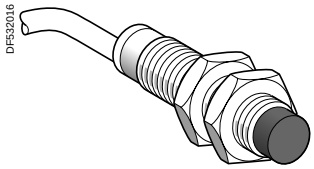
(1) LED

Inductive proximity sensors

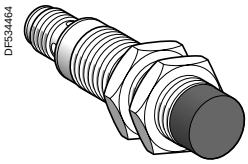
OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

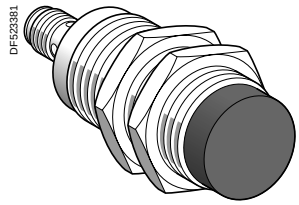
Three-wire DC, solid-state output



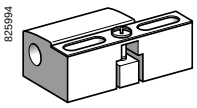
XS612B4●●L2



XS618B4●●M12



XS630B5●●M12



XSZB●●●

Sensors, 3-wire ⎓ 12...48 V, long case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS612B4PAL2**	0.075
			M12 connector	**XS612B4PAM12**	0.020
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS612B4NAL2**	0.075
			M12 connector	**XS612B4NAM12**	0.020
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS612B4PBL2**	0.075
			M12 connector	**XS612B4PBM12**	0.020
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS612B4NBL2**	0.075
			M12 connector	**XS612B4NBM12**	0.020

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS618B4PAL2**	0.100
			M12 connector	**XS618B4PAM12**	0.040
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS618B4NAL2**	0.100
			M12 connector	**XS618B4NAM12**	0.040
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS618B4PBL2**	0.100
			M12 connector	**XS618B4PBM12**	0.040
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS618B4NBL2**	0.100
			M12 connector	**XS618B4NBM12**	0.040

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
30	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS630B5PAL2**	0.205
			M12 connector	**XS630B5PAM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS630B5NAL2**	0.205
			M12 connector	**XS630B5NAM12**	0.145
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS630B5PBL2**	0.205
			M12 connector	**XS630B5PBM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS630B5NBL2**	0.205

Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: XS612B4PAL2 becomes **XS612B4PAL5** with a 5 m cable.*

(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable
Three-wire DC, solid-state output

Characteristics

Sensor type			XS6●●B●●●M12	XS6●●B●●●L2
Product certifications			UL, CSA, CE, E2	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 12	**mm**	**0…5.6**	
	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0…24**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈
	Conforming to DIN 40050		IP 69K	–
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		–	PvR 3 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	⎓ 12…48 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…58	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	**XS612B4●●●●**	**Hz**	2500	
	XS618B4●●●●	**Hz**	1000	
	XS630B5●●●●	**Hz**	500	
Delays	First-up	**ms**	⩽ 10 for Ø 12 and Ø 18; ⩽ 15 for Ø 30	
	Response	**ms**	⩽ 0.2 for Ø 12; ⩽ 0.3 for Ø 18; ⩽ 0.6 for Ø 30	
	Recovery	**ms**	⩽ 0.2 for Ø12; ⩽ 0.7 for Ø 18; ⩽ 1.4 for Ø 30	

Wiring schemes

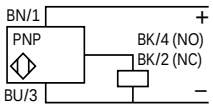
Connector

M12

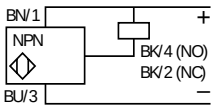
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP

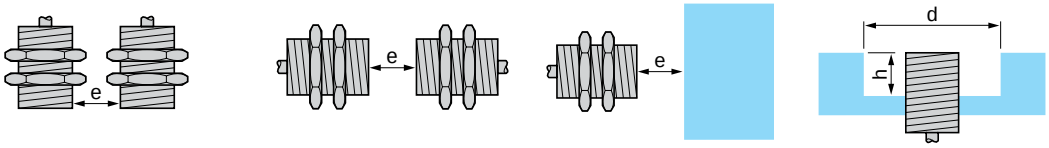


NPN



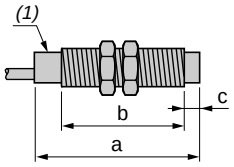
Setting-up

Minimum mounting distances (mm)



	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12	e ⩾ 48	e ⩾ 84	e ⩾ 21	d ⩾ 36, h ⩾ 12
Ø 18	e ⩾ 72	e ⩾ 144	e ⩾ 36	d ⩾ 54, h ⩾ 18
Ø 30	e ⩾ 300	e ⩾ 300	e ⩾ 90	d ⩾ 90, h ⩾ 35

Dimensions

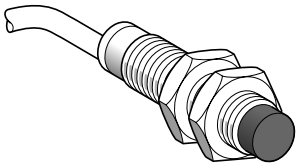


XS6	**Pre-cabled** (mm)			**Connector** (mm)		
	a	**b**	**c**	**a**	**b**	**c**
Ø 12	54	42	5	66	42	5
Ø 18	60	44	8	72	44	8
Ø 30	64	39	13	74	39	13

(1) LED

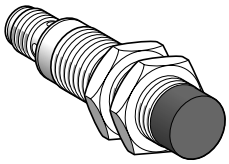
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, increased range, non flush mountable
Three-wire DC, solid-state output

DF532016



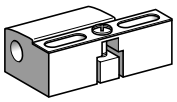
XS212B4●●L●

DF534464



XS218B4●●M12

8259942



XSZB1●●

Sensors, 3-wire ⎓ 12-24 V, short case model

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
8	NO	PNP	Pre-cabled (L = 2 m)	**XS212B4PAL2**	0.086
			Pre-cabled (L = 5 m)	**XS212B4PAL5**	0.160
			M12 connector	**XS212B4PAM12**	0.032
		NPN	Pre-cabled (L = 2 m)	**XS212B4NAL2**	0.086
			M12 connector	**XS212B4NAM12**	0.032
	NC	PNP	Pre-cabled (L = 2 m)	**XS212B4PBL2**	0.086
			M12 connector	**XS212B4PBM12**	0.032
		NPN	Pre-cabled (L = 2 m)	**XS212B4NBL2**	0.086

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
16	NO	PNP	Pre-cabled (L = 2 m)	**XS218B4PAL2**	0.105
			Pre-cabled (L = 5 m)	**XS218B4PAL5**	0.190
			M12 connector	**XS218B4PAM12**	0.052
		NPN	Pre-cabled (L = 2 m)	**XS218B4NAL2**	0.105
			M12 connector	**XS218B4NAM12**	0.052
	NC	PNP	Pre-cabled (L = 2 m)	**XS218B4PBL2**	0.105
			M12 connector	**XS218B4PBM12**	0.052

Accessories *(1)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable
Three-wire DC, solid-state output

Characteristics

Sensor type			XS21●B4●●M12	XS21●B4●●L●
Product certifications			UL, CSA, CE, E2	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 or 5 m
Operating zone	Ø 12	**mm**	**0…6.4**	
	Ø 18	**mm**	**0…12.8**	
Differential travel		**%**	1…15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	
	Conforming to DIN 40050		IP 69K	
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 70	
Materials	Case		Brass	
	Sensing face		PPS	
	Cable		–	PvR 3 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing ports at 90°	Yellow LED, annular
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…36	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	**XS212B4●●●●**	**Hz**	2000	
	XS218B4●●●●	**Hz**	1000	
Delays	First-up	**ms**	⩽ 15	
	Response	**ms**	⩽ 0.2 for Ø 12 ⩽ 0.3 for Ø 18	
	Recovery	**ms**	⩽ 0.2 for Ø 12 ⩽ 0.7 for Ø 18	

Wiring schemes

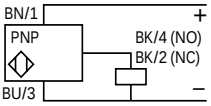
Connector

M12

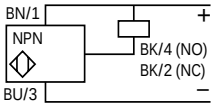
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP

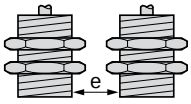


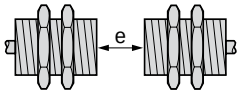
NPN

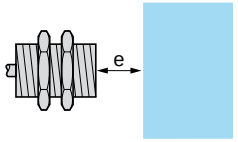


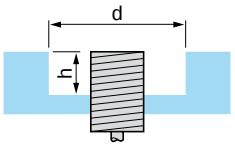
Setting-up

Minimum mounting distances (mm)



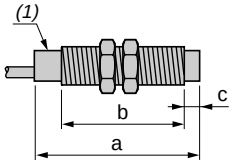






	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12	e ⩾ 100	e ⩾ 120	e ⩾ 24	d ⩾ 36, h ⩾ 15
Ø 18	e ⩾ 120	e ⩾ 200	e ⩾ 48	d ⩾ 54, h ⩾ 18

Dimensions

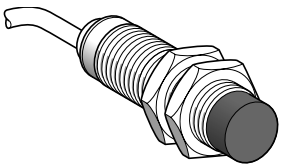


	Pre-cabled (mm)			M12 connector (mm)		
	a	b	c	a	b	c
Ø 12	37	20	5	51	26	5
Ø 18	41	21	8	51	21	8

(1) LED

Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, increased range, non flush mountable
Two-wire AC or DC

822109



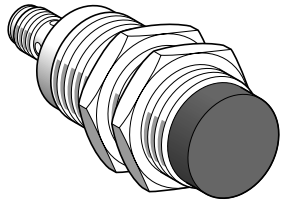
XS6●●B4M●L2

Sensors, 2-wire ≂ 24... 240 V, long case model

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) *(1)*	**XS618B4MAL2**	0.120
		1/2"-20 UNF connector	**XS618B4MAU20**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS618B4MBL2**	0.120
		1/2"-20 UNF connector	**XS618B4MBU20**	0.060

523381

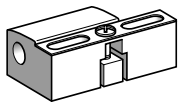


XS6●●B4M●U20

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
22	NO	Pre-cabled (L = 2 m) *(1)*	**XS630B4MAL2**	0.205
		1/2"-20 UNF connector	**XS630B4MAU20**	0.145
	NC	Pre-cabled (L = 2 m) *(1)*	**XS630B4MBL2**	0.205
		1/2"-20 UNF connector	**XS630B4MBU20**	0.145

825994



XSZB1●●

Accessories *(2)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m cable replace L2 by **L5**; for a 10 m cable replace L2 by **L10**.*
*Example: XS618B4MAL2 becomes **XS618B4MAL5** with a 5 m cable.*
(2) For more information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, increased range, non flush mountable

Two-wire AC or DC

Characteristics

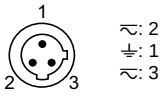
Sensor type			XS6●●B4M●U20	XS6●●B4M●L2
Product certifications			UL, CSA, CE	
Connection	Connector		1/2"-20 UNF	–
	1/2"-20 UNFPre-cabled		–	Length: 2 m
Operating zone	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0...17.6**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈
Storage temperature		**°C**	-40…+85	
Operating temperature		**°C**	-25…+70	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		–	PvR 2 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	∿ or ⎓ 24…240 (∿ 50/60 Hz)	
Voltage limits (including ripple)		**V**	∿ or ⎓ 20…264	
Switching capacity		**mA**	∿ 5…300 or ⎓ 5…200 *(1)*	
Voltage drop, closed state		**V**	⩽ 5.5	
Residual current, open state		**mA**	⩽ 0.8	
Maximum switching frequency	**XS618B4M●●●**	**Hz**	∿ 25 or ⎓ 1000	
	XS630B4M●●●	**Hz**	∿ 25 or ⎓ 300	
Delays	First-up	**ms**	⩽ 30 **XS618B4M●●●** and **XS630B4M●●●**	
	Response	**ms**	⩽ 0.5	
	Recovery	**ms**	⩽ 0.5 **XS618B4M●●●**, ⩽ 2 **XS630B4M●●●**	

(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector

1/2"-20 UNF

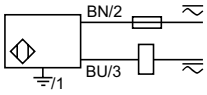


Pre-cabled

BU: Blue
BN: Brown

2-wire ∿ or ⎓

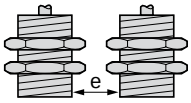
NO or NC output

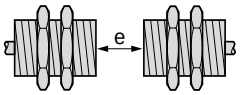


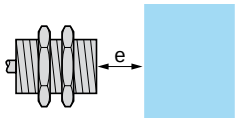
⏚: *on connector models only*

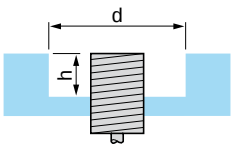
Setting-up

Minimum mounting distances (mm)



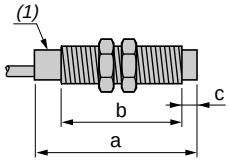






	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 18	e ⩾ 72	e ⩾ 144	e ⩾ 36	d ⩾ 54, h ⩾ 18
Ø 30	e ⩾ 120	e ⩾ 264	e ⩾ 66	d ⩾ 90, h ⩾ 30

Dimensions



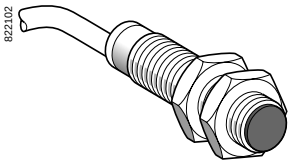
	Pre-cabled (mm)			Connector (mm)		
	a	b	c	a	b	c
Ø 18	60	44	8	72	44	8
Ø 30	63	41	13	74	41	13

(1) LED

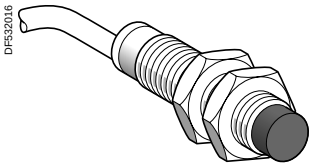
Inductive proximity sensors

OsiSense XS, general purpose

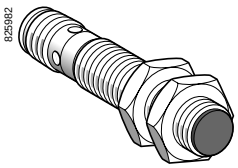
Multivoltage sensor, cylindrical, flush mountable and non flush mountable
Two-wire AC or DC, short-circuit protection



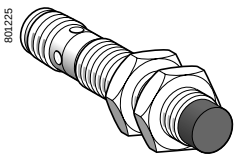
XS1M●●●●250



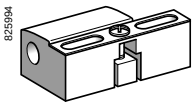
XS2M●●●●250



XS1M●●●●250K



XS2M●●●●250K



XSZB1●●

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1				
Flush mountable				
2	NO	Pre-cabled (L = 2 m) *(1)*	**XS1M12MA250**	0.075
		1/2"-20UNF connector	**XS1M12MA250K**	0.025
	NC	Pre-cabled (L = 2 m) *(1)*	**XS1M12MB250**	0.075
		1/2"-20UNF connector	**XS1M12MB250K**	0.025
Non flush mountable				
4	NO	Pre-cabled (L = 2 m) *(1)*	**XS2M12MA250**	0.075
		1/2"-20UNF connector	**XS2M12MA250K**	0.025
	NC	Pre-cabled (L = 2 m) *(1)*	**XS2M12MB250**	0.075
Ø 18, threaded M18 x 1				
Flush mountable				
5	NO	Pre-cabled (L = 2 m) *(1)*	**XS1M18MA250**	0.120
		1/2"-20UNF connector	**XS1M18MA250K**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS1M18MB250**	0.120
		1/2"-20UNF connector	**XS1M18MB250K**	0.060
Non flush mountable				
8	NO	Pre-cabled (L = 2 m) *(1)*	**XS2M18MA250**	0.120
		1/2"-20UNF connector	**XS2M18MA250K**	0.060
	NC	Pre-cabled (L = 2 m) *(1)*	**XS2M18MB250**	0.120
		1/2"-20UNF connector	**XS2M18MB250K**	0.060
Ø 30, threaded M30 x 1.5				
Flush mountable				
10	NO	Pre-cabled (L = 2 m) *(1)*	**XS1M30MA250**	0.205
		1/2"-20UNF connector	**XS1M30MA250K**	0.145
	NC	Pre-cabled (L = 2 m) *(1)*	**XS1M30MB250**	0.205
		1/2"-20UNF connector	**XS1M30MB250K**	0.145
Non flush mountable				
15	NO	Pre-cabled (L = 2 m) *(1)*	**XS2M30MA250**	0.205
		1/2"-20UNF connector	**XS2M30MA250K**	0.145
	NC	Pre-cabled (L = 2 m) *(1)*	**XS2M30MB250**	0.205
		1/2"-20UNF connector	**XS2M30MB250K**	0.145

Accessories *(2)*

Description mm		Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference.*
*Example: **XS1M18MA250** becomes **XS1M18MA250L1** with a 5 m long cable.*
(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Multivoltage sensor, cylindrical, flush mountable and non flush mountable

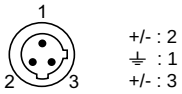
Two-wire AC or DC, short-circuit protection

Characteristics

Sensor type			XS●M●●M●250K	XS●M●●M●250
Product certifications			UL, CSA, CE	
Connection			1/2"-20UNF connector	Pre-cabled, length: 2 m
Operating zone	Ø 12 flush mountable	**mm**	**0…1.6**	
	Ø 12 non flush mountable	**mm**	**0…3.2**	
	Ø 18 flush mountable	**mm**	**0…4**	
	Ø 18 non flush mountable	**mm**	**0…6.4**	
	Ø 30 flush mountable	**mm**	**0…8**	
	Ø 30 non flush mountable	**mm**	**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 70	
Materials	Case		Nickel plated brass	
	Cable		–	PvR 2 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Indicators	Output state		Yellow LED, 4 viewing ports at 90°	Yellow LED
	Supply on		–	Green LED (only on Ø 18 and Ø 30)
Rated supply voltage		**V**	∿ 24…240 (50/60 Hz) or ⎓ 24…210	
Voltage limits (including ripple)		**V**	∿ or ⎓ 20…264	
Switching capacity		**mA**	∿ 5…300 or ⎓ 5…200 (except Ø 12: ∿ or ⎓ 5…200) with overload and short-circuit protection	
Voltage drop, closed state		**V**	≤ 5.5	
Current consumption, no-load		**mA**	–	
Residual current, open state		**mA**	≤ 1.5	
Maximum switching frequency	Ø 12	**Hz**	∿ 25 or ⎓ 4000	
	Ø 18	**Hz**	∿ 25 or ⎓ 2000	
	Ø 30 flush mountable	**Hz**	∿ 25 or ⎓ 2000	
	Ø 30 non flush mountable	**Hz**	∿ 25 or ⎓ 1000	
Delays	First-up	**ms**	≤ 70	
	Response	**ms**	≤ 0.2 for Ø 12, ≤ 2 for Ø 18 and Ø 30	
	Recovery	**ms**	≤ 0.2 for Ø 12, ≤ 4 for Ø 18, ≤ 5 for Ø 30 flush mountable, ≤ 10 for Ø 30 non flush mountable	

Wiring schemes

1/2"-20UNF connector

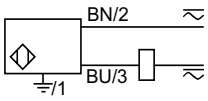


Pre-cabled

BU: Blue
BN: Brown

2-wire ∿ or ⎓

NO or NC output

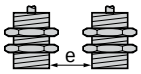


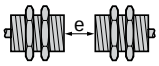
⏚ : on connector models only.

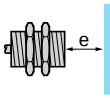
Setting-up

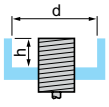
Minimum mounting distances (mm)

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12 flush mountable	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
Ø 12 non flush mountable	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
Ø 18 flush mountable	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
Ø 18 non flush mountable	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30 flush mountable	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
Ø 30 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

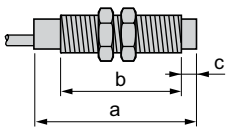








Dimensions



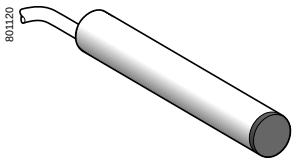
Sensor	Flush mountable in metal					Non flush mountable in metal				
	Pre-cabled		Connector			Pre-cabled		Connector		
	a	b	a	b	c	a	b	a	b	c
Ø 12	57	42	66	48	5	57	42	66	42	5
Ø 18	60	51	72	51	8	60	44	72	44	8
Ø 30	60	51	72	51	13	63	41	75	41	13

Inductive proximity sensors

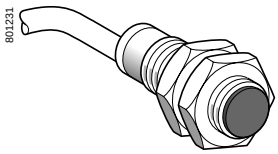
OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable and non flush mountable

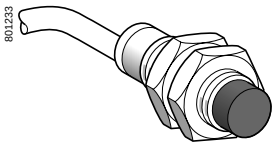
Four-wire DC, solid-state NO + NC output



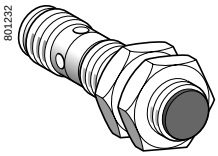
XS1L06●C410



XS1●●●●C410



XS2●●●●C410



XS1N●●●C410D

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5 plain					
Stainless steel case, flush mountable					
1.5	NO + NC	PNP	Pre-cabled (L = 2 m)	**XS1L06PC410**	0.025
		NPN	Pre-cabled (L = 2 m)	**XS1L06NC410**	0.025
Ø 8, threaded M8 x 1					
Stainless steel case, flush mountable					
1.5	NO + NC	PNP	Pre-cabled (L = 2 m)	**XS1M08PC410**	0.035
			M12 connector	**XS1M08PC410D**	0.025
		NPN	Pre-cabled (L = 2 m)	**XS1M08NC410**	0.035
			M12 connector	**XS1M08NC410D**	0.025
Stainless steel case, non flush mountable					
2.5	NO + NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS2M08PC410**	0.035
			M12 connector	**XS2M08PC410D**	0.025
		NPN	Pre-cabled (L = 2 m)	**XS2M08NC410**	0.035
			M12 connector	**XS2M08NC410D**	0.025
Plastic case, non flush mountable					
2.5	NO + NC	PNP *(3)*	Pre-cabled (L = 2 m) *(1)*	**XS4P08PC410**	0.035
Ø 12, threaded M12 x 1					
Brass case, flush mountable					
2	NO + NC	PNP	Pre-cabled (L = 2 m) *(1) (2)*	**XS1N12PC410**	0.070
			M12 connector	**XS1N12PC410D**	0.020
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS1N12NC410**	0.070
			M12 connector	**XS1N12NC410D**	0.020
Plastic case, non flush mountable					
4	NO + NC	PNP *(3)*	Pre-cabled (L = 2 m) *(1)*	**XS4P12PC410**	0.070
			M12 connector	**XS4P12PC410D**	0.020

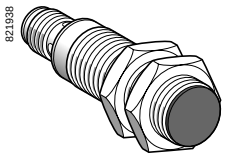
*(1) For a 5 m long cable add **L1** to the reference. Example: **XS1N12PC410** becomes **XS1N12PC410L1** with a 5 m long cable.*
*(2) For a 10 m long cable add **L2** to the reference. Example: **XS1N12PC410** becomes **XS1N12PC410L2** with a 10 m long cable.*
(3) These sensors can be supplied in NPN versions. Please contact our Customer Care Centre.

