Inductive proximity sensors OsiSense XS

Fast trouble shooting guide		
Problem	Possible causes	Remedy
The sensor's output will not change state when a metal object enters the detection zone	On a flush mountable sensor using teach mode: setting-up or programming error.	After a RESET, follow the environment teach mode procedure. Refer to instruction sheet supplied with sensor.
	Output stage faulty or complete failure of the sensor or the short-circuit protection has tripped.	 Check that the sensor is compatible with the supply being used. Check the load current characteristics: if load current I ≥ maximum switching capacity, an auxiliary relay, of the CAD N type for example, should be interposed between the sensor and the load, if I ≤ maximum switching capacity, check for wiring faults (short-circuit). In all cases, a 0.4 A "quick-blow" fuse should be fitted in series with the sensor.
	Wiring error	Check that the wiring conforms to the wiring shown on the sensor label or instruction sheet.
	Supply fault	 Check that the sensor is compatible with the supply (~ or). Check that the supply voltage is within the voltage limits of the sensor. Remember that with a rectified, smoothed supply, U peak = U nominal x √2 with a ripple voltage ≤ 10 %.
False or erratic operation, with or without the presence of a metal object in the detection zone	On flush mountable sensor using teach mode: setting-up or programming error.	After a RESET, follow the environment teach mode procedure. Refer to instruction sheet supplied with sensor.
	Influence of background or metal environment	Refer to the instruction sheet supplied with the sensor. For sensors with adjustable sensitivity, reduce the sensing distance.
	Sensing distance poorly defined for the object to be detected	 Apply the correction coefficients. Realign the system or run the teach mode again.
	Influence of transient interference on the supply lines	 Ensure that any DC supplies, when derived from rectified AC, are correctly smoothed (C > 400 μF). Separate AC power cables from low-level DC cables (24 V low level). Where very long distances are involved, use suitable cable: screened and twisted pairs of the correct cross-sectional area.
	Equipment prone to emitting electromagnetic interference	■ Position the sensors as far away as possible from any sources of interference.
	Response time of the sensor too slow for the particular object being detected	 Check the suitability of the sensor for the position or size of the object to be detected. If necessary, select a sensor with a higher switching frequency.
	Influence of high temperature	 Eliminate sources of radiated heat or protect the sensor casing with a heat shield. Realign, having adjusted the temperature around the fixing support.
No detection following a period of service	Vibration, shock	Realign the system.Replace the support or protect the sensor.



Inductive proximity sensors OsiSense XS

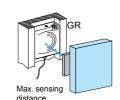
Flush mountability using teach mode: simplicity through innovation

Max. sensing





distance



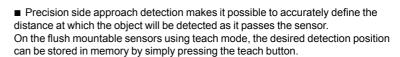
Operating principle

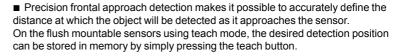
In proposing flush mountable sensors using teach mode, Telemecanique Sensors offers simplicity through innovation.

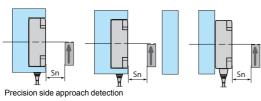
- A single product enables flush mounting using teach mode and meets all the requirements for inductive detection of metal objects. By simply pressing the "Teach mode" button, the sensor automatically acquires optimum configuration for all detection, flush mountability and environment
- Other advantages of flush mountable sensors using teach mode □ Increased performance:
- sensing distance guaranteed and optimised irrespective of the mounting method, object, environment or background,
 - suitable for all metal environments.
- □ Simplified use provided by:
- the flush mountability using teach mode technology, associated with the availability of the flattest and most compact sensors on the market, ensures full integration in the machine and limits the risks of mechanical damage,
 - mechanical adjustments no longer necessary due to teach mode.
- □ Lower costs due to:
 - the elimination of adjustment times and complex supports
- the elimination of flush mountable and non flush mountable versions, which halves the number of references,
 - much easier and much quicker product selection.

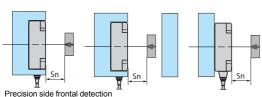
Precision position detection

All flush mountable inductive proximity sensors using teach mode benefit from ultra precise adjustment, which is very quick irrespective of the metal environment.











Mounting accessories

Telemecanique Sensors offers a complete, inexpensive range of mounting accessories (clamps, plates, brackets, etc.) that provide solutions for all installation

- Fixing kits for quick installation or replacement of sensors
- No adjustment required. Simple clipping-in enables the sensor to be fixed in position and ready for operation.



Inductive proximity sensors OsiSense XS

Flush mountability using teach mode: simplicity through innovation



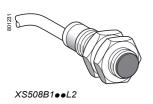
Block type				
Dimensions (mm)		26 x 26 x 13	40 x 40 x 15	80 x 80 x 26
Sensing distance (mm)	Flush mounted use	010	015	040
	Non flush mounted use	015	025	060
Sensor type		XS8E1A1	XS8C1A1	XS8D1A1
Page		80		



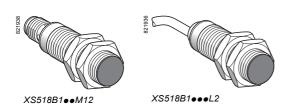
Cylindrical typ	ре			
Dimensions (mm)		12	18	30
Sensing distance	Flush mounted use	03.4	06	011
(mm)	Non flush mounted use	05	09	018
Sensor type		XS612B2	XS618B2	XS630B2
Page		78		

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

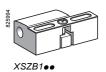












00113013,	3-WII & I	Z-Z4 V,	short case mode	·	
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS506B1PAL2	0.035
			M8 connector	XS506B1PAM8	0.025
			M12 connector	XS506B1PAM12	0.025
		NPN	Pre-cabled (L = 2 m) (1)	XS506B1NAL2	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)		0.035
			M8 connector	XS508B1PBM8	0.025
			M12 connector	XS508B1PBM12	0.025
		NPN	Pre-cabled (L = 2 m) (1)		0.035
			M8 connector	XS508B1NBM8	0.025
~ 40 th	1.840 4		M12 connector	XS508B1NBM12	0.025
Ø 12, threaded		DAID	D 11 14 0 \ 40	V054554544	
2	NO	PNP	Pre-cabled (L = 2 m) (1)		0.075
		NIDNI	M12 connector	XS512B1PAM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)		0.075
	NC	PNP	M12 connector Pre-cabled (L = 2 m) (1)	XS512B1NAM12	0.035
	NC	LINE	M12 connector	XS512B1PBM12	0.075
		NPN	Pre-cabled (L = 2 m) (1)		0.035
			M12 connector	XS512B1NBM12	0.035
Ø 18, threaded	I M18 x 1		WITE COMMOCION	X00125111511112	0.000
5	NO	PNP	Pre-cabled (L = 2 m) (1)	YS518R1PAL2	0.120
	110		M12 connector	XS518B1PAM12	0.060
		NPN	Pre-cabled (L = 2 m) (1)		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	I 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
	Ø8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

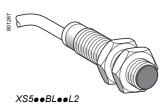
⁽¹⁾ For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS508B1PAL2 becomes XS508B1PAL5 with a 5 m long cable.

⁽²⁾ For further information, see page 128.



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









0	·	0.4037			
•		•	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)	,	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS506BLNAL2	0.035
Ø 8, threaded N	/18 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)		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
	Ø8	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: XS508BLPAL2 becomes XS508BLPAL5 with a 5 m long cable.



⁽²⁾ For further information, see page 128.

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	XS5eeB1eeL2
ochsor type			XS500BL00M8, XS500BL00M12	XS500BL00L2
Product certifications			UL, CSA, C€	·
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	01.2	
	Ø 12	mm	01.6	
	Ø 18	mm	04	
	Ø 30	mm	08	
Differential travel		%	115 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	<u> </u>
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	1248 for XS5●BL, 1224 for XS5●B1 with protection against reverse polarity	
Voltage limits (including i	ripple)	٧	1058 for XS5●●BL, 1036 for XS5●●B1	
Switching capacity		mA	≤ 200 with overload and short-circuit pro	tection
Voltage drop, closed state	9	٧	≤2	
Current consumption, no	-load	mA	≤ 10	
Maximum switching	XS506, XS508, XS512	Hz	5000	
frequency	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	