Inductive proximity sensors

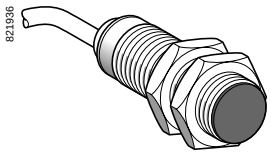
OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable and non flush mountable

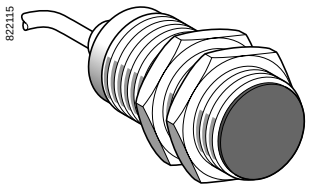
Four-wire DC, solid-state NO + NC output



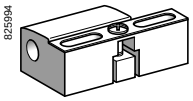
XS●●18●C410



XS●●18●C410D



XS●●30●C410



XSZB1●●

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 18, threaded M18 x 1					
Brass case, flush mountable					
5	NO + NC	PNP	Pre-cabled (L = 2 m) *(1) (2)*	**XS1N18PC410**	0.100
			M12 connector	**XS1N18PC410D**	0.040
		NPN	Pre-cabled (L = 2 m)	**XS1N18NC410**	0.100
			M12 connector	**XS1N18NC410D**	0.040
Plastic case, non flush mountable					
8	NO + NC	PNP *(3)*	Pre-cabled (L = 2 m)	**XS4P18PC410**	0.100
			M12 connector	**XS4P18PC410D**	0.040
Ø 30, threaded M30 x 1.5					
Brass case, flush mountable					
10	NO + NC	PNP	Pre-cabled (L = 2 m) *(1) (2)*	**XS1N30PC410**	0.160
			M12 connector	**XS1N30PC410D**	0.100
		NPN	Pre-cabled (L = 2 m)	**XS1N30NC410**	0.160
			M12 connector	**XS1N30NC410D**	0.100
Plastic case, non flush mountable					
15	NO + NC	PNP *(3)*	Pre-cabled (L = 2 m)	**XS4P30PC410**	0.160
			M12 connector	**XS4P30PC410D**	0.100

Accessories *(4)*

Description		Reference	Weight kg
Fixing clamps	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m long cable add **L1** to the reference. Example: **XS1N18PC410** becomes **XS1N18PC410L1** with a 5 m long cable.*
*(2) For a 10 m long cable add **L2** to the reference. Example: **XS1N18PC410** becomes **XS1N18PC410L2** with a 10 m long cable.*
(3) These sensors can be supplied in NPN versions. Please contact our Customer Care Centre.
(4) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal and plastic, flush mountable and non flush mountable

Four-wire DC, solid-state NO + NC output

Characteristics

Sensor type			XS●●●●PC410D	XS●●●●NC410D	XS●●●●PC410	XS●●●●NC410
Product certifications	Ø 6.5 and Ø 8		UL, CSA, CE			
	Ø 12, Ø 18 and Ø 30		UL, CSA, CE, E2 *(1)*	UL, CSA, CE	UL, CSA, CE, E2 *(2)*	UL, CSA, CE
Conformity to safety standards	Ø 6.5 and Ø 8		–			
	Ø 12, Ø 18 and Ø 30		EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL =d IEC 62061: SILcl2 *(3)*	–	EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL =d IEC 62061: SILcl2 *(4)*	–
Reliability data	Ø 12, Ø 18 and Ø 30		MTTFd = 1810 years, PFHd = 69.9 10^{-9} 1/h, SFF > 92 %, DC > 75 % (with a safety controller) *(3)*	–	MTTFd = 1810 years, PFHd = 69.9 10^{-9} 1/h, SFF > 92 %, DC > 75 % (with a safety controller) *(4)*	–
Connection			M12 connector		Pre-cabled, length: 2 m	
Operating zone	Ø 6.5 and Ø 8 flush mountable	**mm**	**0…1.2**			
	Ø 8 non flush mountable	**mm**	**0…2**			
	Ø 12 flush mountable	**mm**	**0…1.6**			
	Ø 12 non flush mountable	**mm**	**0…3.2**			
	Ø 18 flush mountable	**mm**	**0…4**			
	Ø 18 non flush mountable	**mm**	**0…6.4**			
	Ø 30 flush mountable	**mm**	**0…8**			
	Ø 30 non flush mountable	**mm**	**0…12**			
Differential travel		**%**	1...15 of effective sensing distance (Sr)			
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 67	IP 67, double insulation (Ø 6.5 and Ø 8) IP 68, double insulation (Ø 12, Ø 18 and Ø 30)	
	Conforming to DIN 40050		IP 69K (Ø 12, Ø 18 and Ø 30)	–	–	
Storage temperature		**°C**	- 40…+ 85			
Operating temperature		**°C**	- 25…+ 70 *(5)*			
Materials	Case		Nickel plated brass for XS1N●●●. Stainless steel 303 for XS1M08●●● and XS2M08●●●. Plastic, PPS, for XS4P●●●.			
	Cable		–		PvR 4 x 0.08 mm^2 (Ø 6.5 and Ø 8) PvR 4 x 0.22 mm^2 (Ø 12, Ø 18 and Ø 30)	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)			
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms			
Output state indication			Yellow LED, 4 viewing ports at 90°		Yellow LED, annular	
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity			
Voltage limits (including ripple)		**V**	⎓ 9…36 (⎓ 10…36 for XS4P●●●)	⎓ 10…36	⎓ 9…36 (⎓ 10…36 for XS4P18●●●)	⎓ 10…36
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection			
Voltage drop, closed state		**V**	⩽ 2			
Current consumption, no-load		**mA**	⩽ 10			
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	**Hz**	5000			
	Ø 18	**Hz**	2000			
	Ø 30	**Hz**	1000			
Delays	First-up	**ms**	⩽ 5			
	Response	**ms**	⩽ 0.1 for Ø 8 and Ø 12, ⩽ 0.15 for Ø 18, ⩽ 0.3 for Ø 30			
	Recovery	**ms**	⩽ 0.1 for Ø 8 and Ø 12, ⩽ 0.35 for Ø 18, ⩽ 0.7 for Ø 30			

*(1) Except **XS4P●●●**: UL, CSA and CE.*
*(2) Except **XS4P18●●●**: UL, CSA and CE.*
*(3) Except **XS4P●●●**.*
*(4) Except **XS4P18●●●**.*
*(5) Sensors are available for very low temperatures (suffix **TF**: -40°C, + 70°C) or very high temperatures (suffix **TT**: - 25°C, + 85°C). Please consult our Customer Care Centre.*

Inductive proximity sensors

OsiSense XS, general purpose
Cylindrical, metal and plastic, flush mountable and non flush mountable
Four-wire DC, solid-state NO + NC output

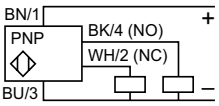
Wiring schemes

M12 connector

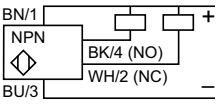
Pre-cabled

BU: Blue
BN: Brown
BK: Black
WH: White

PNP 4-wire



NPN 4-wire

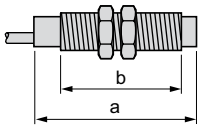


Setting-up

Minimum mounting distances (mm)

Sensor		Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 6.5 flush mountable	**XS1L06**	e ≥ 3	e ≥ 18	e ≥ 4.5	d ≥ 6.5 h ≥ 0
Ø 8 flush mountable	**XS1M08**	e ≥ 3	e ≥ 18	e ≥ 4.5	d ≥ 8 h ≥ 0
Ø 8 non flush mountable	**XS4P08**	e ≥ 10	e ≥ 30	e ≥ 7.5	d ≥ 24 h ≥ 5
Ø 12 flush mountable	**XS1N12**	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
Ø 12 non flush mountable	**XS4P12**	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
Ø 18 flush mountable	**XS1N18**	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
Ø 18 non flush mountable	**XS4P18**	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30 flush mountable	**XS1N30**	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
Ø 30 non flush mountable	**XS4P30**	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

Dimensions



Flush mountable in metal

Sensor		Pre-cabled (mm) a	Pre-cabled (mm) b	M12 connector (mm) a	M12 connector (mm) b
Ø 6.5 stainless steel	**XS1L06**	50	–	–	–
Ø 8 stainless steel	**XS1M08**	51	42	62	40
Ø 12 brass	**XS1N12**	37	25	50	31
Ø 18 brass	**XS1N18**	41	29	51	28
Ø 30 brass	**XS1N30**	45	33	54	33

Non flush mountable in metal

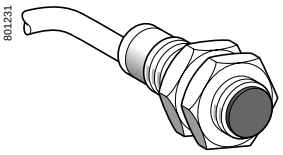
Sensor		Pre-cabled (mm) a	Pre-cabled (mm) b	M12 connector (mm) a	M12 connector (mm) b
Ø 8 stainless steel	**XS2M08**	54	42	65	40
Ø 8 plastic	**XS4P08**	34	25	–	–
Ø 12 plastic	**XS4P12**	37	25	50	31
Ø 18 plastic	**XS4P18**	41	29	51	28
Ø 30 plastic	**XS4P30**	45	33	54	33

Inductive proximity sensors

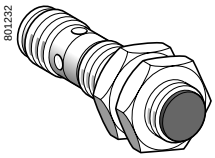
OsiSense XS, general purpose

Cylindrical, metal, increased range, flush mountable

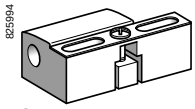
Four-wire DC, solid-state NO + NC output



XS1●●B3PCL2



XS112B3PCM12



XSZB●●●

Sensors, 4-wire

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1					
4	NO + NC	PNP	Pre-cabled (L = 2 m)	**XS112B3PCL2**	0.070
			M12 connector	**XS112B3PCM12**	0.020
Ø 18, threaded M18 x 1					
8	NO + NC	PNP	Pre-cabled (L = 2 m)	**XS118B3PCL2**	0.100
			M12 connector	**XS118B3PCM12**	0.040
Ø 30, threaded M30 x 1.5					
15	NO + NC	PNP	Pre-cabled (L = 2 m)	**XS130B3PCL2**	0.160
			M12 connector	**XS130B3PCM12**	0.100

Accessories *(1)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

(1) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal, increased range, flush mountable

Four-wire DC, solid-state NO + NC output

Characteristics

Sensor type			XS1●●B3PCM12	XS1●●B3PCL2
Product certifications			UL, CSA, CE, E2	
Conformity to safety standards			EN/IEC 61508: SIL 2 EN/ISO 13849-1: PL =d IEC 62061: SILcl2	
Reliability data			MTTFd = 1810 years, PFHd = 69.9 10^{-9} 1/h, SFF > 92 %, DC > 75 % (with a safety controller)	
Connection	Connector		M12	–
	Pre-cabled		–	Length 2 m
Operating zone *(1)*	Ø 12	**mm**	**0…3.2**	
	Ø 18	**mm**	**0…6.4**	
	Ø 30	**mm**	**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67	IP 65 and IP 68, double insulation ⧈
	Conforming to DIN 40050		IP 69K	–
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 70 *(2)*	
Materials	Case		Nickel plated brass	
	Sensing face		PPS	
	Cable		–	PvR 4 x 0.22 mm^2
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing ports at 90°	Yellow LED, annular
Tension assignée d'alimentation		**V**	⎓ 12…24 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 9…36	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	Ø 12	**Hz**	2500	
	Ø 18	**Hz**	1000	
	Ø 30	**Hz**	500	
Delays	First-up	**ms**	⩽ 10	
	Response	**ms**	⩽ 0.2 for Ø 12, ⩽ 0.3 for Ø 18, ⩽ 0.6 for Ø 30	
	Recovery	**ms**	⩽ 0.2 for Ø 12, ⩽ 0.7 for Ø 18, ⩽ 1.4 for Ø 30	

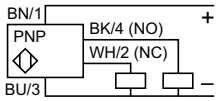
Wiring schemes

M12 connector

Pre-cabled

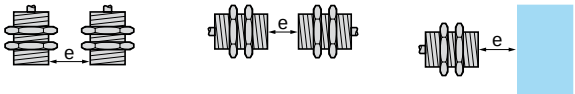
BU: Blue
BN: Brown
BK: Black
WH: White

PNP 4-wire



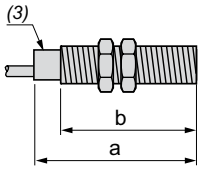
Setting-up

Minimum mounting distances (mm)



Sensors	Side by side	Face to face	Facing a metal object
Ø 12	e ⩾ 8	e ⩾ 50	e ⩾ 12
Ø 18	e ⩾ 16	e ⩾ 100	e ⩾ 25
Ø 30	e ⩾ 30	e ⩾ 180	e ⩾ 45

Dimensions



Sensors	Pre-cabled (mm) a	Pre-cabled (mm) b	M12 connector (mm) a	M12 connector (mm) b
Ø 12	37	25	50	31
Ø 18	41	29	51	28
Ø 30	45	33	54	33

(1) Detection curves, see page 126.

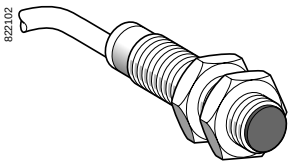
*(2) Sensors are available for very low temperatures (suffix **TF**: -40°C, + 70°C) or very high temperatures (suffix **TT**: - 25°C, + 85°C). Please consult our Customer Care Centre.*

(3) LED.

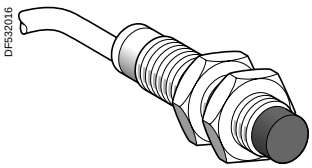
Inductive proximity sensors

OsiSense XS, general purpose

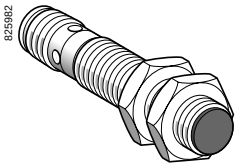
Cylindrical, metal and plastic, flush and non flush mountable
Four-wire DC, solid-state PNP + NPN NO/NC programmable output



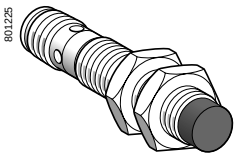
XS1M●●KP340
XS4P●●KP340



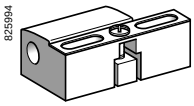
XS2M●●KP340



XS1M●●KP340D
XS4P●●KP340D



XS2M●●KP340D



XSZB1●●

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 12, threaded M12 x 1					
Metal case, flush mountable					
2	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS1M12KP340**	0.075
			M12 connector	**XS1M12KP340D**	0.025
Metal case, non flush mountable					
4	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS2M12KP340**	0.075
			M12 connector	**XS2M12KP340D**	0.025
Plastic case, non flush mountable					
4	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS4P12KP340**	0.075
			M12 connector	**XS4P12KP340D**	0.025
Ø 18, threaded M18 x 1					
Metal case, flush mountable					
5	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS1M18KP340**	0.120
			M12 connector	**XS1M18KP340D**	0.060
Metal case, non flush mountable					
8	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS2M18KP340**	0.120
			M12 connector	**XS2M18KP340D**	0.060
Plastic case, non flush mountable					
8	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS4P18KP340**	0.120
			M12 connector	**XS4P18KP340D**	0.060
Ø 30, threaded M30 x 1.5					
Metal case, flush mountable					
10	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS1M30KP340**	0.205
			M12 connector	**XS1M30KP340D**	0.145
Metal case, non flush mountable					
15	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS2M30KP340**	0.205
			M12 connector	**XS2M30KP340D**	0.145
Plastic case, non flush mountable					
15	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) *(1)*	**XS4P30KP340**	0.205
			M12 connector	**XS4P30KP340D**	0.145

Accessories *(2)*

Description mm		Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

*(1) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference.*
*Example: **XS1M12KP340** becomes **XS1M12KP340L1** with a 5 m long cable.*
(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS, general purpose

Cylindrical, metal and plastic, flush and non flush mountable
Four-wire DC, solid-state PNP + NPN NO/NC programmable output

Characteristics

Sensor type			XS●M●●KP340D	XS●M●●KP340
Product certifications			UL, CSA, CE	
Connection			M12 connector	Pre-cabled, length: 2 m
Operating zone	Ø 12 flush mountable	**mm**	**0…1.6**	
	Ø 12 non flush mountable	**mm**	**0…3.2**	
	Ø 18 flush mountable	**mm**	**0…4**	
	Ø 18 non flush mountable	**mm**	**0…6.4**	
	Ø 30 flush mountable	**mm**	**0…8**	
	Ø 30 non flush mountable	**mm**	**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 70	
Materials	Case		Nickel plated brass for XS1M and XS2M, PPS for XS4P	
	Cable		–	PvR 4 x 0.34 mm^2
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing ports at 90°	Yellow LED, annular
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…36	
Switching capacity		**mA**	≤ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	≤ 2.6	
Current consumption, no-load		**mA**	≤ 10	
Maximum switching frequency	Ø 12	**Hz**	5000	
	Ø 18	**Hz**	2000	
	Ø 30 flush mountable	**Hz**	1000	
	Ø 30 non flush mountable	**Hz**	1000	
Delays	First-up	**ms**	≤ 5	
	Response	**ms**	≤ 0.1 for Ø 12, ≤ 0.15 for Ø 18, ≤ 0.3 for Ø 30	
	Recovery	**ms**	≤ 0.1 for Ø 12, ≤ 0.35 for Ø 18, ≤ 0.7 for Ø 30	

Wiring schemes

M12 connector

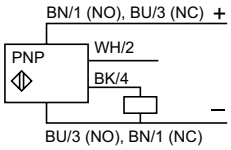
Pre-cabled

BU: Blue
BN: Brown
BK: Black
WH: White

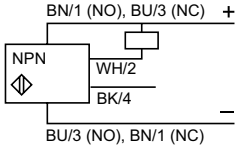
PNP + NPN

4-wire programmable, NO or NC output

PNP



NPN

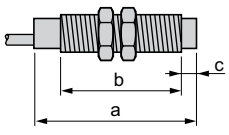


Setting-up

Minimum mounting distances (mm)

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 12 flush mountable **XS1M12**	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
Ø 12 non flush mountable **XS2M12** and **XS4P12**	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
Ø 18 flush mountable **XS1M18**	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
Ø 18 non flush mountable **XS2M18** and **XS4P18**	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30 flush mountable **XS1M30**	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
Ø 30 non flush mountable **XS2M30** and **XS4P30**	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

Dimensions



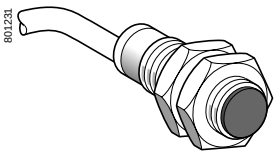
Sensor	Flush mountable in metal				Non flush mountable in metal				
	Pre-cabled		Connector		Pre-cabled		Connector		
	a	b	a	b	a	b	a	b	c
Ø 12 metal	54	42	61	42	55	42	66	42	5
Ø 12 plastic	–	–	–	–	54	42	61	43	0
Ø 18 metal	60	51	72	51	60	44	72	44	8
Ø 18 plastic	–	–	–	–	60	51	70	51	0
Ø 30 metal	60	51	72	51	63	41	75	41	13
Ø 30 plastic	–	–	–	–	60	51	70	51	0