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

Wiring schemes

Connector

M8 M1:

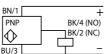


4 3

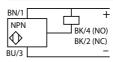
Pre-cabled

BU: Blue BN: Brown BK: Black

PNP







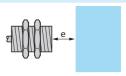
For M8 connector, NO and NC outputs on terminal 4

Setting-up

Minimum mounting distances (mm)







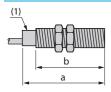
Flush mountable
sensors
Ø 6.5
Ø8
Ø 12
Ø 18
Ø 30

Side by side	
e ≥ 3	
e ≥ 3	
e ≥ 4	
e ≥ 10	
e ≥ 20	

Face to face
e ≥ 18
e ≥ 18
e ≥ 24
e ≥ 60
e ≥ 120

Facing a metal object	
e ≥ 4.5	
e ≥ 4.5	
e ≥ 6	
e ≥ 15	
e ≥ 30	

Dimensions



(1) LED

Sensors			Pre-c	Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Shor	t case model		а	b	а	b	а	b	
	Ø 6.5	XS506B1	33	-	42	-	45	_	
	Ø8	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-ca	Pre-cabled (mm)		M12 connector (mm)			
Long cas	se model		а	b	а	b		
	Ø 6.5	XS506BL	51	-	-	-		
	Ø8	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

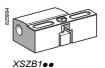








XS5••BS••M12



Sensors	, 2-wire 12	-24 V, short case m	odel	
Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
Ø 6.5, plain				
1.5	NO	Pre-cabled (L = 2 m) (1)	XS506BSCAL2	0.035
	terminals 1 & 4 (2)	Remote M12 connector	XS506BSCAL01M12	0.050
	NC	Pre-cabled (L = 2 m) (1)	XS506BSCBL2	0.035
Ø 8, threade	d M8 x 1			
1.5	NO	Pre-cabled (L = 2 m) (1)	XS508BSCAL2	0.035
	terminals 1 & 4 (2)	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, thread	ed M12 x 1			
2	NO	Pre-cabled (L = 2 m) (1)	XS512BSDAL2	0.075
		M12 connector	XS512BSDAM12	0.035
	NO	M12 connector	XS512BSCAM12	0.035
	terminals 1 & 4 (2)	Remote M12 connector	XS512BSCAL08M12	0.060
	NC	Pre-cabled (L = 2 m) (1)	XS512BSDBL2	0.075
		M12 connector	XS512BSDBM12	0.035
Ø 18, thread	ed M18 x 1			
5	NO	Pre-cabled (L = 2 m) (1)	XS518BSDAL2	0.120
		M12 connector	XS518BSDAM12	0.060
	NO	M12 connector	XS518BSCAM12	0.060
	terminals 1 & 4 (2)	Remote M12 connector	XS518BSCAL08M12	0.085
	NC	Pre-cabled (L = 2 m) (1)	XS518BSDBL2	0.120
		M12 connector	XS518BSDBM12	0.060
Ø 30, thread	ed M30 x 1.5			
10	NO	Pre-cabled (L = 2 m) (1)	XS530BSDAL2	0.205
		M12 connector	XS530BSDAM12	0.145
	NO	M12 connector	XS530BSCAM12	0.145
	terminals 1 & 4 (2)	Remote M12 connector	XS530BSCAL08M12	0.170
	NC	Pre-cabled (L = 2 m) (1)	XS530BSDBL2	0.205
		M12 connector	XS530BSDBM12	0.145

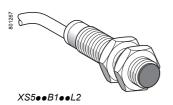
Accessories (3)			
Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

⁽¹⁾ For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS508BSCAL2 becomes XS508BSCAL5 with a 5 m long cable.

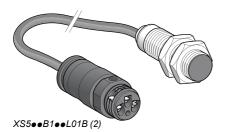
⁽²⁾ The NO output is connected to terminals 1 and 4 of the M12 connector.

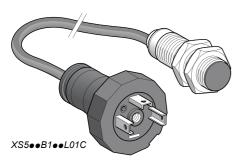
⁽³⁾ For further information, see page 128.

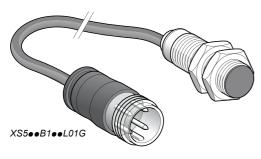
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable Two-wire DC

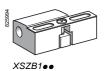












distance	Function	Connection	Reference	Weight kg
(Sn) mm				ĸy
Ø 8, threa	aded M8 x 1			
1.5	NO	Pre-cabled (L = 2 m) (1)	XS508B1DAL2	0.03
		Remote M12 connector	XS508B1DAL08M12	0.05
		M12 connector	XS508B1DAM12	0.02
	NO	M12 connector	XS508B1CAM12	0.02
	terminals 1 & 4 (3)	Remote M12 connector	XS508B1CAL08M12	0.05
	NC	Pre-cabled (L = 2 m) (1)	XS508B1DBL2	0.03
		M12 connector	XS508B1DBM12	0.02
Ø 12, thre	eaded M12 x 1			
2	NO	Pre-cabled (L = 2 m) (1)	XS512B1DAL2	0.07
		Remote 7/8" connector	XS512B1DAL08U78	0.05
		M12 connector	XS512B1DAM12	0.03
	NO	M12 connector	XS512B1CAM12	0.03
	terminals 1 & 4 (3)	Remote M12 connector	XS512B1CAL08M12	0.06
	NC	Pre-cabled (L = 2 m) (1)	XS512B1DBL2	0.07
		M12 connector	XS512B1DBM12	0.03
		Remote M12 connector	XS512B1DBL08M12	0.06
Ø 18, thre	eaded M18 x 1			
5	NO	Pre-cabled (L = 2 m) (1)	XS518B1DAL2	0.12
		Low temperature version (- 40 °C)	XS518B1DAL2TF (5)	0.12
		Remote screw terminal connector (2)	XS518B1DAL01B	0.08
		Remote EN 175301-803-A connector	XS518B1DAL01C	0.08
		Remote M18 connector	XS518B1DAL01G	0.08
		M12 connector	XS518B1DAM12	0.06
	NO	M12 connector	XS518B1CAM12	0.06
	terminals 1 & 4 (3)	Remote M12 connector	XS518B1CAL08M12	0.08
	NC	Pre-cabled (L = 2 m) (1)	XS518B1DBL2	0.12
		M12 connector	XS518B1DBM12	0.06
		Remote M12 connector	XS518B1DBL08M12	0.08
		Remote screw terminal connector (2)	XS518B1DBL01B	0.12
Ø 30, thre	eaded M30 x 1.5			
10	NO	Pre-cabled (L = 2 m) (1)	XS530B1DAL2	0.20
		Low temperature version (- 40 °C)	XS530B1DAL2TF (5)	0.20
		M12 connector	XS530B1DAM12	0.14
		Remote screw terminal connector (2)	XS530B1DAL01B	0.20
		Remote EN 175301-803-A connector	XS530B1DAL01C	0.20
		Remote M18 connector	XS530B1DAL01G	0.20
	NO	M12 connector	XS530B1CAM12	0.14
	terminals 1 & 4 (3)	Remote M12 connector	XS530B1CAL08M12	0.17
	NC	Pre-cabled (L = 2 m) (1)	XS530B1DBL2	0.20
		M12 connector	XS530B1DBM12	0.14
		Remote screw terminal connector (2)	XS530B1DBL01B	0.20
Accesso	ries <i>(4)</i>			
Descript	ion	For use with sensors	Reference	Weigh kç
Fixing cla	mps	Ø8	XSZB108	0.00
		Ø 12	XSZB112	0.00
		Ø 18	XSZB118	0.01

Accessories (4)			
Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø8	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: XS508B1DAL2 becomes **XS508B1DAL5** with a 5 m long 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 further information, see page 128.
- (5) For a 5 m long cable replace L2 by L5.