Inductive proximity sensors

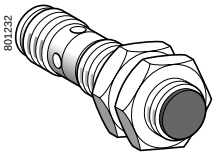
OsiSense XS, general purpose

Plastic, cylindrical, non flush mountable
Two-wire AC or DC
Three-wire DC, solid-state output

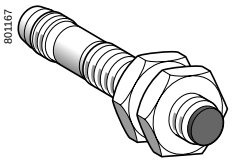
ECOLAB certified



XS4P●●●●340
XS4P●●●●370
XS4P●●●●230



XS4P●●●●340D
XS4P●●●●370D
XS4P●●●●230K



XS4P08●●340S

Sensing dist. (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1					
Three-wire ⎓ 12-24 V					
2.5	NO	PNP	Pre-cabled (L = 2 m) *(1) (2)*	**XS4P08PA340**	0.025
		NPN	Pre-cabled (L = 2 m) *(1) (2)*	**XS4P08NA340**	0.025
	NC	PNP	Pre-cabled (L = 2 m) *(1) (2)*	**XS4P08PB340**	0.025
		NPN	Pre-cabled (L = 2 m) *(1) (2)*	**XS4P08NB340**	0.025
Three-wire ⎓ 12-48 V					
2.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS4P08PA370**	0.030
		NPN	Pre-cabled (L = 2 m)	**XS4P08NA370**	0.030
	NC	PNP	Pre-cabled (L = 2 m)	**XS4P08PB370**	0.030
		NPN	Pre-cabled (L = 2 m)	**XS4P08NB370**	0.030
Two-wire ∿ or ⎓ 24-240 V					
2.5	NO		Pre-cabled (L = 2 m) *(1)*	**XS4P08MA230**	0.030
			1/2"-20UNF connector	**XS4P08MA230K**	0.020
	NC		Pre-cabled (L = 2 m) *(1)*	**XS4P08MB230**	0.030
			1/2"-20UNF connector	**XS4P08MB230K**	0.020
Ø 12, threaded M12 x 1					
Three-wire ⎓ 12-24 V					
4	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12PA340**	0.060
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12NA340**	0.060
	NC	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12PB340**	0.060
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12NB340**	0.060
Three-wire ⎓ 12-48 V					
4	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12PA370**	0.065
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12NA370**	0.065
	NC	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P12PB370**	0.065
		NPN	Pre-cabled (L = 2 m) *(3)*	**XS4P12NB370**	0.065
Two-wire ∿ or ⎓ 24-240 V					
4	NO		Pre-cabled (L = 2 m) *(1)*	**XS4P12MA230**	0.065
			1/2"-20UNF connector	**XS4P12MA230K**	0.030
	NC		Pre-cabled (L = 2 m) *(1)*	**XS4P12MB230**	0.065
			1/2"-20UNF connector	**XS4P12MB230K**	0.030
Ø 18, threaded M18 x 1					
Three-wire ⎓ 12-24 V					
8	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18PA340**	0.090
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18NA340**	0.090
	NC	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18PB340**	0.090
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18NB340**	0.090
Three-wire ⎓ 12-48 V					
8	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18PA370**	0.100
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18NA370**	0.100
	NC	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P18PB370**	0.100
		NPN	Pre-cabled (L = 2 m) *(3)*	**XS4P18NB370**	0.100
Two-wire ∿ or ⎓ 24-240 V					
8	NO		Pre-cabled (L = 2 m) *(1)*	**XS4P18MA230**	0.100
			1/2"-20UNF connector	**XS4P18MA230K**	0.040
	NC		Pre-cabled (L = 2 m) *(1)*	**XS4P18MB230**	0.100
			1/2"-20UNF connector	**XS4P18MB230K**	0.040
Ø 30, threaded M30 x 1.5					
Three-wire ⎓ 12-24 V					
15	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30PA340**	0.120
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30NA340**	0.120
	NC	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30PB340**	0.120
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30NB340**	0.120
Three-wire ⎓ 12-48 V					
15	NO	PNP	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30PA370**	0.140
		NPN	Pre-cabled (L = 2 m) *(1) (3)*	**XS4P30NA370**	0.140
	NC	PNP	Pre-cabled (L = 2 m) *(3)*	**XS4P30PB370**	0.140
		NPN	Pre-cabled (L = 2 m) *(3)*	**XS4P30NB370**	0.140
Two-wire ∿ or ⎓					
15	NO		Pre-cabled (L = 2 m) *(1)*	**XS4P30MA230**	0.140
			1/2"-20UNF connector	**XS4P30MA230K**	0.080
	NC		Pre-cabled (L = 2 m) *(1)*	**XS4P30MB230**	0.140
			1/2"-20UNF connector	**XS4P30MB230K**	0.080

*(1) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference. Example: **XS4P08PA340** becomes **XS4P08PA340L1** with a 5 m long cable.*
*(2) For an M8 connector, add **S** to the reference. Example: **XS4P08PA340** becomes **XS4P08PA340S** with an M8 connector.*
*(3) For an M12 connector, add **D** to the reference. Example: **XS4P12PA370** becomes **XS4P12PA370D** with an M12 connector.*

Inductive proximity sensors

OsiSense XS, general purpose
Plastic, cylindrical, non flush mountable
Two-wire AC or DC
Three-wire DC, solid-state output

Characteristics

Sensor type			XS4P●●●●340●	XS4P●●●●370●	XS4P●●M●230●
Product certifications			UL, CSA, CE, ECOLAB		
Connection	Pre-cabled		Length: 2 m		
	Connector		M8 on Ø 8 M12 on Ø 12, Ø 18 and Ø 30		1/2"-20UNF
Operating zone	Ø 6.5 and Ø 8	**mm**	**0…2**		
	Ø 12	**mm**	**0…3.2**		
	Ø 18	**mm**	**0…6.4**		
	Ø 30	**mm**	**0…12**		
Differential travel		**%**	1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529		IP 68, double insulation for pre-cabled version (except Ø 8: IP 67) IP 67 for connector version		
Storage temperature		**°C**	- 40…+ 85		
Operating temperature		**°C**	- 25…+ 70		
Materials	Case		PPS		
	Cable		PvR 3 x 0.34 mm² except Ø 6.5 and 8: 3 x 0.11 mm²		PvR 2 x 0.34 mm² except Ø 8: 2 x 0.11 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms		
Output state indication			Yellow LED: annular on pre-cabled version Yellow LED: 4 viewing ports at 90° on connector version		
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity	⎓ 12…48 with protection against reverse polarity	∿ or ⎓ 24…240 (50/60 Hz)
Voltage limits (including ripple)		**V**	⎓ 10…36	⎓ 10…58	∿ or ⎓ 20…264
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection		5…100 for Ø 8, 5…200 for Ø 12, 5…200 ⎓ and 5…300 ∿ for Ø 18 and 30
Voltage drop, closed state		**V**	⩽ 2		⩽ 5.5
Residual current, open state		**mA**	–		⩽ 0.6
Current consumption, no-load		**mA**	⩽ 10		–
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	**Hz**	5000		⎓ 3000, ∿ 25
	Ø 18	**Hz**	2000		⎓ 2000, ∿ 25
	Ø 30	**Hz**	1000		⎓ 1000, ∿ 25
Delays	First-up	**ms**	⩽ 10		⩽ 40
	Response	**ms**	⩽ 0.1 for Ø 8 and Ø 12, ⩽ 0.15 for Ø 18, ⩽ 0.3 for Ø 30		⩽ 0.2
	Recovery	**ms**	⩽ 0.1 for Ø 8 and Ø 12, ⩽ 0.35 for Ø 18, ⩽ 0.7 for Ø 30		⩽ 0.2 for Ø 8, Ø 12 and Ø 18, ⩽ 0.4 for Ø 30

Wiring schemes

Connector

M8

M12

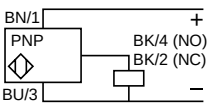
1/2"-20UNF

∿: 2
∿: 3

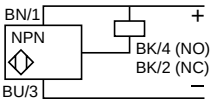
Pre-cabled

BU: Blue
BN: Brown
BK: Black

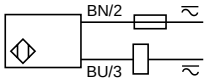
PNP



NPN



2-wire ∿ or ⎓

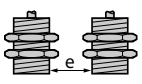


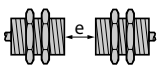
For M8 connector, NO and NC outputs on terminal 4

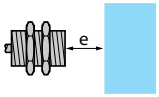
Setting-up

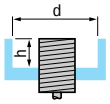
Minimum mounting distances (mm)

	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 8	e ⩾ 10	e ⩾ 30	e ⩾ 7.5	d ⩾ 24 h ⩾ 5
Ø 12	e ⩾ 16	e ⩾ 48	e ⩾ 12	d ⩾ 36 h ⩾ 8
Ø 18	e ⩾ 16	e ⩾ 96	e ⩾ 24	d ⩾ 54 h ⩾ 16
Ø 30	e ⩾ 60	e ⩾ 180	e ⩾ 45	d ⩾ 90 h ⩾ 30

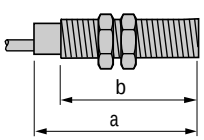








Dimensions



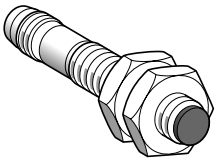
XS4P	3-wire ⎓ 12-24 V				3-wire ⎓ 12-48 V or 2-wire ∿/⎓ 24-240 V			
	Pre-cabled (mm)		Connector (mm)		Pre-cabled (mm)		Connector (mm)	
	a	b	a	b	a	b	a	b
Ø 8	33	26	42	26	50	42	61	40
Ø 12	35	25	48	27	54	42	61	42
Ø 18	36	25	48	29	62	52	70	52
Ø 30	43	32	50	34	62	52	70	52

Inductive proximity sensors

OsiSense XS, general purpose

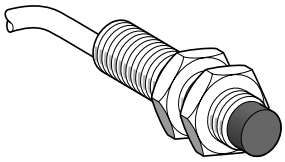
Basic, cylindrical, metal, flush and non flush mountable
Three-wire DC, solid-state output

801167



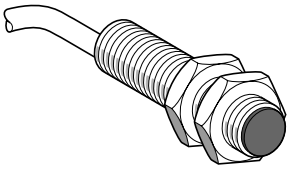
XS108BLPAM8

801220



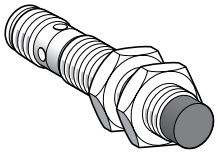
XS208BL●AL●

801214



XS112BL●●L●

DF602148



XS212BL●AM12

Sensing distance (Sn)	Function	Output	Connection	Reference	Weight
mm					kg
Ø 8, threaded M8 x 1					
Three-wire ⎓ 12-24 V, flush mountable					
1.5	NO	PNP	Pre-cabled (L = 2 m)	**XS108BLPAL2**	0.035
			Pre-cabled (L = 5 m)	**XS108BLPAL5**	0.105
			M8 connector	**XS108BLPAM8**	0.008
			M12 connector	**XS108BLPAM12**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS108BLNAL2**	0.035
			M12 connector	**XS108BLNAM12**	0.015
Three-wire ⎓ 12-24 V, non flush mountable					
2.5	NO	PNP	Pre-cabled (L = 2 m)	**XS208BLPAL2**	0.035
			Pre-cabled (L = 5 m)	**XS208BLPAL5**	0.105
			M8 connector	**XS208BLPAM8**	0.008
			M12 connector	**XS208BLPAM12**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS208BLNAL2**	0.035
			M12 connector	**XS208BLNAM12**	0.015
Ø 12, threaded M12 x 1					
Three-wire ⎓ 12-24 V, flush mountable					
2	NO	PNP	Pre-cabled (L = 2 m)	**XS112BLPAL2**	0.070
			Pre-cabled (L = 3 m)	**XS112BLPAL3**	0.095
			Pre-cabled (L = 5 m)	**XS112BLPAL5**	0.140
			M12 connector	**XS112BLPAM12**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS112BLNAL2**	0.070
			M12 connector	**XS112BLNAM12**	0.015
	NC	PNP	Pre-cabled (L = 2 m)	**XS112BLPBL2**	0.070
			M12 connector	**XS112BLPBM12**	0.015
Three-wire ⎓ 12-24 V, non flush mountable					
4	NO	PNP	Pre-cabled (L = 2 m)	**XS212BLPAL2**	0.070
			Pre-cabled (L = 5 m)	**XS212BLPAL5**	0.140
			M12 connector	**XS212BLPAM12**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS212BLNAL2**	0.070
			Pre-cabled (L = 7 m)	**XS212BLNAL7**	0.185
			M12 connector	**XS212BLNAM12**	0.015
	NC	PNP	Pre-cabled (L = 2 m)	**XS212BLPBL2**	0.070
			Pre-cabled (L = 5 m)	**XS212BLPBL5**	0.140
		NPN	Pre-cabled (L = 2 m)	**XS212BLNBL2**	0.070

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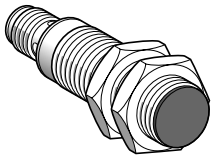
Schemes: page 70
Dimensions: page 71

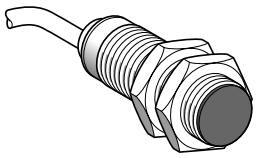
Inductive proximity sensors

OsiSense XS, general purpose

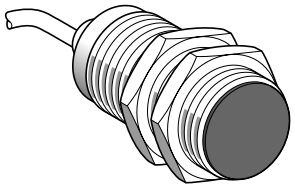
Basic, cylindrical, metal, flush and non flush mountable
Three-wire DC, solid-state output



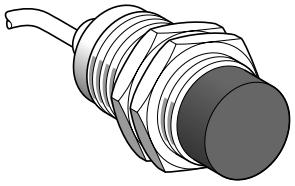
XS118BL●●M12



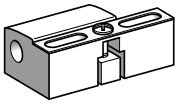
XS118BL●●L2●



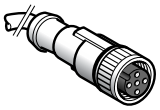
XS130BL●●L●



XS230BL●●L●



XSZB1●●



XZCPV1141L●●

Sensing distance (Sn)	Function	Output	Connection	Reference	Weight
mm					kg
Ø 18, threaded M18 x 1					
Three-wire ⎓ 12-24 V, flush mountable					
5	NO	PNP	Pre-cabled (L = 2 m)	**XS118BLPAL2**	0.105
			Pre-cabled (L = 5 m)	**XS118BLPAL5**	0.175
			M12 connector	**XS118BLPAM12**	0.035
		NPN	Pre-cabled (L = 2 m)	**XS118BLNAL2**	0.105
			Pre-cabled (L = 5 m)	**XS118BLNAL5**	0.175
			M12 connector	**XS118BLNAM12**	0.035
	NC	PNP	Pre-cabled (L = 2 m)	**XS118BLPBL2**	0.105
			M12 connector	**XS118BLPBM12**	0.035
Three-wire ⎓ 12-24 V, non flush mountable					
8	NO	PNP	Pre-cabled (L = 2 m)	**XS218BLPAL2**	0.105
			Pre-cabled (L = 5 m)	**XS218BLPAL5**	0.175
			M12 connector	**XS218BLPAM12**	0.035
		NPN	Pre-cabled (L = 2 m)	**XS218BLNAL2**	0.105
			Pre-cabled (L = 5 m)	**XS218BLNAL5**	0.175
			Pre-cabled (L = 7 m)	**XS218BLNAL7**	0.220
			M12 connector	**XS218BLNAM12**	0.035
	NC	PNP	Pre-cabled (L = 2 m)	**XS218BLPBL2**	0.105
		NPN	Pre-cabled (L = 2 m)	**XS218BLNBL2**	0.105
Ø 30, threaded M30 x 1.5					
Three-wire ⎓ 12-24 V, flush mountable					
10	NO	PNP	Pre-cabled (L = 2 m)	**XS130BLPAL2**	0.165
			M12 connector	**XS130BLPAM12**	0.075
		NPN	Pre-cabled (L = 2 m)	**XS130BLNAL2**	0.165
			Pre-cabled (L = 3 m)	**XS130BLNAL3**	0.190
			M12 connector	**XS130BLNAM12**	0.075
	NC	PNP	Pre-cabled (L = 2 m)	**XS130BLPBL2**	0.165
			M12 connector	**XS130BLPBM12**	0.075
Three-wire ⎓ 12-24 V, non flush mountable					
15	NO	PNP	Pre-cabled (L = 2 m)	**XS230BLPAL2**	0.155
			Pre-cabled (L = 5 m)	**XS230BLPAL5**	0.225
			M12 connector	**XS230BLPAM12**	0.085
		NPN	Pre-cabled (L = 2 m)	**XS230BLNAL2**	0.155
			Pre-cabled (L = 7 m)	**XS230BLNAL7**	0.225
			M12 connector	**XS230BLNAM12**	0.085
	NC	PNP	Pre-cabled (L = 2 m)	**XS230BLPBL2**	0.155

Fixing accessories *(1)*

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

Cabling accessories

Description	Length of cable	Reference	Weight
	m		kg
Pre-wired connectors female straight M12 connector, 4 pins PVC cable	5	**XZCPV1141L5**	0.210
	10	**XZCPV1141L10**	0.390

(1) For further information, see page 122.

Characteristics: page 70
Schemes: page 70
Dimensions: page 71

Inductive proximity sensors

OsiSense XS, general purpose

Basic, cylindrical, metal, flush and non flush mountable
Three-wire DC, solid-state output

Characteristics

Sensor type			XS1●●BLP●L● XS1●●BLN●L●	XS1●●BLP●M● XS1●●BLN●M●	XS2●●BLP●L XS2●●BLN●L	XS2●●BLP●M● XS2●●BLN●M●
Product certifications			UL, CSA, CE			
Connection	Pre-cabled		Length 2, 3 or 5 m, depending on model	–	Length 2, 5 or 7m, depending on model	–
	Connector		–	M8 on Ø 8 M12 on Ø 8, Ø 12, Ø 18 and Ø 30	–	M8 on Ø 8 M12 onØ 8, Ø 12, Ø 18 and Ø 30
Operating zone *(1)*	Ø 8	**mm**	**0…1.2**		**0…2**	
	Ø 12	**mm**	**0…1.6**		**0…3.2**	
	Ø 18	**mm**	**0…4**		**0…6.4**	
	Ø 30	**mm**	**0…8**		**0…12**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)			
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67			
Storage temperature		**°C**	- 40…+ 85			
Operating temperature		**°C**	- 25…+ 70			
Materials	Case		Nickel plated brass			
	Cable		PVC 3 x 0.14 mm² except Ø 8 : 3 x 0.11 mm²	–	PVC 3 x 0.14 mm² except Ø 8 : 3 x 0.11 mm²	–
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)			
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms			
Output state indication			Yellow LED, on rear	Yellow LED: 2 viewing ports at 180°	Yellow LED, on rear	Yellow LED: 2 viewing ports at 180°
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity			
Voltage limits (including ripple)		**V**	⎓ 10…36			
Switching capacity		**mA**	⩽ 200 (except Ø 8: ⩽ 50) with overload and short-circuit protection *(2)*			
Voltage drop, closed state		**V**	⩽ 2			
Current consumption, no-load		**mA**	⩽ 10			
Residual current, open state		**mA**	–			
Maximum switching frequency	Ø 8	**Hz**	1000		1000	
	Ø 12	**Hz**	2500		1200	
	Ø 18	**Hz**	1200		500	
	Ø 30	**Hz**	500		300	
Delays	First-up	**ms**	⩽ 15		⩽ 15	
	Response Ø 8	**ms**	⩽ 5		⩽ 5	
	Response Ø 12	**ms**	⩽ 0.1		⩽ 0.1	
	Response Ø 18	**ms**	⩽ 0.1		⩽ 0.1	
	Response Ø 30	**ms**	⩽ 0.1		⩽ 0.2	
	Recovery Ø 8	**ms**	⩽ 0.3		⩽ 0.3	
	Recovery Ø 12	**ms**	⩽ 0.15		⩽ 0.4	
	Recovery Ø 18	**ms**	⩽ 0.3		⩽ 1	
	Recovery Ø 30	**ms**	⩽ 1		⩽ 1.4	

Wiring schemes

Connector

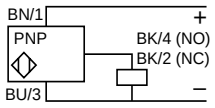
M8

M12

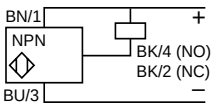
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



NPN



(1) Detection curves, see page 126.
(2) These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a 0.4 A "quick-blow" fuse in series with the load, see page 122.