Example: XS518B1DAL2TF becomes XS518B1DAL5TF with a 5 m long cable.

For a PUR cable, replace the letter L by P in the reference.

Example: XS518B1DAL2TF becomes XS518B1DAP2TF.
For a 5 m long cable replace P2 by P5.
Example: XS518B1DAP2TF with a 5 m long cable.

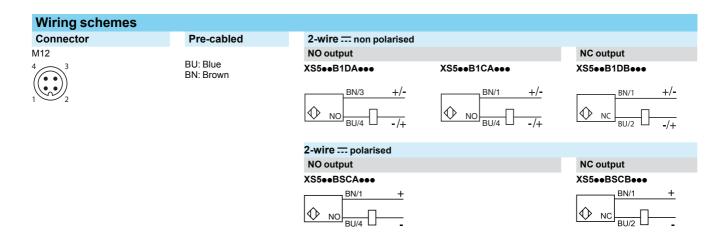
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire DC

Characteristics Sensor type			XS5eeB1eeM12, XS5eeBSeeM12	XS5eeB1DeL2, XS5eeBSeeL2			
Product certifications			UL, CSA, C€	AGGOOD IDOLL, AGGOODGOOLL			
Connection	Connector		M12	1_			
Connection	Connector		WILE				
	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	01.2				
	Ø8	mm	01.2				
	Ø 12	mm	01.6				
	Ø 18	mm	04				
	Ø 30	mm	08				
Differential travel		%	115 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 30				
	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	z)			
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					
Voltage limits (including	ripple)	V	1058 for XS5●●B1●, 1036 for XS5●●BS				
Switching capacity		mA	1.5100 with overload and short-circuit	protection			
Voltage drop, closed stat	e	V	≤ 4.2				
Residual current, open st	ate	mA	≤ 0.5				
Maximum switching	XS506, XS508	Hz	1000 for XS5●●BS, 1400 for XS5●●B1●				
frequency	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 PUR cable.



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



Remote connectors L01B, L01C, L01G Screw terminal (L01B)

The terminal numbering differs according to the version (2-wire $\overline{--}$, 3-wire $\overline{--}$, 2-wire $\overline{--}$).

EN 175301-803-A (L01C)



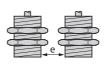
The NO or NC outputs are connected to terminal 2.

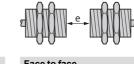
M18 (L01G)

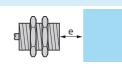


Setting-up

Minimum mounting distances (mm)





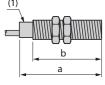


Side by side
e ≥ 3
e ≥ 3
e ≥ 4
e ≥ 10
e ≥ 20

Face to face	
e ≥ 18	
e ≥ 18	
e ≥ 24	
e ≥ 60	
e≥120	

Facing a metal object	
e ≥ 4.5	
e ≥ 4.5	
e ≥ 6	
e ≥ 15	
e ≥ 30	

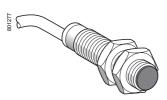
Dimensions



(1) LED

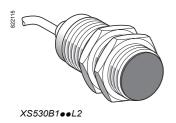
Sensors		Pre-c	Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short case model		а	b	а	b	а	b	
Ø 6.5	XS506BS	33	-	42	-	45	-	
Ø8	XS508BS	33	25	42	26	45	24	
Ø 12	XS512BS	35	25		_	50	30	
Ø 18	XS518BS	39	28		_	50	28	
Ø 30	XS530BS	43	32		_	55	32	
Sensors		Pre-c	Pre-cabled (mm)		M12 connector (mm)			
Long cas	e model	а	b	а	b			
Ø8	XS508B1	51	42	62	40			
Ø 12	XS512B1	53	42	62	42			
Ø 18	XS518B1	62	52	74	52			
Ø 30	XS530B1	62	52	74	52			

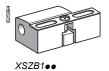
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, standard range, flush mountable
Two-wire AC or DC (1)