References:
pages 68 and 69

Dimensions:
page 71

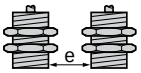
Inductive proximity sensors

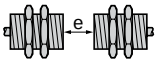
OsiSense XS, general purpose

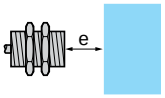
Basic, cylindrical, metal, flush and non flush mountable
Three-wire DC, solid-state output

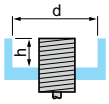
Setting-up

Minimum mounting distances (mm)



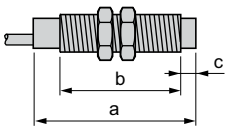






Sensors		Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 8 flush mountable	**XS108**	e ≥ 3	e ≥ 18	e ≥ 4.5	d ≥ 8 h ≥ 0
Ø 8 non flush mountable	**XS208**	e ≥ 10	e ≥ 30	e ≥ 7.5	d ≥ 24 h ≥ 5
Ø 12 flush mountable	**XS112**	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
Ø 12 non flush mountable	**XS212**	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
Ø 18 flush mountable	**XS118**	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
Ø 18 non flush mountable	**XS218**	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30 flush mountable	**XS130**	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
Ø 30 non flush mountable	**XS230**	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

Dimensions



Flush mountable in metal

Sensors		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
		a	b	a	b	a	b
Ø 8	**XS108**	42	40	53	42	62	39
Ø 12	**XS112**	44	31	–	–	55	34
Ø 18	**XS118**	53	41	–	–	64	43
Ø 30	**XS130**	57	44	–	–	68	47

Non flush mountable in metal

Sensors		Pre-cabled (mm)			M8 connector (mm)			M12 connector (mm)		
		a	b	c	a	b	c	a	b	c
Ø 8	**XS208**	42	36	4	53	38	4	62	36	4
Ø 12	**XS212**	44	26	5	–	–	–	55	29	5
Ø 18	**XS218**	53	33	8	–	–	–	64	35	8
Ø 30	**XS230**	57	32	13	–	–	–	68	34	13

References:
pages 68 and 69

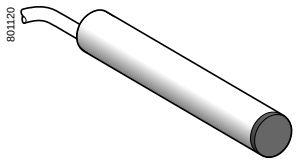
Characteristics:
page 70

Schemes:
page 70

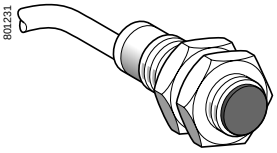
Inductive proximity sensors

OsiSense XS, general purpose

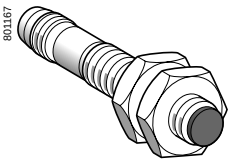
Cylindrical, almost flush mountable, increased range
Three-wire DC, solid-state output



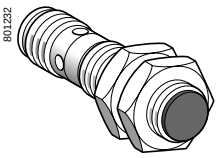
XS1L06●A349



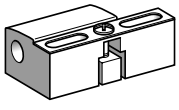
XS1N●●●●349



XS1N08●●349S



XS1N●●●●349D



XSZB1●●

Sensing distance (Sn) (mm)	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
2.5	NO	PNP	Pre-cabled (L = 2 m)	**XS1L06PA349**	0.025
			M8 connector	**XS1L06PA349S**	0.010
			M12 connector	**XS1L06PA349D**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS1L06NA349**	0.025
			M8 connector	**XS1L06NA349S**	0.010
			M12 connector	**XS1L06NA349D**	0.015
	NC	PNP	Pre-cabled (L = 2 m)	**XS1L06PB349**	0.025
			M8 connector	**XS1L06PB349S**	0.010
		NPN	Pre-cabled (L = 2 m)	**XS1L06NB349**	0.025
			M8 connector	**XS1L06NB349S**	0.010
Ø 8, threaded M8 x 1					
2.5	NO	PNP	Pre-cabled (L = 2 m)	**XS1N08PA349**	0.035
			M8 connector	**XS1N08PA349S**	0.015
			M12 connector	**XS1N08PA349D**	0.020
		NPN	Pre-cabled (L = 2 m)	**XS1N08NA349**	0.035
			M8 connector	**XS1N08NA349S**	0.015
			M12 connector	**XS1N08NA349D**	0.020
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N08PB349**	0.035
			M8 connector	**XS1N08PB349S**	0.015
			M12 connector	**XS1N08PB349D**	0.020
		NPN	Pre-cabled (L = 2 m)	**XS1N08NB349**	0.035
			M8 connector	**XS1N08NB349S**	0.015
			M12 connector	**XS1N08NB349D**	0.020
Ø 12, threaded M12 x 1					
4	NO	PNP	Pre-cabled (L = 2 m)	**XS1N12PA349**	0.070
			M12 connector	**XS1N12PA349D**	0.020
		NPN	Pre-cabled (L = 2 m)	**XS1N12NA349**	0.070
			M12 connector	**XS1N12NA349D**	0.020
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N12PB349**	0.070
			M12 connector	**XS1N12PB349D**	0.020
		NPN	Pre-cabled (L = 2 m)	**XS1N12NB349**	0.070
			M12 connector	**XS1N12NB349D**	0.020
Ø 18, threaded M18 x 1					
10	NO	PNP	Pre-cabled (L = 2 m)	**XS1N18PA349**	0.100
			M12 connector	**XS1N18PA349D**	0.040
		NPN	Pre-cabled (L = 2 m)	**XS1N18NA349**	0.100
			M12 connector	**XS1N18NA349D**	0.040
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N18PB349**	0.100
			M12 connector	**XS1N18PB349D**	0.040
		NPN	Pre-cabled (L = 2 m)	**XS1N18NB349**	0.100
			M12 connector	**XS1N18NB349D**	0.040
Ø 30, threaded M30 x 1.5					
20	NO	PNP	Pre-cabled (L = 2 m)	**XS1N30PA349**	0.160
			M12 connector	**XS1N30PA349D**	0.100
		NPN	Pre-cabled (L = 2 m)	**XS1N30NA349**	0.160
			M12 connector	**XS1N30NA349D**	0.100
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N30PB349**	0.160
			M12 connector	**XS1N30PB349D**	0.100
		NPN	Pre-cabled (L = 2 m)	**XS1N30NB349**	0.160
			M12 connector	**XS1N30NB349D**	0.100

Accessories *(1)*

Description mm		Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	**XSZB165**	0.005
	Ø 8	**XSZB108**	0.006
	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

(1) For further information, see page 122.

Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, almost flush mountable, increased range
Three-wire DC, solid-state output

Characteristics

Sensor type			XS1●●●●●349D	XS1●●●●●349S	XS1●●●●●349
Product certifications			UL, CSA, CE		
Connection			M12 connector	M8 connector	Pre-cabled, length: 2 m
Operating zone	Ø 6.5 and Ø 8	**mm**	**0…2**		
	Ø 12	**mm**	**0…3.2**		
	Ø 18	**mm**	**0…8**		
	Ø 30	**mm**	**0…16**		
Differential travel		**%**	1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529		IP 67		IP 68, double insulation (except Ø 6.5 and Ø 8: IP 67)
	Conforming to DIN 40050		IP 69K for Ø 12 to Ø 30		
Storage temperature		**°C**	- 40…+ 85		
Operating temperature		**°C**	- 25…+ 70		
Materials	Case		Nickel plated brass		
	Cable		–		PvR 3 x 0.34 mm² except Ø 6.5 and 8: 3 x 0.11 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms		
Output state indication			Yellow LED, 4 viewing ports at 90°		Yellow LED, annular
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity		
Voltage limits (including ripple)		**V**	⎓ 10…36		
Switching capacity		**mA**	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		**V**	≤ 2		
Current consumption, no-load		**mA**	≤ 10		
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	**Hz**	2500		
	Ø 18	**Hz**	1000		
	Ø 30	**Hz**	500		
Delays	First-up	**ms**	≤ 5		
	Response	**ms**	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30		
	Recovery	**ms**	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30		

Wiring schemes

Connector

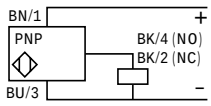
M8

M12

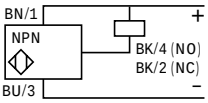
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP 3-wire



NPN 3-wire

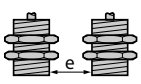


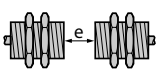
For M8 connector, NO and NC outputs on terminal 4

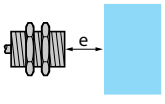
Setting-up precautions

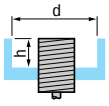
Minimum mounting distances (mm)

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 6.5	e ≥ 5	e ≥ 30	e ≥ 7.5	d ≥ 10 h ≥ 1.6
Ø 8	e ≥ 5	e ≥ 30	e ≥ 7.5	d ≥ 10 h ≥ 1.6
Ø 12	e ≥ 8	e ≥ 48	e ≥ 12	d ≥ 14 h ≥ 2.4
Ø 18	e ≥ 20	e ≥ 96	e ≥ 30	d ≥ 28 h ≥ 3.6
Ø 30	e ≥ 40	e ≥ 240	e ≥ 60	d ≥ 50 h ≥ 6

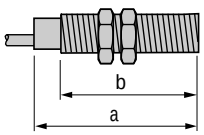








Dimensions

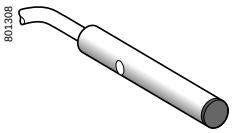


Sensor	Flush mountable in metal					
	Pre-cabled		M8 connector		M12 connector	
	a	b	a	b	a	b
Ø 6.5	33	–	42	–	45	–
Ø 8	33	25	42	26	45	23
Ø 12	35	25	–	–	50	30
Ø 18	39	28	–	–	50	28
Ø 30	43	32	–	–	55	32

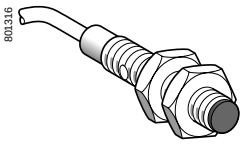
Inductive proximity sensors

OsiSense XS, general purpose

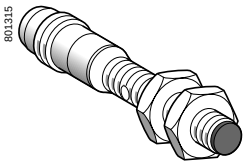
Miniature, cylindrical, flush and non flush mountable
Three-wire DC, solid-state output



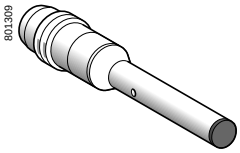
XS1L04●●310



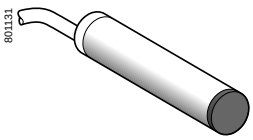
XS1N05●●310



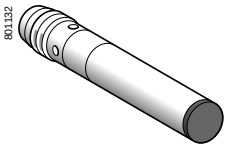
XS1N05●●311S



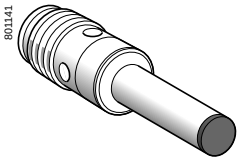
XS1L04●●310S



XS●L06●●340



XS●L06●●340S
XS●L06●●349S



XS●L06●●340D

Ø 4 plain *(1)*

Sensing distance (Sn) mm	Function	Output	Connection *(2)*	Reference	Weight kg
Brass case, flush mountable					
1	NO	PNP	Pre-cabled (L = 2 m)	**XS1L04PA310**	0,025
			M8 connector	**XS1L04PA310S**	0.010
		NPN	Pre-cabled (L = 2 m)	**XS1L04NA310**	0.025
			M8 connector	**XS1L04NA310S**	0.010
	NC	PNP	Pre-cabled (L = 2 m)	**XS1L04PB310**	0.025
			M8 connector	**XS1L04PB310S**	0.010
		NPN	Pre-cabled (L = 2 m)	**XS1L04NB310**	0.025
			M8 connector	**XS1L04NB310S**	0.010
Stainless steel case, flush mountable					
0,8	NO	PNP	Pre-cabled (L = 2 m)	**XS1L04PA311**	0.025
			M8 connector	**XS1L04PA311S**	0.010
		NPN	Pre-cabled (L = 2 m)	**XS1L04NA311**	0.025
			M8 connector	**XS1L04NA311S**	0.010
	NC	PNP	Pre-cabled (L = 2 m)	**XS1L04PB311**	0.025
			M8 connector	**XS1L04PB311S**	0,010
		NPN	Pre-cabled (L = 2 m)	**XS1L04NB311**	0.025
			M8 connector	**XS1L04NB311S**	0.010

Ø 5, threaded M5 x 0.5 *(1)*

Sensing distance (Sn) mm	Function	Output	Connection *(2)*	Reference	Weight kg
Brass case, flush mountable					
1	NO	PNP	Pre-cabled (L = 2 m)	**XS1N05PA310**	0,030
		NPN	Pre-cabled (L = 2 m)	**XS1N05NA310**	0,030
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N05PB310**	0,030
		NPN	Pre-cabled (L = 2 m)	**XS1N05NB310**	0,030
Stainless steel case, flush mountable					
0.8	NO	PNP	Pre-cabled (L = 2 m)	**XS1N05PA311**	0.030
			M8 connector	**XS1N05PA311S**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS1N05NA311**	0.030
			M8 connector	**XS1N05NA311S**	0.015
	NC	PNP	Pre-cabled (L = 2 m)	**XS1N05PB311**	0.030
			M8 connector	**XS1N05PB311S**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS1N05NB311**	0.030
			M8 connector	**XS1N05NB311S**	0.015

Ø 6.5 plain *(1)*

Sensing distance (Sn) mm	Function	Output	Connection *(2)*	Reference	Weight kg
Stainless steel case, non flush mountable					
2.5	NO	PNP	Pre-cabled (L = 2 m)	**XS2L06PA340**	0.025
			M8 connector	**XS2L06PA340S**	0.010
			M12 connector	**XS2L06PA340D**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS2L06NA340**	0.025
			M8 connector	**XS2L06NA340S**	0.010
			M12 connector	**XS2L06NA340D**	0.015
	NC	PNP	Pre-cabled (L = 2 m)	**XS2L06PB340**	0.025
			M8 connector	**XS2L06PB340S**	0.010
			M12 connector	**XS2L06PB340D**	0.015
		NPN	Pre-cabled (L = 2 m)	**XS2L06NB340**	0.025
			M8 connector	**XS2L06NB340S**	0.010
			M12 connector	**XS2L06NB340D**	0.015

(1) For accessories, see page 122.
*(2) For a 5 m long cable add **L1** to the reference; for a 10 m long cable add **L2** to the reference.*
*Example: **XS1L04PA310** becomes **XS1L04PA310L1** with a 5 m long cable.*

Inductive proximity sensors

OsiSense XS, general purpose

Miniature, cylindrical, flush and non flush mountable
Three-wire DC, solid-state output

Characteristics

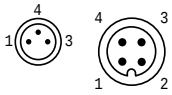
Sensor type			XS1●●●●●●●●S, XS1●●●●●●●●D, XS2L06●A340●	XS1●●●●●●●, XS2L06●A340
Product certifications			UL, CSA, CE	
Connection *(1)*	Connector		M8 on **XS1●●●●●●●●S** and M12 on **XS1●●●●●●●●D**	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 4	**mm**	**0…0.8 (brass), 0…0.6 (stainless steel)**	
	Ø 5	**mm**	**0…0.8 (brass), 0…0.6 (stainless steel)**	
	Ø 6.5 non flush mountable	**mm**	**0…2 (stainless steel)**	
Degree of protection	Conforming to IEC 60529		IP 67	
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 70	
Materials	Case		Nickel plated brass or stainless steel 303	
	Cable		PvR 3 x 0.11 mm² or 4 x 0.08 mm²	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing ports at 90°	Yellow LED, annular
Rated supply voltage		**V**	⎓ 5…24 for **XS1L04●●●●●●** and **XS1N05●●●●●●** ⎓ 12…24 for **XS2L06●●●●●●**	
Voltage limits (including ripple)		**V**	⎓ 5…30 for **XS1L04●●●●●●** and **XS1N05●●●●●●** ⎓ 10…38 for **XS2L06●●●●●●**	
Current consumption, no-load		**mA**	⩽ 10	
Switching capacity	3-wire PNP/NPN	**mA**	⩽ 100 with overload and short-circuit protection ⩽ 200 for **XS2L06** with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Maximum switching frequency		**kHz**	5	
Delays	First-up	**ms**	⩽ 5	
	Response	**ms**	⩽ 0.1	
	Recovery	**ms**	⩽ 0.1	

(1) Detection curves, see page 126

Wiring schemes

Connector

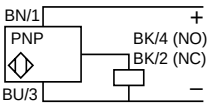
M8 M12



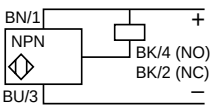
Pre-cabled

BU: Blue
BN: Brown
BK: Black
WH: White

PNP 3-wire



NPN 3-wire

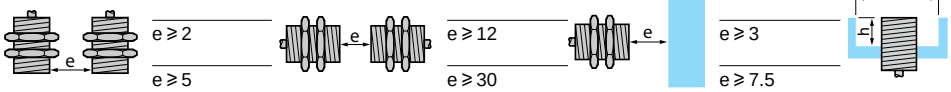


For M8 connector, NO and NC outputs on terminal 4.

Setting-up

Minimum mounting distances (mm)

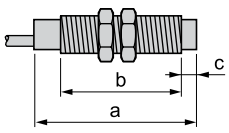
Sensor	Side by side		Face to face		Facing a metal object			
Ø 4	e ⩾ 2		e ⩾ 12		e ⩾ 3	d1	h	d1 ⩾ 4, h ⩾ 0
Ø 5	e ⩾ 2		e ⩾ 12		e ⩾ 3			d1 ⩾ 5, h ⩾ 0
Ø 6.5	e ⩾ 5		e ⩾ 30		e ⩾ 7.5			d1 ⩾ 10, h ⩾ 4



Tightening torque

Stainless steel: 2.2 N.m. Brass: 1.6 N.m (values obtained with washers mounted)

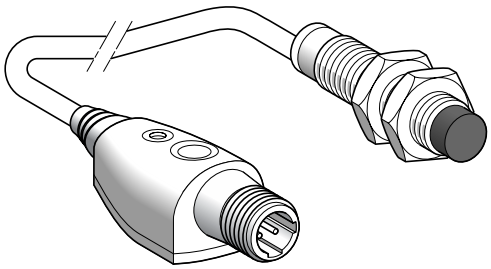
Dimensions



Sensor	Pre-cabled			M8 connector			M12 connector		
	a	b	c	a	b	c	a	b	c
Ø 4	28	–	–	42	–	–	–	–	–
Ø 5	28	24	–	42	24	–	–	–	–
Ø 6.5	33	–	4	46	–	4	49	–	4

Inductive proximity sensors
OsiSense XS Application
Adjustable range sensors
Cylindrical, flush mountable and non flush mountable
Three-wire DC, solid-state output

520030



XS6●●B2●●L01M12

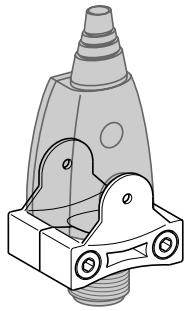
Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
5	NO	PNP	Remote M12 connector on 0.15 m flying lead	**XS612B2PAL01M12**	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	**XS612B2NAL01M12**	0.100
	NC	PNP	Remote M12 connector on 0.15 m flying lead	**XS612B2PBL01M12**	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	**XS612B2NBL01M12**	0.100

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
9	NO	PNP	Remote M12 connector on 0.15 m flying lead	**XS618B2PAL01M12**	0.140
		NPN	Remote M12 connector on 0.15 m flying lead	**XS618B2NAL01M12**	0.140
	NC	PNP	Remote M12 connector on 0.15 m flying lead	**XS618B2PBL01M12**	0.140
		NPN	Remote M12 connector on 0.15 m flying lead	**XS618B2NBL01M12**	0.140

520031

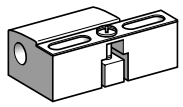


XSZBPM12

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
18	NO	PNP	Remote M12 connector on 0.15 m flying lead	**XS630B2PAL01M12**	0.220
		NPN	Remote M12 connector on 0.15 m flying lead	**XS630B2NAL01M12**	0.220
	NC	PNP	Remote M12 connector on 0.15 m flying lead	**XS630B2PBL01M12**	0.220
		NPN	Remote M12 connector on 0.15 m flying lead	**XS630B2NBL01M12**	0.220

825994



XSZB●●●

Accessories *(1)*

Description		Reference	Weight kg
Remote control fixing clamp		**XSZBPM12**	0.015
Sensor fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

(1) For further information, see page 122.

Inductive proximity sensors
OsiSense XS Application
Adjustable range sensors
Cylindrical, flush mountable and non flush mountable
Three-wire DC, solid-state output

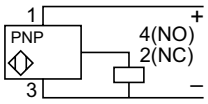
Characteristics

Sensor type				XS6●●B2●●L01M12
Product certifications				UL, CSA, CE
Connection	Connector			Remote M12 connector on 0.15 m flying lead
Sensing distance and adjustment zone	Ø 12	Nominal sensing distance (Sn)	**mm**	**0…5** non flush mounted / **0…3.4** flush mounted
		Precision adjustment zone	**mm**	**1.7…5** non flush mounted / **1.7…3.4** flush mounted
	Ø 18	Nominal sensing distance (Sn)	**mm**	**0…9** non flush mounted / **0…6** flush mounted
		Precision adjustment zone	**mm**	**3…9** non flush mounted / **3…6** flush mounted
	Ø 30	Nominal sensing distance (Sn)	**mm**	**0…18** non flush mounted / **0…11** flush mounted
		Precision adjustment zone	**mm**	**6…18** non flush mounted / **6…11** flush mounted
Differential travel			**%**	**1...15** of effective sensing distance (Sr)
Degree of protection	Conforming to IEC 60529			IP 67, ⧈
Storage temperature			**°C**	- 40…+ 85
Operating temperature			**°C**	- 25…+ 70
Materials	Case			Nickel plated brass
	Remote control			PBT
	Cable			PvR - Ø 4.2 mm
Vibration resistance	Conforming to IEC 60068-2-6			25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)
Shock resistance	Conforming to IEC 60068-2-27			50 gn, duration 11 ms
Indicators	Output state			Yellow LED
	Supply on and teach mode			Green LED
Rated supply voltage			**V**	⎓ 12…24 with protection against reverse polarity
Voltage limits (including ripple)			**V**	⎓ 10…36
Switching capacity			**mA**	≤ 100 with overload and short-circuit protection
Voltage drop, closed state			**V**	≤ 2
Current consumption, no-load			**mA**	≤ 10
Maximum switching frequency			**Hz**	1000
Delays	First-up		**ms**	≤ 10
	Response		**ms**	≤ 0.3
	Recovery		**ms**	≤ 0.7

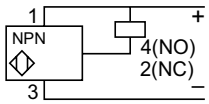
Wiring schemes

Connector

PNP

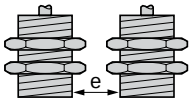


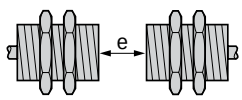
NPN

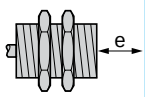


Setting-up

Minimum mounting distances (mm)



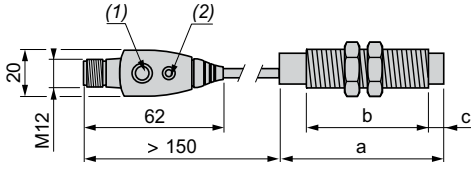




	Side by side		Face to face		Facing a metal object
	flush mounted	not flush mounted	flush mounted	not flush mounted	
Ø 12	e ≥ 14	50	e ≥ 50	100	e ≥ 3.4
Ø 18	e ≥ 28	100	e ≥ 100	200	e ≥ 6
Ø 30	e ≥ 48	180	e ≥ 180	360	e ≥ 11

Dimensions

XS6



(1) Teach mode button
(2) LED

Connector (mm)			
	a	b	c
Ø 12	59	42	5
Ø 18	64	44	8
Ø 30	62.6	41	13

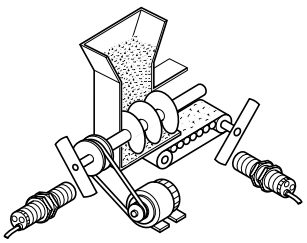
Inductive proximity sensors

OsiSense XS Application

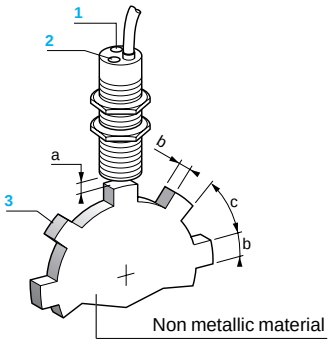
Sensors for rotation monitoring, slip detection, shaft overload detection
Cylindrical form

Example:
Coupling breakage monitoring

822138



DF602242



Functions

These self-contained rotation speed monitoring sensors have the special feature of incorporating, in the same case, the pulse sensing and processing electronics as well as the output switching amplifier that are required to establish an integrated rotation monitoring device.

The unit provides an economical solution for detecting slip, belt breakage, drive shaft shear and overloading, etc., in the following applications: conveyor belts, bucket elevators, Archemedian screws, grinders, crushers, pumps, centrifugal driers, mixers, etc.

Operating principle

The output signal of this type of sensor is processed by an impulse comparator incorporated in the sensor. The impulse frequency Fc generated by the moving part to be monitored is compared to the frequency Fr preset on the sensor. The output switching circuit of the sensor is in the closed state for Fc > Fr and the open state for Fc < Fr.

Sensors XSAV are particularly suitable for the detection of underspeed: when the speed of the moving part Fc falls below a preset threshold Fr, this causes the output circuit of the sensor to switch off.

***Note:** Following power-up, the operational status of the sensor is subject to a delay of 9 seconds in order for the moving part being monitored to run-up to its nominal speed. During this time, the output of the sensor remains in the closed state.*

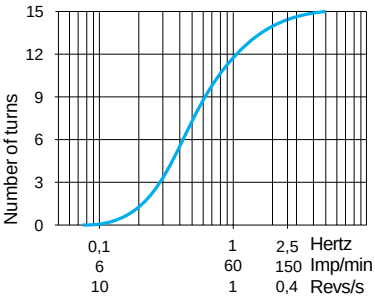
Adjustment of frequency threshold

- Adjustment of sensor's frequency threshold: using potentiometer, 15 turns approximately.
- To increase the frequency threshold: turn the adjustment screw clockwise (+).
- To decrease the frequency threshold: turn the adjustment screw anti-clockwise (–).

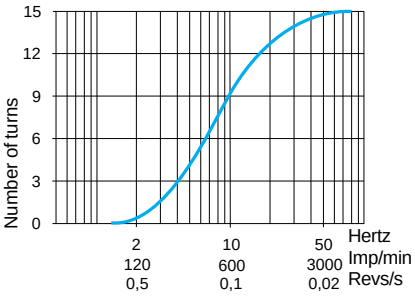
	Diameter of sensor		
	a	b	c
1: Potentiometer			
2: LED			
3: Metal target	M30 4…6 mm	30 mm	60 mm

Potentiometer adjustment curves (for **XSAV1●801**, 2-wire ∿ or ⎓ sensors)

Low speed version (6…150 impulses/minute)



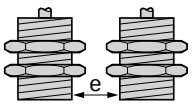
High speed version (120…3000 impulses/minute)



Setting-up

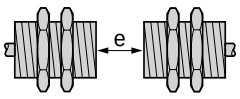
Minimum distances (mm)

Side by side



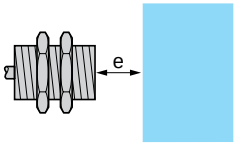
e ≥ 20

Face to face



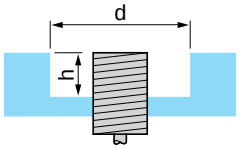
e ≥ 120

Facing a metal object



e ≥ 30

Mounted in a metal support

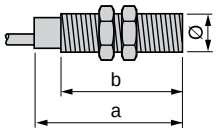


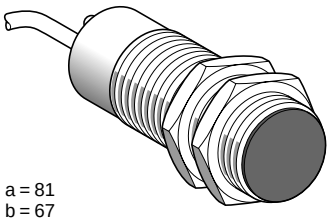
d ≥ 30, h ≥ 0

Fixing nut tightening torque: < 50 N.m

Inductive proximity sensors
OsiSense XS Application
Sensors for rotation monitoring, slip detection, shaft overload detection
Cylindrical form

Flush mountable in metal





Lengths (mm):
a = Overall
b = Threaded section

a = 81
b = 67
Ø = M30

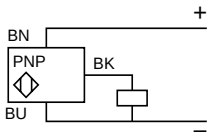
		DC	DC	AC/DC	AC/DC
Nominal sensing distance (Sn)		10 mm	10 mm	10 mm	10 mm
Adjustable frequency range		6…150 impulses/min	120…3000 impulses/min	6…150 impulses/min	120…3000 impulses/min
References					
3-wire ⎓	**PNP / NC**	**XSAV11373**	**XSAV12373**	–	–
2-wire	**⎓ or ∿ / NC**	–	–	**XSAV11801**	**XSAV12801**
Weight (kg)		0.300			

Characteristics

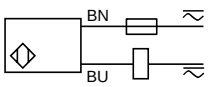
Connection	**Pre-cabled, 3 x 0.34 mm², length 2 m** *(1)*	**Pre-cabled, 2 x 0.34 mm², length 2 m** *(1)*
Degree of protection conforming to IEC 60529	IP 67	
Operating zone	0…8 mm	
Repeat accuracy	3 % of Sr	
Differential travel	3…15 % of Fr	
Operating temperature	- 25…+ 70 °C	
Output state indication	Red LED	
Rated supply voltage	**⎓ 12…48 V with protection against reverse polarity**	**∿ 24…240 V (50/60 Hz) or ⎓ 24…210 V**
Voltage limits (including ripple)	⎓ 10…58 V	∿ or ⎓ 20…264 V
Switching capacity	**≤ 200 mA with overload and short-circuit protection**	**∿ 5…350 mA or ⎓ 5…200 mA** *(2)*
Voltage drop, closed state	≤ 1.8 V	≤ 5.7 V
Residual current, open state	–	≤ 1.5 mA
Current consumption, no-load	≤ 15 mA	–
Maximum switching frequency	6000 impulses/min (for **XSAV11●●●**); 48,000 impulses/min (for **XSAV12●●●**)	
"Run-up" delay following power-up	9 seconds ± 20 % + 1/Fr (3)	

Wiring schemes

3-wire ⎓
XSAV1●373



2-wire ∿ or ⎓
XSAV1●801



(1) For a 5 m long cable add L05 to the reference, for a 10 m long cable add L10 to the reference.
*Example: XSAV11373 becomes **XSAV11373L05** with a 5 m long cable.*
(2) These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a 0.4 A "quick-blow" fuse in series with the load, see page 122.
*(3) For a sensor without a "run-up" delay following power-up, replace XSAV1 in the reference by XSAV0. Example: XSAV11801 becomes **XSAV01801** without a "run-up" delay. For a reduced "run-up" delay of 3 s, replace XSAV1 in the reference by XSAV3.*

Accessories:
page 122

Inductive proximity sensors

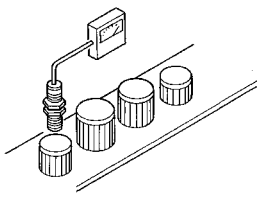
OsiSense XS Application

Sensors with analogue output signal 0...10 V *(1)* or 4…20 mA

For position, displacement and deformation control/monitoring

Functions

Example:
Sorting parts



These analogue output proximity sensors are solid-state sensors designed for monitoring displacement. They are not measuring sensors. They are suitable for use in many sectors, particularly for applications involving:

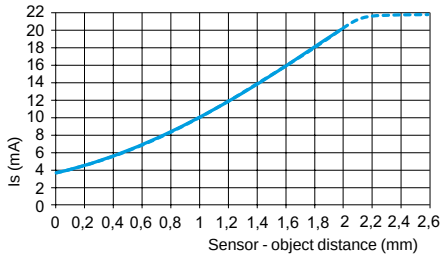
- deformation and displacement monitoring,
- vibration amplitude and frequency monitoring,
- control of dimensional tolerances,
- position control,
- concentricity or eccentricity monitoring.

Operating principle

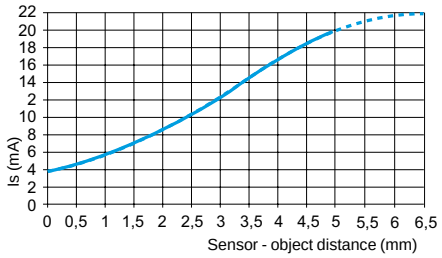
The operating principle of the sensor is that of a damped oscillator. The degree of damping will depend on the distance of an object from the sensing face. The sensor will sense the distance and produce an output current with a value directly proportional to this distance.

Output curves 4..0.20 mA, 2-wire connection

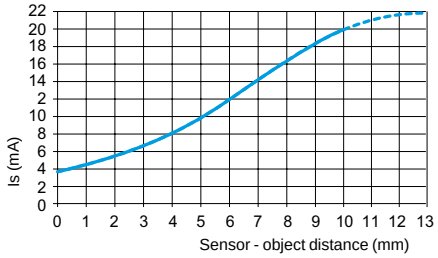
XS1M12AB120
Sn = 0.2…2 mm **Ø 12 mm**



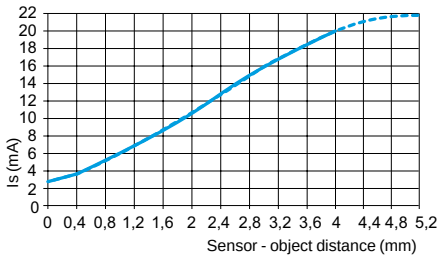
XS1M18AB120
Sn = 0.5…5 mm **Ø 18 mm**



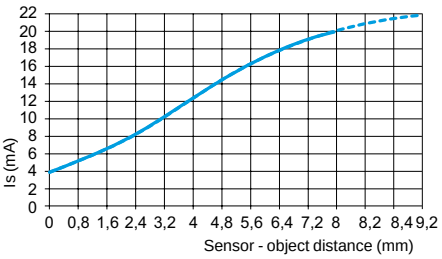
XS1M30AB120
Sn = 1…10 mm **Ø 30 mm**



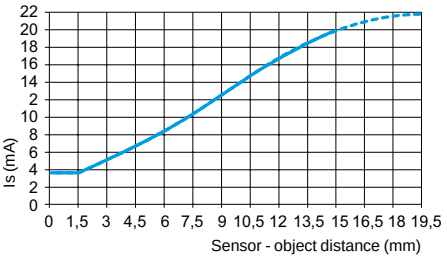
XS4P12AB120
Sn = 0.4…4 mm **Ø 12 mm**



XS4P18AB120
Sn = 0.8…8 mm **Ø 18 mm**

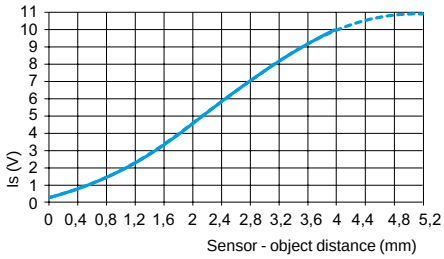


XS4P30AB120
Sn = 1.5…15 mm **Ø 30 mm**

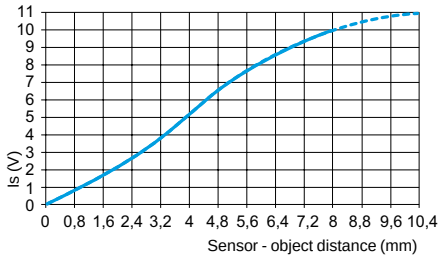


Output curves 0...10 V, 3-wire connection

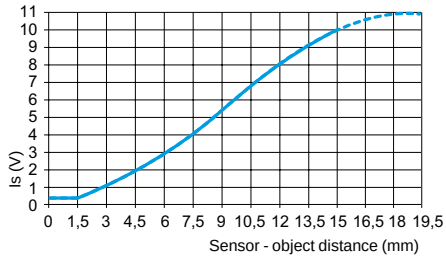
XS4P12AB110
Sn = 0.4…4 mm **Ø 12 mm**



XS4P18AB110
Sn = 0.8…8 mm **Ø 18 mm**

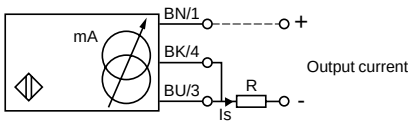


XS4P30AB110
Sn = 1.5…15 mm **Ø 30 mm**



Wiring schemes

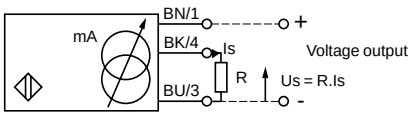
2-wire connection



	Output current	Load impedance value
12 V	4…20 mA	R ⩽ 8.2 Ω
24 V	4…20 mA	R ⩽ 470 Ω

Ensure a minimum of 10 V between the + and the - (terminal 3) of the sensor.

3-wire connection



	Output current	Load impedance value	Output voltage	Load impedance value
24 V	0…10 mA	R ⩽ 1500 Ω	0…10 V	R = 1000 Ω
48 V	0…10 mA	R ⩽ 3300 Ω	0…10 V	R = 1000 Ω

Ensure a minimum of 5 V between the + and the sensor output (terminal 4).

(1) Voltage range only obtained with a load impedance of 1000 Ω.

References:
pages 85 to 87

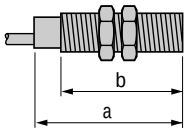
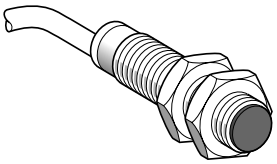
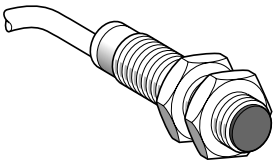
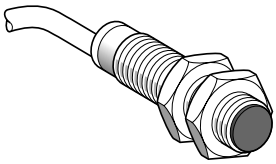
Characteristics:
pages 85 to 87

Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 0...10 V *(1)* or 4…20 mA

For position, displacement and deformation control/monitoring

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section	a = 50 b = 42	a = 50 b = 42	a = 54 b = 42
	Metal case	**Plastic case**	**Plastic case**
Nominal sensing distance (Sn)	2 mm	4 mm	4 mm

References

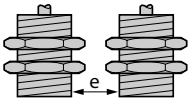
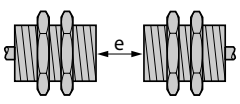
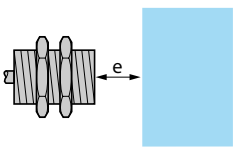
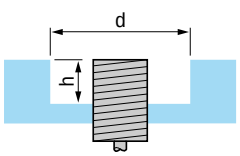
3-wire ⎓	Output 0…10 V *(2)*	–	–	**XS4P12AB110**
2-wire ⎓	Output 4…20 mA *(2)*	**XS1M12AB120**	**XS4P12AB120**	–
Weight (kg)		0.075	0.065	0.065

Characteristics

Product certifications	CE, UL, CSA		
Connection	**Pre-cabled, PvR 3 x 0.34 mm², length 2 m**		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	**0.2…2 mm**	**0.4…4 mm**	**0.4…4 mm**
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25…+ 70 °C		
Rated supply voltage	⎓ **12...24 V**	⎓ **12...24 V**	⎓ **24…48 V**
Voltage limits (including ripple)	⎓ 10…36 V	⎓ 10…36 V	⎓ 15…58 V
Output current drift Ambient temperature: - 25…+ 70 °C	⩽ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	1500 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.
(2) Output current range Is, see page 84.

Setting-up

Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M12AB120 flush mountable	e ⩾ 4	e ⩾ 24	e ⩾ 6	d ⩾ 12, h ⩾ 0
XS4P12AB110 non flush mountable	e ⩾ 16	e ⩾ 48	e ⩾ 12	d ⩾ 36, h ⩾ 8
XS4P12AB120 non flush mountable	e ⩾ 16	e ⩾ 48	e ⩾ 12	d ⩾ 36, h ⩾ 8

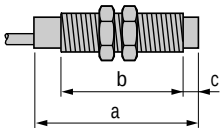
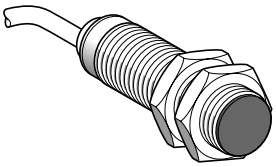
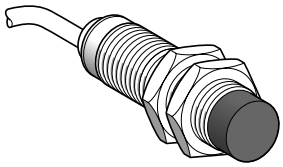
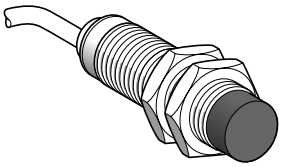
Fixing nut tightening torque	< 6 N.m (metal case), < 2 N.m (plastic case)
Other versions	Please consult our Customer Care Centre.

Accessories: page 122
Functions: page 84

Inductive proximity sensors

OsiSense Application

Sensors with analogue output signal 0...10 V *(1)* or 4…20 mA

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section c = For non flush mountable sensors	a = 53 b = 44 c = 0	a = 41 b = 26 c = 8	a = 41 b = 26 c = 8
	Metal case	**Plastic case**	**Plastic case**
Nominal sensing distance (Sn)	5 mm	8 mm	8 mm

References

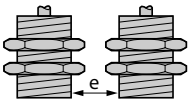
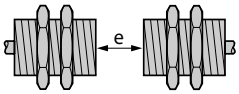
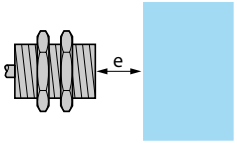
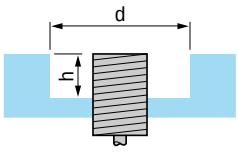
3-wire ⎓	Output 0…10 V *(2)*	–	–	**XS4P18AB110**
2-wire ⎓	Output 4…20 mA *(2)*	**XS1M18AB120**	**XS4P18AB120**	–
Weight (kg)		0.120	0.080	0.080

Characteristics

Product certifications	CE, UL, CSA		
Connection	**Pre-cabled, PvR 3 x 0.34 mm², length 2 m**		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	**0.5…5 mm**	**0.8…8 mm**	**0.8…8 mm**
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25…+ 70 °C		
Rated supply voltage	⎓ **12...24 V**	⎓ **12...24 V**	⎓ **24…48 V**
Voltage limits (including ripple)	⎓ 10…36 V	⎓ 10…36 V	⎓ 15…58 V
Output current drift Ambient temperature: - 25…+ 70 °C	⩽ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	500 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.
(2) Output current range Is, see page 84.

Setting-up

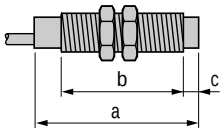
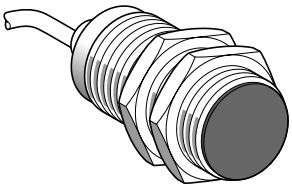
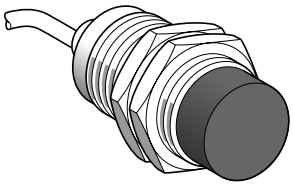
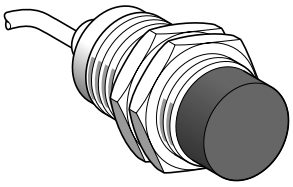
Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M18AB120 flush mountable	e ⩾ 10	e ⩾ 60	e ⩾ 15	d ⩾ 18, h ⩾ 0
XS4P18AB110 non flush mountable	e ⩾ 32	e ⩾ 96	e ⩾ 24	d ⩾ 54, h ⩾ 16
XS4P18AB120 non flush mountable	e ⩾ 32	e ⩾ 96	e ⩾ 24	d ⩾ 54, h ⩾ 16

Fixing nut tightening torque	< 15 N.m (metal case), < 5 N.m (plastic case)
Other versions	Please consult our Customer Care Centre.

Accessories:
page 122

Schemes:
page 84

Inductive proximity sensors
OsiSense Application
Sensors with analogue output signal 0...10 V *(1)* or 4…20 mA

Sensor	Flush mountable in metal	Non flush mountable in metal	
			
Lengths (mm): a = Overall b = Threaded section c = For non flush mountable sensors	a = 50 b = 42 c = 0	a = 53 b = 32 c = 13	a = 53 b = 32 c = 13
	Metal case	**Plastic case**	**Plastic case**
Nominal sensing distance (Sn)	10 mm	15 mm	15 mm

References

3-wire ⎓	Output 0…10 V *(2)*	–	–	**XS4P30AB110**
2-wire ⎓	Output 4…20 mA *(2)*	**XS1M30AB120**	**XS4P30AB120**	–
Weight (kg)		0.200	0.100	0.100

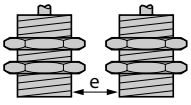
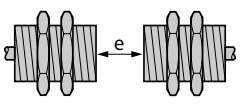
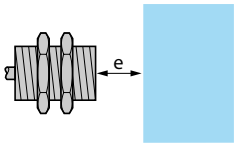
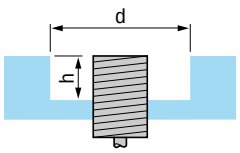
Characteristics

Product certifications	CE, UL, CSA		
Connection	**Pre-cabled, PvR 3 x 0.34 mm², length 2 m**		
Degree of protection Conforming to IEC 60529	IP 67		
Operating zone	**1…10 mm**	**1.5…15 mm**	**1.5…15 mm**
Repeat accuracy	± 3 %		
Linearity error	± 2 mA		± 1 V
Ambient air temperature	For operation: - 25…+ 70 °C		
Rated supply voltage	⎓ **12...24 V**	⎓ **12...24 V**	⎓ **24…48 V**
Voltage limits (including ripple)	⎓ 10…36 V	⎓ 10…36 V	⎓ 15…58 V
Output current drift Ambient temperature: - 25…+ 70 °C	≤ 10 %		
Current consumption, no-load	4 mA		
Maximum operating rate	300 Hz		

(1) Voltage range only obtained with a load impedance of 1000 Ω.
(2) Output current range Is, see page 84.

Setting-up

Minimum mounting distances (mm)

	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M30AB120 flush mountable	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30, h ≥ 0
XS4P30AB110 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90, h ≥ 30
XS4P30AB120 non flush mountable	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90, h ≥ 30

Fixing nut tightening torque	< 40 N.m (metal case), < 20 N.m (plastic case)
Other versions	Please consult our Customer Care Centre.

Accessories: page 122
Schemes: page 84

Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 0…10 V *(1)*
For position, displacement and deformation control/monitoring

Functions

These analogue output proximity sensors are solid-state sensors designed for monitoring displacement. They are not measuring sensors.

They are suitable for use in many sectors, particularly for applications involving:

- deformation and displacement monitoring,
- vibration amplitude and frequency monitoring,
- control of dimensional tolerances,
- position control,
- concentricity or eccentricity monitoring.

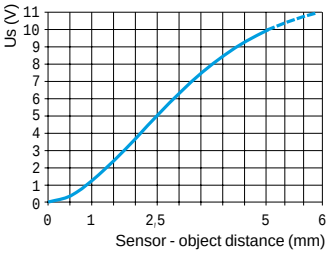
Operating principle

The operating principle of the sensor is that of a damped oscillator. The degree of damping will depend on the distance of an object from the sensing face. The sensor will sense the distance and produce an output current with a value directly proportional to this distance.

Output curves 0…10 V, 3-wire connection

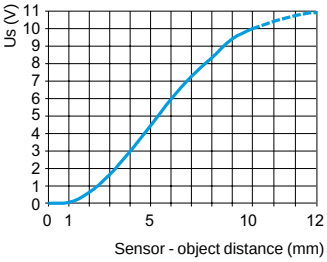
XS9F

Sn = 1…5 mm



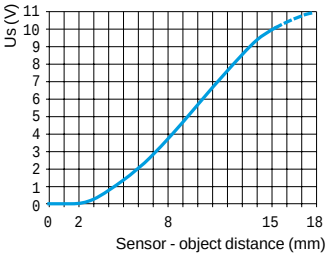
XS9E

Sn = 1…10 mm



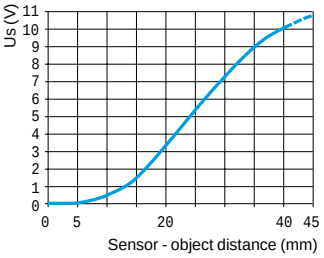
XS9C

Sn = 2…15 mm



XS9D

Sn = 5…40 mm



Wiring schemes

Connector

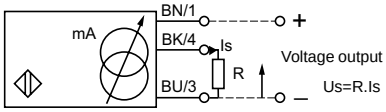
M8

M12

Pre-cabled

BN: Brown
BU: Blue
BK: Black

3-wire connection



	Output current	Load impedance value	Output voltage	Load impedance value
24 V	0…10 mA	R ≤ 1400 Ω	0…10 V	R = 1000 Ω

Note: *Ensure a minimum of 5 V between the + (terminal 1) and the sensor output (terminal 4).*

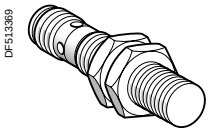
(1) Voltage range only obtained with a load impedance of 1000 Ω.

Inductive proximity sensors

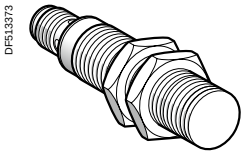
OsiSense XS Application

Cylindrical, stainless steel 316L front face
for food and beverage applications and harsh industrial environments. Three-wire DC, solid-state output

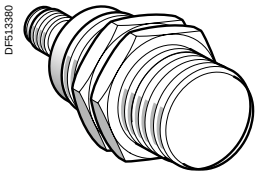
ECOLAB certified



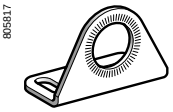
XS912●1PAM12



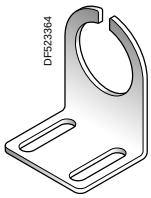
XS918●1PAM12



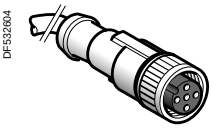
XS930●1PAM12



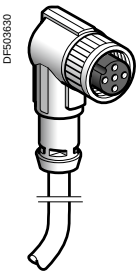
XUZA118



XSZBS30



XZCP1141L●



XZCP1241L●

Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
6	NO	PNP	M12	**XS912S1PAM12**	0.024
Three-wire 12-24V ⎓, non flush mountable					
10	NO	PNP	M12	**XS912S4PAM12**	0.023

Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
10	NO	PNP	M12	**XS918S1PAM12**	0.051
Three-wire 12-24V ⎓, non flush mountable					
20	NO	PNP	M12	**XS918S4PAM12**	0.051

Ø 30 mm, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
20	NO	PNP	M12	**XS930S1PAM12**	0.140
Three-wire 12-24V ⎓, non flush mountable					
40	NO	PNP	M12	**XS930S4PAM12**	0.145

Accessories

Description	For use with sensor	Reference	Weight kg
Stainless steel mounting bracket	Ø 12	**XSZBS12**	0.090
	Ø 18	**XUZA118**	0.190
	Ø 30	**XSZBS30**	0.370

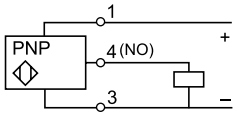
Connecting cables (PVC) *(1)*

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Stainless steel clamping ring	Straight	2	**XZCPA1141L2**	0.090
		5	**XZCPA1141L5**	0.190
		10	**XZCPA1141L10**	0.370
	Elbowed	2	**XZCPA1241L2**	0.090
		5	**XZCPA1241L5**	0.190
		10	**XZCPA1241L10**	0.370

Wiring schemes

M12 connector

PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ" on our site www.tesensors.com.

Inductive proximity sensors

OsiSense XS Application

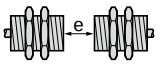
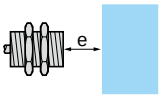
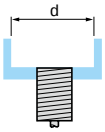
Cylindrical, stainless steel 316L front face
for food and beverage applications and harsh industrial environments. Three-wire DC, solid-state output

Characteristics

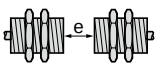
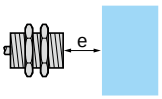
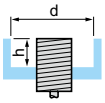
Sensor type	Flush		XS912S1PAM12	XS918S1PAM12	XS930S1PAM12
	Non flush		XS912S4PAM12	XS918S4PAM12	XS930S4PAM12
Product certifications			CE, cULus, ECOLAB		
Connection	Connector		M12		
Operating zone	Flush	mm	0…4.8	0…8	0…16
	Non flush	mm	0…8	0…16	0…32
Differential travel		%	1…15 (real sensing distance Sr)		
Degree of protection	Conforming to IEC 60529		IP 68 (5 meters underwater for 1 month)		
	Conforming to DIN 40050		IP 69K		
Storage temperature		°C	-25…+ 85 (-13…185°F)		
Operating temperature		°C	-25…+ 85 (-13…185°F)		
Materials	Case		Stainless steel 316L		
Front face thickness		mm	0.4	0.6	1.0
Mechanical shock resistance	Conforming to EN 50102		IK10		
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms		
Output state indication			Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)		
Rated supply voltage		V	⎓ 12…24 with protection against reverse polarity		
Voltage limits (including ripple)		V	⎓ 10…30		
Switching capacity		mA	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		V	≤ 2		
Current consumption, no-load		mA	≤ 10		
Maximum switching frequency	Flush	Hz	600	300	100
	Non flush	Hz	400	200	90
Delays	First set-up	ms	40		
	Response	µs	0.06		
	Recovery	µs	15		

Setting-up

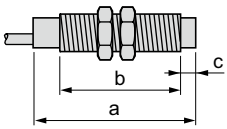
Minimum mounting distances in mm, flush version

Side by side		Face to face		Facing a metal object		Mounted in a metal support	
Ø 12	e ≥ 38	e ≥ 30		e ≥ 20		d ≥ 24	
Ø 18	e ≥ 42	e ≥ 40		e ≥ 30		d ≥ 50	
Ø 30	e ≥ 80	e ≥ 70		e ≥ 60		d ≥ 90	

Minimum mounting distances in mm, non flush version

Side by side		Face to face		Facing a metal object		Mounted in a metal support		
Ø 12	e ≥ 108	e ≥ 40		e ≥ 30		d ≥ 30	h ≥ 22	
Ø 18	e ≥ 182	e ≥ 70		e ≥ 60		d ≥ 60	h ≥ 34	
Ø 30	e ≥ 270	e ≥ 130		e ≥ 120		d ≥ 120	h ≥ 34	

Dimensions



Lengths (mm):
a = overall
b = threaded
c = for non flush mountable sensors

	Flush sensor			Non flush sensor		
	M12	M18	M30	M12	M18	M30
a (mm)	60	63.5	63.5	60	63.5	63.5
b (mm)	41	42	42	36	35	32
c (mm)	0	0	0	5	7	10

Reduction coefficient

Flush-non mounted

		Flush sensor			Non flush sensor		
		M12	M18	M30	M12	M18	M30
Steel		1	1	1	1	1	1
Aluminum		1	1	1	1	1	1
Brass		1.3	1.2	1.3	1.4	1.35	1.2
Cupper		0.85	0.8	0.9	0.8	0.9	0.9
Stainless steel	Thickness 1 mm	0.5	0.5	0.35	*(1)*	0.3	*(1)*
	Thickness 2 mm	0.9	0.9	0.7	0.66	0.6	0.25

Flush mounted

	M12	M18	M30
Steel	0.7	0.75	0.9
Aluminum	1.15	0.9	0.7
Brass	1.05	0.75	0.6
Stainless steel	0.8	0.8	1.3

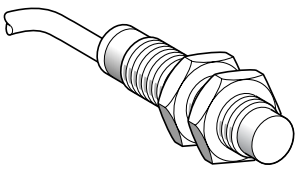
(1) No detection.

Inductive proximity sensors

OsiSense XS Application, food and beverage processing series

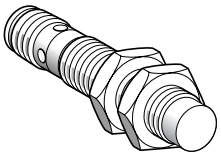
Cylindrical, stainless steel, non flush mountable
Three-wire DC, solid-state output

DF532016



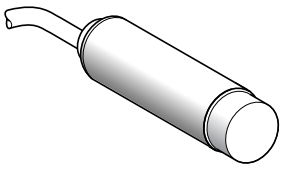
XS2●●SA●●L2

DF532015



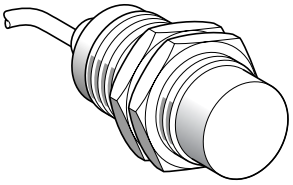
XS2●●SA●●M12

534440



XS2L2SA●●L2

822116

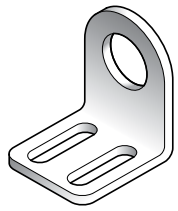


XS230SA●●L2

503663

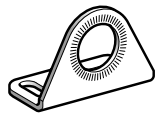
XUZB2005

523363



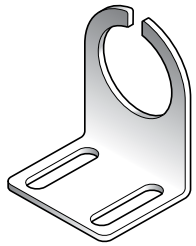
XSZBS12

805817



XUZA118

523364



XSZBS30

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS212SAPAL2**	0.075
			M12 connector	**XS212SAPAM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS212SANAL2**	0.075
			M12 connector	**XS212SANAM12**	0.035

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS218SAPAL2**	0.120
			M12 connector	**XS218SAPAM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS218SANAL2**	0.120
			M12 connector	**XS218SANAM12**	0.060

Ø 18, plain

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS2L2SAPAL2**	0.120
			M12 connector	**XS2L2SAPAM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS2L2SANAL2**	0.120
			M12 connector	**XS2L2SANAM12**	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS230SAPAL2**	0.205
			M12 connector	**XS230SAPAM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS230SANAL2**	0.205
			M12 connector	**XS230SANAM12**	0.145

Accessories *(2)*

Description	For use with	Reference	Weight kg
Plastic fixing clamp, 24.1 mm centres, with locking screw	Ø 18 sensor, plain case	**XUZB2005**	0.007
Stainless steel fixing bracket	Ø 12 sensor	**XSZBS12**	0.060
	Ø 18 sensor	**XUZA118**	0.045
	Ø 30 sensor	**XSZBS30**	0.080

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	**XZCPA1141L2**	0.090
		5	**XZCPA1141L5**	0.210
		10	**XZCPA1141L10**	0.410
	Elbowed	2	**XZCPA1241L2**	0.090
		5	**XZCPA1241L5**	0.210
		10	**XZCPA1241L10**	0.410
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	**XZCRA151140A2**	0.095
		5	**XZCRA151140A5**	0.200

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: **XS212SAPAL2** becomes **XS212SAPAL5** with a 5 m long cable.*
(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS Application, food and beverage processing series

Cylindrical, stainless steel, non flush mountable

Three-wire DC, solid-state output

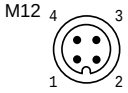
Characteristics

Sensor type			XS2●●SA●●M12	XS2●●SA●●L2
Product certifications/approvals			UL, CSA, CE	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 12	**mm**	**0…5.6**	
	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0…17.6**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation ⧈
	DIN 40050		IP 69K	
Storage temperature		**°C**	- 40…+ 85 *(1)*	
Operating temperature		**°C**	- 25…+ 85	
Materials	Case		Stainless steel 316 L	
	Cable		–	Non-poisonous PVC, 3 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…36	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	**XS212SA●●●●**	**Hz**	2500	
	XS218SA●●●● and **XS2L2●●●●**	**Hz**	1000	
	XS230SA●●●●	**Hz**	500	
Delays	First-up	**ms**	⩽ 10	
	Response	**ms**	⩽ 0.2 Ø 12, ⩽ 0.3 Ø 18, ⩽ 0.6 Ø 30	
	Recovery	**ms**	⩽ 0.2 Ø 12, ⩽ 0.7 Ø 18, ⩽ 1.4 Ø 30	

(1) + 100 °C for cleaning and sterilization phases whilst not in service.

Wiring schemes

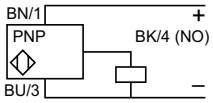
Connector



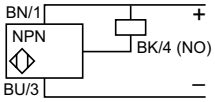
Pre-cabled

BU: Blue
BN: Brown
BK: Black

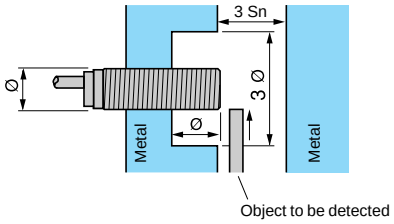
PNP



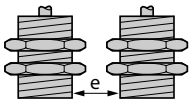
NPN

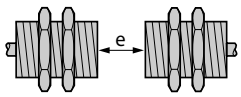


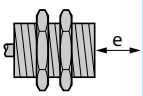
Setting-up



Minimum mounting distances (mm)



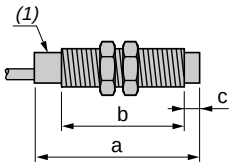




	Side by side	Face to face	Facing a metal object
Ø 12	e ⩾ 48	e ⩾ 84	e ⩾ 21
Ø 18	e ⩾ 72	e ⩾ 144	e ⩾ 36
Ø 30	e ⩾ 120	e ⩾ 264	e ⩾ 66

Dimensions

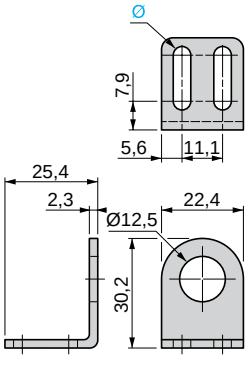
XS2



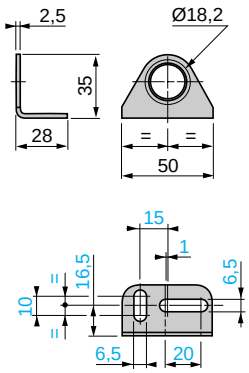
(1) LED

XS2	Pre-cabled (mm) a	Pre-cabled (mm) b	Connector (mm) a	Connector (mm) b	Connector (mm) c
Ø 12	54.5	38	61	37	5
Ø 18	60	40	70	42	8
Ø 30	62.5	41	70	36	13

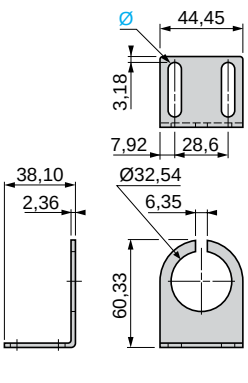
XSZBS12



XUZA118



XSZBS30



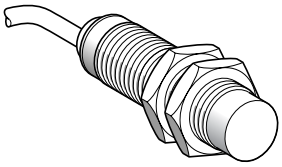
Ø: 2 elongated holes Ø 4.8 x 12.7

Inductive proximity sensors

OsiSense Application, food and beverage processing series

Cylindrical, stainless steel, non flush mountable Two-wire AC or DC

523361

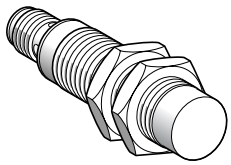


XS218SAM●L2

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) *(1)*	**XS218SAMAL2**	0.120
		1/2"-20UNF connector	**XS218SAMAU20**	0.060

523362

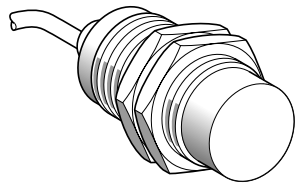


XS218SAM●U20

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
22	NO	Pre-cabled (L = 2 m) *(1)*	**XS230SAMAL2**	0.205
		1/2"-20UNF connector	**XS230SAMAU20**	0.145

523218

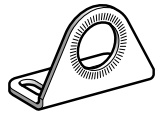


XS230SAM●L2

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired connectors 1/2"-20UNF 3-pin female, stainless steel clamping ring	Straight	5	**XZCPA1865L5**	0.210
		10	**XZCPA1865L10**	0.410
	Elbowed	5	**XZCPA1965L5**	0.250
		10	**XZCPA1965L10**	0.485

806817

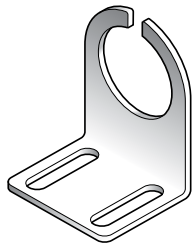


XUZA118

Accessories

Description	For use with	Reference	Weight kg
Stainless steel fixing brackets	Ø 18 sensor	**XUZA118**	0.045
	Ø 30 sensor	**XSZBS30**	0.080

523364



XSZBS30

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: **XS218SAMAL2** becomes **XS218SAMAL5** with a 5 m long cable.*

Inductive proximity sensors

OsiSense Application, food and beverage processing series

Cylindrical, stainless steel, non flush mountable
Two-wire AC or DC

Characteristics

Sensor type			XS2●●SAM●U20	XS2●●SAM●L2
Product certifications/approvals			UL, CSA, CE	
Connection	Connector		1/2"-20UNF	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0...17.6**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation ⧈
	DIN 40050		IP 69K	
Storage temperature		**°C**	- 40…+ 85 *(1)*	
Operating temperature		**°C**	- 25…+ 85	
Materials	Case		Stainless steel 316 L	
	Cable		–	Non-poisonous PVC, 2 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: 4 viewing ports at 90°	Yellow LED: annular
Rated supply voltage		**V**	∿ or ⎓ 24…240 (∿ 50/60 Hz)	
Voltage limits (including ripple)		**V**	∿ or ⎓ 20…264	
Switching capacity		**mA**	∿ 5…300 or ⎓ 5…200 *(2)*	
Voltage drop, closed state		**V**	≤ 5.5	
Residual current, open state		**mA**	≤ 0.8	
Maximum switching frequency	**XS218SAM●●●**	**Hz**	∿ 25 or ⎓ 1000	
	XS230SAM●●●	**Hz**	∿ 25 or ⎓ 300	
Delays	First-up	**ms**	≤ 30	
	Response	**ms**	≤ 0.5	
	Recovery	**ms**	≤ 0.5 **XS218SAM●●●**, ≤ 2 **XS230SAM●●●**	

(1) + 100 °C for cleaning and sterilization phases whilst not in service.
(2) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector

1/2"-20UNF

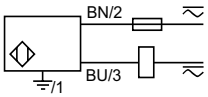
AC/DC: 2
⏚ : 1
AC/DC: 3

Pre-cabled

BU: Blue
BN: Brown

2-wire ∿ or ⎓

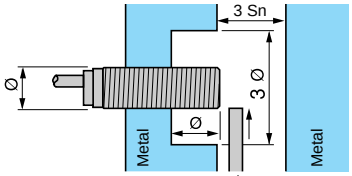
NO output

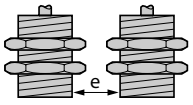


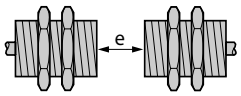
⏚: on connector models only

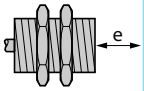
Setting-up

Minimum mounting distances (mm)





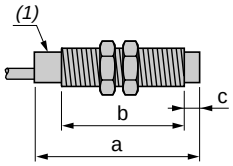




	Side by side	Face to face	Facing a metal object
Ø 18	e ≥ 72	e ≥ 144	e ≥ 36
Ø 30	e ≥ 120	e ≥ 264	e ≥ 66

Dimensions

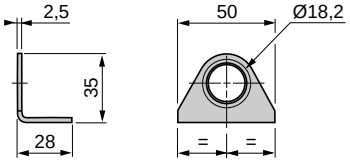
XS2

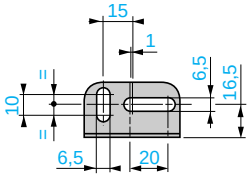


(1) LED

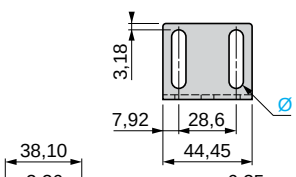
XS2	Pre-cabled (mm) a	Pre-cabled (mm) b	Connector (mm) a	Connector (mm) b	Connector (mm) c
Ø 18	60	40	72	44	8
Ø 30	62.5	41	74	40	13

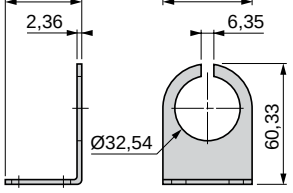
XSZA118





XSZBS30



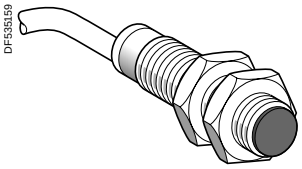


Ø: 2 elongated holes Ø 7.14 x 29.36

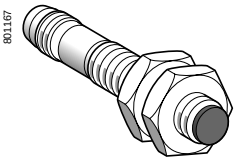
Inductive proximity sensors

OsiSense Application, food and beverage processing series

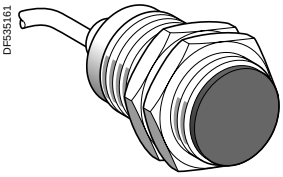
Cylindrical, plastic, non flush mountable
Three-wire DC, solid-state output



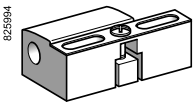
XS2●●AA●●L2



XS2●●AA●●M12



XS230AA●●L2



XSZB●●●

Ø 12, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
7	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS212AAPAL2**	0.065
			M12 connector	**XS212AAPAM12**	0.030
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS212AANAL2**	0.065
			M12 connector	**XS212AANAM12**	0.030

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
12	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS218AAPAL2**	0.100
			M12 connector	**XS218AAPAM12**	0.040
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS218AANAL2**	0.100
			M12 connector	**XS218AANAM12**	0.040

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
22	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS230AAPAL2**	0.140
			M12 connector	**XS230AAPAM12**	0.080
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS230AANAL2**	0.140
			M12 connector	**XS230AANAM12**	0.080

Accessories *(2)*

Description		Reference	Weight kg
Fixing clamps	Ø 12	**XSZB112**	0.006
	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin, stainless steel clamping ring	Straight	2	**XZCPA1141L2**	0.090
		5	**XZCPA1141L5**	0.190
		10	**XZCPA1141L10**	0.370
	Elbowed	2	**XZCPA1241L2**	0.090
		5	**XZCPA1241L5**	0.190
		10	**XZCPA1241L10**	0.370
M12 jumper cable Male, 3-pin, stainless steel clamping ring	Straight	2	**XZCRA151140A2**	0.090
		5	**XZCRA151140A5**	0.190

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: **XS212AAPAL2** becomes **XS212AAPAL5** with a 5 m long cable.*
(2) For further information, see page 122.

Inductive proximity sensors

OsiSense Application, food and beverage processing series

Cylindrical, plastic, non flush mountable

Three-wire DC, solid-state output

Characteristics

Sensor type			XS2●●AA●●M12	XS2●●AA●●L2
Product certifications/approvals			UL, CSA, CE	
Connection	Connector		M12	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 12	**mm**	**0…5.6**	
	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0…17.6**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation ⧈
	DIN 40050		IP 69K	
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 85	
Materials	Case		PPS	
	Cable		–	PvR and 3 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: annular	
Rated supply voltage		**V**	⎓ 12…48 for T - 25…+ 85 °C	
Voltage limits (including ripple)		**V**	⎓ 10…58 for T - 25…+ 85 °C	
Switching capacity		**mA**	⩽ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	⩽ 2	
Current consumption, no-load		**mA**	⩽ 10	
Maximum switching frequency	**XS212AA●●●●**	**Hz**	2500	
	XS218AA●●●●	**Hz**	1000	
	XS230AA●●●●	**Hz**	500	
Delays	First-up	**ms**	⩽ 10	
	Response	**ms**	⩽ 0.2 Ø 12, ⩽ 0.3 Ø 18, ⩽ 0.6 Ø 30	
	Recovery	**ms**	⩽ 0.2 Ø 12, ⩽ 0.7 Ø 18, ⩽ 1.4 Ø 30	

Wiring schemes

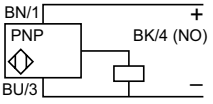
Connector

M12

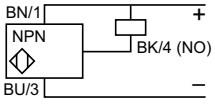
Pre-cabled

BU: Blue
BN: Brown
BK: Black

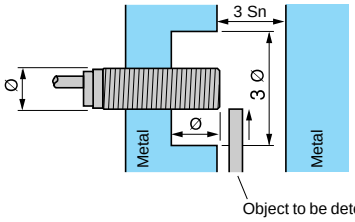
PNP



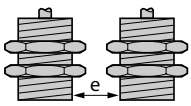
NPN

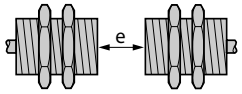


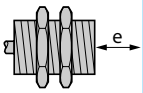
Setting-up



Minimum mounting distances (mm)

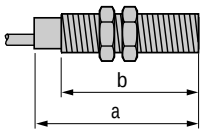






	Side by side	Face to face	Facing a metal object
Ø 12	e ⩾ 48	e ⩾ 84	e ⩾ 21
Ø 18	e ⩾ 72	e ⩾ 144	e ⩾ 36
Ø 30	e ⩾ 120	e ⩾ 264	e ⩾ 66

Dimensions



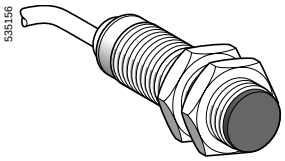
XS2

XS2	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
Ø 12	50	42	61	43
Ø 18	60	51	70	52
Ø 30	60	51	70	52

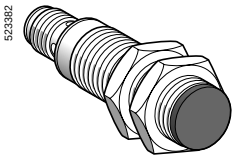
Inductive proximity sensors

OsiSense XS Application, food and beverage processing series

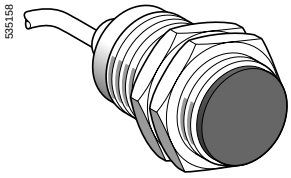
Cylindrical, plastic, non flush mountable
Two-wire AC or DC



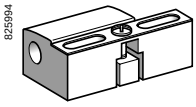
XS2●●AAM●L2



XS2●●AAM●U20



XS230AAM●L2



XSZB1●●

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) *(1)*	**XS218AAMAL2**	0.100
		1/2"-20UNF connector	**XS218AAMAU20**	0.040

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
22	NO	Pre-cabled (L = 2 m) *(1)*	**XS230AAMAL2**	0.140
		1/2"-20UNF connector	**XS230AAMAU20**	0.080

Accessories *(2)*

Description		Reference	Weight kg
Fixing clamps	Ø 18	**XSZB118**	0.010
	Ø 30	**XSZB130**	0.020

Connecting cables

Description	Type	Length m	Reference	Weight kg
Pre-wired connectors 1/2"-20UNF 3-pin female, stainless steel 316 L clamping ring	Straight	5	**XZCPA1865L5**	0.180
		10	**XZCPA1865L10**	0.350
	Elbowed	5	**XZCPA1965L5**	0.180
		10	**XZCPA1965L10**	0.350

*(1) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**.*
*Example: **XS218AAMAL2** becomes **XS218AAMAL5** with a 5 m long cable.*
(2) For further information, see page 122.

Inductive proximity sensors

OsiSense XS Application, food and beverage processing series

Cylindrical, plastic, non flush mountable
Two-wire AC or DC

Characteristics

Sensor type			XS2●●AAM●U20	XS2●●AAM●L2
Product certifications/approvals			UL, CSA, CE	
Connection	Connector		1/2"-20UNF	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 18	**mm**	**0…9.6**	
	Ø 30	**mm**	**0...17.6**	
Differential travel		**%**	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68, double insulation ⧈
	DIN 40050		IP 69K	
Storage temperature		**°C**	- 40…+ 85	
Operating temperature		**°C**	- 25…+ 85	
Materials	Case		PPS	
	Cable		–	PvR and 2 x 0.34 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			Yellow LED: annular	
Rated supply voltage		**V**	∿ or ⎓ 24…240 (∿ 50/60 Hz)	
Voltage limits (including ripple)		**V**	∿ or ⎓ 20…264	
Switching capacity		**mA**	∿ 5…300 or ⎓ 5…200 *(1)*	
Voltage drop, closed state		**V**	≤ 5.5	
Residual current, open state		**mA**	≤ 0.8	
Maximum switching frequency	**XS218AAM●●●**	**Hz**	∿ 25 or ⎓ 1000	
	XS230AAM●●●	**Hz**	∿ 25 or ⎓ 300	
Delays	First-up	**ms**	≤ 30	
	Response	**ms**	≤ 0.5	
	Recovery	**ms**	≤ 0.5 **XS218AAM●●●**, ≤ 2 **XS230AAM●●●**	

(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector

1/2"-20UNF

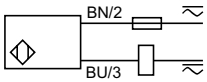
2: 2
3: 3

Pre-cabled

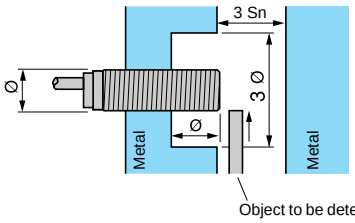
BU: Blue
BN: Brown

2-wire ∿ or ⎓

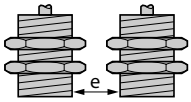
NO output

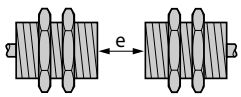


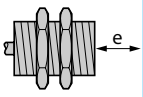
Setting-up



Minimum mounting distances (mm)



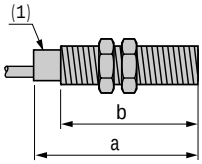




	Side by side	Face to face	Facing a metal object
Ø 18	e ≥ 72	e ≥ 144	e ≥ 36
Ø 30	e ≥ 120	e ≥ 264	e ≥ 66

Dimensions

XS2



(1) LED

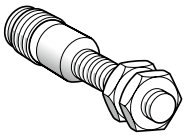
XS2	Pre-cabled (mm)		Connector (mm)	
	a	b	a	b
Ø 18	60	51	70	52
Ø 30	60	51	70	52

Inductive proximity sensors

OsiSense XS Application

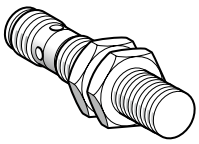
Cylindrical, stainless steel 303 front face
for harsh industrial environments
Three-wire DC, solid-state output

DF513376



XS908●1PAM12

DF513369



XS912●1PAM12

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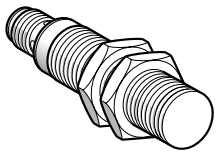

XS918●1PAM12

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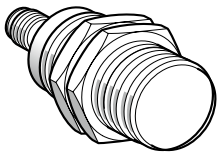
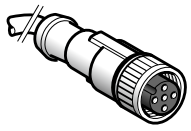


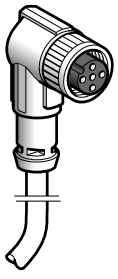
XS930●1PAM12

DF532604



XZCP1141L●

DF503630



XZCP1241L●

Ø 8 mm, threaded M8 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
3	NO	PNP	M12	**XS908R1PAM12**	0.018
Three-wire 12-24V ⎓, non flush mountable					
6	NO	PNP	M12	**XS908R4PAM12**	0.018

Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
6	NO	PNP	M12	**XS912R1PAM12**	0.024
Three-wire 12-24V ⎓, non flush mountable					
10	NO	PNP	M12	**XS912R4PAM12**	0.023

Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
10	NO	PNP	M12	**XS918R1PAM12**	0.044
Three-wire 12-24V ⎓, non flush mountable					
20	NO	PNP	M12	**XS918R4PAM12**	0.051

Ø 30 mm, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
20	NO	PNP	M12	**XS930R1PAM12**	0.140
Three-wire 12-24V ⎓, non flush mountable					
40	NO	PNP	M12	**XS930R4PAM12**	0.144

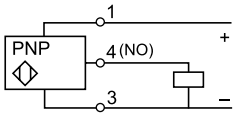
Connecting cables (PUR) *(1)*

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Metal clamping	Straight	2	**XZCP1141L2**	0.090
		5	**XZCP1141L5**	0.190
		10	**XZCP1141L10**	0.370
	Elbowed	2	**XZCP1241L2**	0.090
		5	**XZCP1241L5**	0.190
		10	**XZCP1241L10**	0.370

Wiring schemes

M12 connector

PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ", on our site www.tesensors.com.

Inductive proximity sensors

OsiSense XS Application

Cylindrical, stainless steel 303 front face
for harsh industrial environments
Three-wire DC, solid-state output

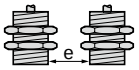
Characteristics

Sensor type	Flush		XS908R1PAM12	XS912R1PAM12	XS918R1PAM12	XS930R1PAM12
	Non flush		XS908R4PAM12	XS912R4PAM12	XS918R4PAM12	XS930R4PAM12
Product certifications			CE, cULus			
Connection	Connector		M12			
Operating zone	Flush	mm	0…2.4	0…4.8	0…8	0…16
	Non flush	mm	0…4.8	0…8	0…16	0…32
Differential travel		%	1…15 (real sensing distance Sr)			
Degree of protection	Conforming to IEC 60529		IP 67	IP 68 (5 meters underwater for 1 month)		
	Conforming to DIN 40050		IP 69K			
Storage temperature		°C	-25…+ 70 (-13…158°F)			
Operating temperature		°C	-25…+ 70 (-13…158°F)			
Materials	Case		Stainless steel, 303 grade			
Front face thickness		mm	0.25	0.4	0.6	1.0
Mechanical shock resistance	Conforming to EN 50102		IK10			
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)			
Shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms			
Output state indication			Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)			
Rated supply voltage		V	⎓ 12…24 with protection against reverse polarity			
Voltage limits (including ripple)		V	⎓ 10…30			
Switching capacity		mA	≤ 200 with overload and short-circuit protection			
Voltage drop, closed state		V	≤ 2			
Current consumption, no-load		mA	≤ 10			
Maximum switching frequency	Flush	Hz	1000	600	300	100
	Non flush	Hz	700	400	200	90
Delays	First set-up	ms	40			
	Response	µs	0.05	0.06		
	Recovery	µs	23	15		

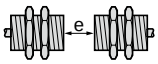
Setting-up

Minimum mounting distances in mm, flush version

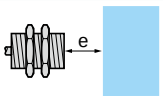
Side by side	
Ø 8	e ≥ 14
Ø 12	e ≥ 38
Ø 18	e ≥ 42
Ø 30	e ≥ 80



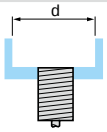
Face to face	
e ≥ 15	
e ≥ 30	
e ≥ 40	
e ≥ 70	



Facing a metal object	
e ≥ 10	
e ≥ 20	
e ≥ 30	
e ≥ 60	

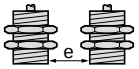


Mounted in a metal support	
d ≥ 12	
d ≥ 24	
d ≥ 50	
d ≥ 90	

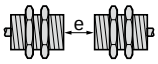


Minimum mounting distances in mm, non flush version

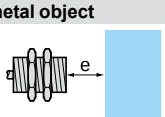
Side by side	
Ø 8	e ≥ 52
Ø 12	e ≥ 108
Ø 18	e ≥ 182
Ø 30	e ≥ 270



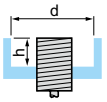
Face to face	
e ≥ 25	
e ≥ 40	
e ≥ 70	
e ≥ 130	



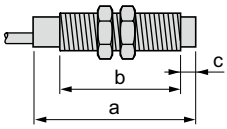
Facing a metal object	
e ≥ 20	
e ≥ 30	
e ≥ 60	
e ≥ 120	



Mounted in a metal support		
d ≥ 20	h ≥ 15	
d ≥ 30	h ≥ 22	
d ≥ 60	h ≥ 34	
d ≥ 120	h ≥ 34	



Dimensions



Lengths (mm):
a = overall
b = threaded
c = for non flush mountable sensors

	Flush sensor				Non flush sensor			
	M8	M12	M18	M30	M8	M12	M18	M30
a (mm)	66	60	63.5	63.5	66	60	63.5	63.5
b (mm)	46	41	42	42	42	36	35	32
c (mm)	0	0	0	0	4	5	7	10

Reduction coefficient

Non flush mounted

		Flush sensor				Non flush sensor			
		M8	M12	M18	M30	M8	M12	M18	M30
Steel		1	1	1	1	1	1	1	1
Aluminum		1	1	1	1	1	1	1	1
Brass		1.35	1.3	1.2	1.3	1.4	1.4	1.35	1.2
Cupper		0.9	0.85	0.8	0.9	0.85	0.8	0.9	0.9
Stainless steel	Thickness 1 mm	0.3	0.5	0.5	0.35	0.3	*(1)*	0.3	*(1)*
	Thickness 2 mm	0.6	0.9	0.9	0.7	0.9	0.66	0.6	0.25

Flush mounted

	M8	M12	M18	M30
Steel	1	0.7	0.75	0.9
Aluminum	0.9	1.15	0.9	0.7
Brass	0.9	1.05	0.75	0.6
Stainless steel	1	0.8	0.8	1.3

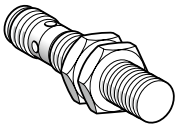
(1) No detection.

Inductive proximity sensors

OsiSense XS Application

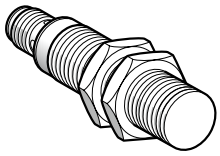
Cylindrical, stainless steel 303 front face
for welding environments
Three-wire DC, solid-state output

DF513369



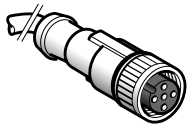
XS912RWPAM12

DF513373



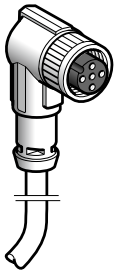
XS918RWPAM12

DF532604



XZCP1141L●

DF503630



XZCP1241L●

Ø 12 mm, threaded M12 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
6	NO	PNP	M12	**XS912RWPAM12**	0.024

Ø 18 mm, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ⎓, flush mountable					
10	NO	PNP	M12	**XS918RWPAM12**	0.051

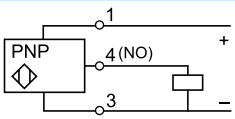
Connecting cables (PUR) *(1)*

Description	Type	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin Metal clamping ring	Straight	2	**XZCP1141L2**	0.090
		5	**XZCP1141L5**	0.190
		10	**XZCP1141L10**	0.370
	Elbowed	2	**XZCP1241L2**	0.090
		5	**XZCP1241L5**	0.190
		10	**XZCP1241L10**	0.370

Wiring schemes

M12 connector

PNP



(1) For further information, please consult the catalogue "Cabling accessories OsiSense XZ" on our site www.tesensors.com.

Inductive proximity sensors

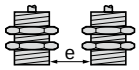
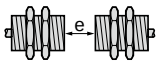
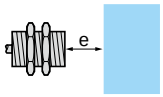
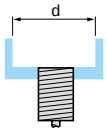
OsiSense XS Application
Cylindrical, stainless steel 303 front face
for welding environments
Three-wire DC, solid-state output

Characteristics

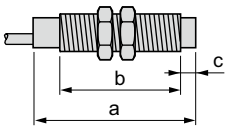
Sensor type	Flush		XS912RWPAM12	XS918RWPAM12
Product certifications			CE, cULus	
Connection	Connector		M12	
Operating zone		**mm**	0…4.8	0…8
Differential travel		**%**	1…15 (real sensing distance Sr)	
Degree of protection	Conforming to IEC 60529		IP 68 (5 meters underwater for 1 month)	
	Conforming to DIN 40050		IP 69K	
Storage temperature		**°C**	-25…+ 70 (-13…158°F)	
Operating temperature		**°C**	-25…+ 70 (-13…158°F)	
Materials	Case		Stainless steel, 303 grade	
Front face thickness		**mm**	0.4	0.6
Mechanical shock resistance	Conforming to EN 50102		IK10	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 1 mm (f = 10 to 55 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		30 gn, duration 11 ms	
Output state indication			Yellow LED, 4 viewing points at 90° (blinking from 0.8 Sr and Sr)	
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity	
Voltage limits (including ripple)		**V**	⎓ 10…30	
Switching capacity		**mA**	≤ 200 with overload and short-circuit protection	
Voltage drop, closed state		**V**	≤ 2	
Current consumption, no-load		**mA**	≤ 10	
Maximum switching frequency		**Hz**	15	
Delays	First set-up	**ms**	80	
	Response	**µs**	100	
	Recovery	**µs**	15	

Setting-up

Minimum mounting distances in mm, flush version

Side by side		Face to face		Facing a metal object		Mounted in a metal support	
Ø 12 Ø 18	e ≥ 38 e ≥ 42		e ≥ 30 e ≥ 40		e ≥ 20 e ≥ 30		d ≥ 24 d ≥ 50	

Dimensions



Lengths (mm):
a = overall
b = threaded
c = for non flush mountable sensors

	Flush sensor	
	M12	**M18**
a (mm)	60	63.5
b (mm)	41	42
c (mm)	0	0

Reduction coefficient

Non flush mounted

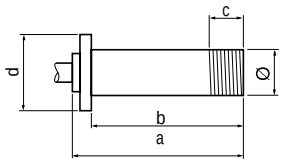
		Flush sensor	
		M12	**M18**
Steel		1	1
Aluminum		1	1
Brass		1.3	1.2
Cupper		0.85	0.8
Stainless steel	Thickness 1 mm	0.5	0.5
	Thickness 2 mm	0.9	0.9

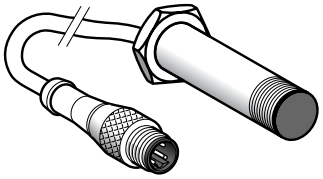
Flush mounted

	M12	**M18**
Steel	0.7	0.75
Aluminum	1.15	0.9
Brass	1.05	0.75
Stainless steel	0.8	0.8

Inductive proximity sensors
OsiSense XS Application
For welding machine applications
Cylindrical type. Metal case, plain, with shoulder

Flush mountable in metal





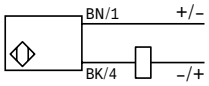
Lengths (mm):
a = Overall
b = To shoulder
c = Removal
d = Shoulder

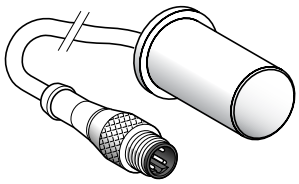
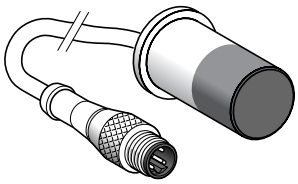
Ø = 12
a = 55
b = 50
c = 9 (threaded end)
d = 15 hexagonal

Nominal sensing distance (Sn)			**3 mm**	**3 mm**	**3 mm**
References					
2-wire ⎓ (non polarised) Terminal connections	1-4	NO	**XSLC1401393L1**	**XSLC1401393L3**	**XSLC1401393L4**
Weight (kg)			0.050	0.065	0.050

Characteristics					
Connection			Remote M12 connector on 1.2 m flying lead	Remote M12 connector on 0.8 m flying lead	Remote M12 connector on 0.15 m flying lead
Degree of protection conforming to IEC 60529			IP 67		
Operating zone			0…2.4 mm		
Repeat accuracy			≤ 3 % of Sr		
Differential travel			1…15 % of Sr		
Operating temperature			- 25…+ 80 °C		
Output state indication			Yellow LED, annular		
Rated supply voltage			⎓ 12…48 V		
Voltage limits (including ripple)			⎓ 10…58 V		
Switching capacity			1.5…100 mA with overload and short-circuit protection		
Voltage drop, closed state			≤ 4 V		
Residual current, open state			≤ 0.5 mA		
Current consumption, no-load			–		
Maximum switching frequency			800 Hz		
Delays			First-up: ≤ 5 ms; response: ≤ 05 ms; recovery: ≤ 0.5 ms		

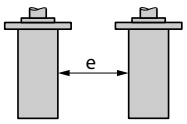
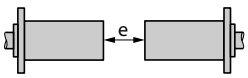
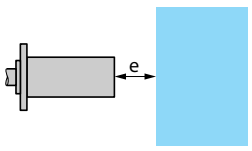
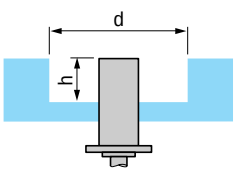
Wiring schemes
2-wire ⎓ , non polarised, NO output



Flush mountable in metal	Non flush mountable in metal	
		
Ø = 18 a = 40 b = 35 c = 0 (PPS front face) d = Ø 22	Ø = 18 a = 45 b = 35 c = 20 (Teflon front face and case) d = Ø 22	
6.3 mm	**10 mm**	**10 mm**
XSLC1401392L1	**XSLC1401405L3**	**XSLC1401405L4**
0.100	0.065	0.050
Remote M12 connector on 1.2 m flying lead	Remote M12 connector on 0.8 m flying lead	Remote M12 connector on 0.15 m flying lead
IP 67		
0…5 mm	0…8 mm	
3 % of Sr		
1…15 % of Sr		
- 25…+ 70 °C		
Yellow LED, annular		
⎓ 12…48 V		
⎓ 10…58 V		
1.5…100 mA with overload and short-circuit protection		
⩽ 4 V		
⩽ 0.5 mA		
–		
100 Hz		
First-up: ⩽ 10 ms; response: ⩽ 10 ms; recovery: ⩽ 2 ms		

Setting-up

Minimum mounting distances (mm)

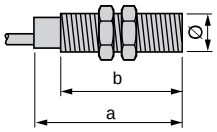
		Side by side	Face to face	Facing a metal object	Mounted in a metal support
					
XSLC	**Ø 12 (flush mountable)**	e ⩾ 10	e ⩾ 60	e ⩾ 15	d = 12, h = 0
	Ø 18 (non flush mountable)	e ⩾ 16	e ⩾ 96	e ⩾ 24	d = 54, h = 16

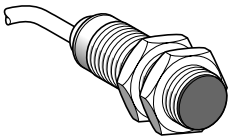
Inductive proximity sensors

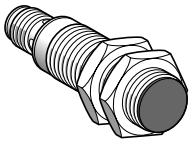
OsiSense XS

Detection at fixed sensing distance. Factor 1 (Fe/Nfe) sensors *(1)* for ferrous and non ferrous materials
Solid-state output

Flush mountable in metal







Lengths (mm):
a = Overall
b = Threaded section

a = 60
b = 51.5
Ø = M18 x 1

a = 70
b = 51.5
Ø = M18 x 1

		Brass case	Brass case
Nominal sensing distance (Sn)		**5 mm**	**5 mm**
References			
4-wire ⎓	PNP/PNP programmable NO/NC	**XS1M18KPM40**	**XS1M18KPM40D**
Weight (kg)		0.120	0.060
Characteristics			
Product certifications		CE, UL, CSA	
Connection		**Pre-cabled, PvR 4 x 0.34 mm², length 2 m** *(2)*	**M12 connector**
Degree of protection	Conforming to IEC 60529	IP 68	IP 67
Operating zone		**0…4 mm**	
Repeat accuracy		3 % of Sr	
Differential travel		1…15 % of Sr	
Operating temperature		0…+ 50 °C	
Output state indication		Yellow LED, annular	Yellow LED, 4 viewing ports at 90°
Rated supply voltage		**⎓ 12…24 V with protection against reverse polarity**	
Voltage limits (including ripple)		⎓ 10…38 V	
Switching capacity		**0...200 mA with overload and short-circuit protection**	
Voltage drop, closed state		≤ 2.6 V	
Current consumption, no-load		≤ 15 mA	
Maximum switching frequency		1000 Hz	
Delays	First-up	≤ 10 ms	
	Response	≤ 0.3 ms	
	Recovery	≤ 0.7 ms	

Wiring schemes

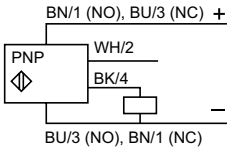
M12 connector

Pre-cabled

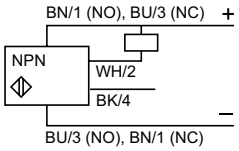
BN: brown
BU: blue
BK: black
WH: white

4-wire ⎓, PNP/NPN, NO or NC output

PNP



NPN

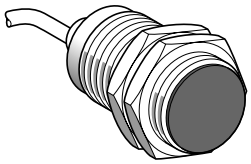


(1) The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %.
(2) Sensors available with other cable lengths: please consult our Customer Care Centre.

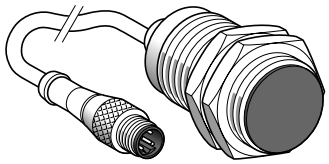
Inductive proximity sensors

OsiSense XS

Detection at fixed sensing distance. Factor 1 (Fe/Nfe) sensors *(1)* for ferrous and non ferrous materials
Solid-state output



a = 60
b = 51.5
Ø = M30 x 1.5



a = 60
b = 51.5
Ø = M30 x 1.5

Stainless steel case	Stainless steel case
10 mm	**10 mm**

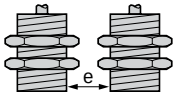
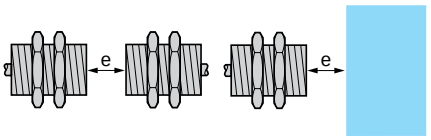
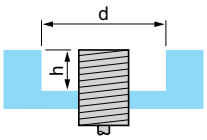
References

XS1M30KPM40	**XS1M30KPM40LD**
0.205	0.145

Characteristics

CE, UL, CSA	
Pre-cabled, PvR 4 x 0.34 mm², length 2 m *(2)*	**M12 connector on 0.8 m flying lead**
IP 68	IP 67
0…8 mm	
3 % of Sr	
1…15 % of Sr	
0…+ 50 °C	
Yellow LED, annular	
⎓ 12…24 V with protection against reverse polarity	
⎓ 10…38 V	
0…200 mA with overload and short-circuit protection	
≤ 2.6 V	
≤ 15 mA	
1000 Hz	
≤ 5 ms	
≤ 0.3 ms	
≤ 0.7 ms	

Setting-up

Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support
				
XS1M18 flush mountable	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18, h ≥ 0
XS1M30 flush mountable	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30, h ≥ 0

***Fixing nut tightening torque: XS1M18**: < 35 N.m, **XS1M30**: < 100 N.m*

(1) The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %.
(2) Sensors available with other cable lengths: please consult our Customer Care Centre.

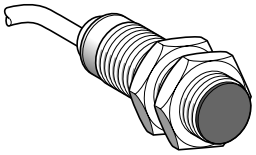
Inductive proximity sensors

OsiSense XS Application

Selective detection of ferrous materials
Selective detection of non ferrous materials
Cylindrical type, solid-state output

Flush mountable

Stainless steel case



Nominal sensing distance (Sn)			5 mm

References

3-wire, ferrous version Insensitive to non ferrous materials	PNP	NO	**XS1M18PAS40**
3-wire, non ferrous version Insensitive to ferrous materials	PNP	NO	**XS1M18PAS20**
Weight (kg)			0.120

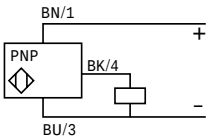
Characteristics

Product certifications		UL, CSA, CE
Connection		**Pre-cabled, PvR,** 3 x 0.34 mm², length 2 m *(1)*
Operating zone		**0…4 mm**
Degree of protection conforming to IEC 60529		IP 68
Operating temperature		- 25…+ 70 °C
Output state indication		Yellow LED, annular
Rated supply voltage		⎓ 12…24 V with protection against reverse polarity
Voltage limits (including ripple)		⎓ 10…38 V
Switching capacity		0…200 mA with overload and short-circuit protection
Voltage drop, closed state		≤ 2.6 V
Residual current, open state		–
Current consumption, no-load		≤ 15 mA
Maximum switching frequency		1000 Hz
Delays	First-up	≤ 10 ms
	Response	≤ 0.3 ms
	Recovery	≤ 0.7 ms

(1) Sensors available with other cable lengths: please consult our Customer Care Centre.

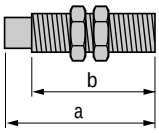
Wiring schemes

3-wire ⎓ PNP



Dimensions

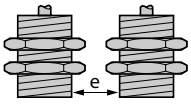
XS1M

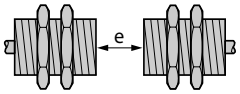


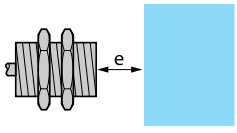
a (mm)	b (mm)
60	51.5

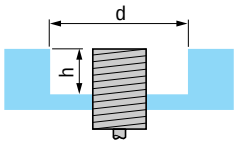
Setting-up

Minimum mounting distances (mm)









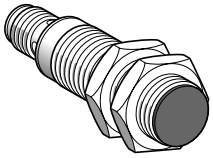
	Side by side	Face to face	Facing a metal object	Mounted in a metal support
XS1M18	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18, h ≥ 0 (ferrous metal) d ≥ 18, h ≥ 5 (non ferrous metal)

Accessories:
pages 122

Inductive proximity sensors
OsiSense XS Application
Selective detection of ferrous materials
Selective detection of non ferrous materials
Cylindrical type, solid-state output

Flush mountable

Stainless steel case



Nominal sensing distance (Sn)	5 mm

References

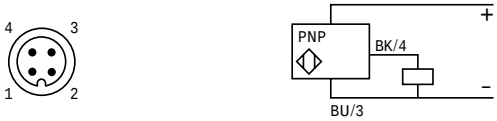
3-wire, ferrous version Insensitive to non ferrous materials	PNP	NO	**XS1M18PAS40D**
3-wire, non ferrous version Insensitive to ferrous materials	PNP	NO	**XS1M18PAS20D**
Weight (kg)			0.060

Characteristics

Product certifications		UL, CSA, CE
Connection		M12 connector
Degree of protection conforming to IEC 60529		IP 67
Operating zone		**0…4 mm**
Operating temperature		- 25…+ 70 °C
Output state indication		Yellow LED, 4 viewing ports at 90°
Rated supply voltage		⎓ 12…24 V with protection against reverse polarity
Voltage limits (including ripple)		⎓ 10…38 V
Switching capacity		0…200 mA with overload and short-circuit protection
Voltage drop, closed state		≤ 2.6 V
Residual current, open state		–
Current consumption, no-load		≤ 15 mA
Maximum switching frequency		1000 Hz
Delays	First-up	≤ 10 ms
	Response	≤ 0.3 ms
	Recovery	≤ 0.7 ms

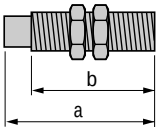
Wiring schemes

M12 connector — **3-wire ⎓ PNP**



Dimensions

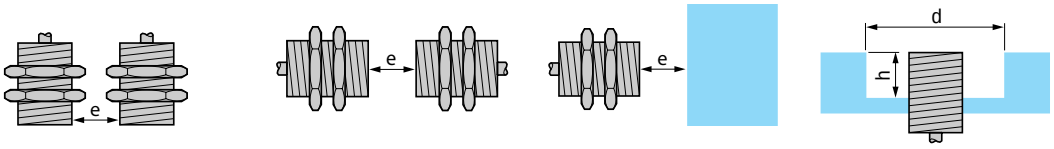
XS1M



a (mm)	b (mm)
70	51.5

Setting-up

Minimum mounting distances (mm)



	Side by side	Face to face	Facing a metal object	Mounted in a metal support
XS1M18	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18, h ≥ 0 (ferrous metal) d ≥ 18, h ≥ 5 (non ferrous metal)

Accessories:
pages 122