 $XS5 \bullet \bullet B1M \bullet L2$







Sensors, 2-wire								
Ø 12, threaded M12	2 x 1							
Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg				
2	NO	Pre-cabled (L = 2 m) (2)	XS512B1MAL2	0.075				
		1/2"-20UNF connector	XS512B1MAU20	0.025				
	NC	Pre-cabled (L = 2 m) (2)	XS512B1MBL2	0.075				
		1/2"-20UNF connector	XS512B1MBU20	0.025				

Ø 18, threaded M18	3 x 1			
Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
5	NO	Pre-cabled (L = 2 m) (2)	XS518B1MAL2	0.100
		1/2"-20UNF connector	XS518B1MAU20	0.060
	NC	Pre-cabled (L = 2 m) (2)	XS518B1MBL2	0.100
		1/2"-20UNF 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"-20UNF connector	XS530B1MAU20	0.145
	NC	Pre-cabled (L = 2 m) (2)	XS530B1MBL2	0.205
		1/2"-20UNF 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 long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS512B1MAL2 becomes XS512B1MAL5 with a 5 m long cable.

⁽³⁾ For further information, see page 128.

Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors OsiSense XS, general purpose

Cylindrical, standard range, flush mountable Two-wire AC or DC

Sensor type			XS5eeB1MeU20	XS5eeB1MeL2	
Product certifications			UL, CSA, C€	•	
Connection Connector			1/2"-20UNF	-	
	Pre-cabled		-	Length: 2 m	
Operating zone	Ø 12	mm	01.6		
	Ø 18	mm	04		
	Ø 30	mm	08		
Differential travel		%	115 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 Sensing face			Nickel plated brass		
			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: 4 viewing ports at 90°	Yellow LED: annular	
Rated supply voltage		V	\sim or == 24240 (\sim 50/60 Hz)		
Voltage limits (including	ripple)	٧	~ or == 20264		
Switching capacity	XS512B1M●●●	mA	5200 (1)		
	XS518B1Meee, XS530B1Meee	mA	∼5300 or == 5200 (1)		
Voltage drop, closed sta	te	V	≤ 5.5		
Residual current, open s	state	mA	≤ 0.8		
Maximum switching	XS512B1●●●, XS518B1M●●●	Hz	~ 25 or 1000		
frequency	XS530B1M●●●	Hz	∼ 25 or 500		
Delays	First-up	ms	≤ 20 XS512B1M•••, ≤ 25 XS518B1M••• and XS530B1M•••		
	Response	ms	≤ 0.5		
Recovery		ms	≤ 0.2 XS512B1Meee, ≤ 0.5 XS518B1Meee, ≤ 2 XS530B1Meee		

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

Wiring schemes

Connector 1/2"-20UNF

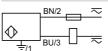


≂: 2 <u></u>‡։ 1

Pre-cabled

BU: Blue BN: Brown

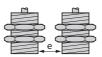




±: on connector models only

Setting-up

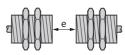
Minimum mounting distances (mm)





e ≥ 16

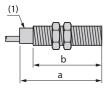
e ≥ 30



€ -	
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Face to face	Facing a metal obje
e ≥ 48	e ≥ 12
e ≥ 100	e ≥ 25
e ≥ 180	 e ≥ 45

Dimensions



Sensor	
XS512B1M	
XS518B1M	
XS530B1M	

Sensor Ø 12

Ø 18

Ø 30

XS6		
Pre-cab	led (mm)	
а	b	
53	42	
62	52	
62	52	

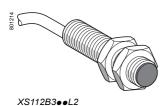
Connector (mm)				
а	b			
62	42			
73	52			
73	52			

(1) LED

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







Senso	rs, 3-wi	ire 1	12-24 V, short ca	se mo	del	
Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Reference unit	Weight kg
Ø 6.5, pla	iin					
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, threa	aded 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
-	eaded M12					
4	NO	PNP	Pre-cabled (L = 2 m) (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)		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 long cable.

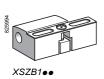
Cylindrical, increased range, flush mountable Three-wire DC, solid-state output



XS118B3●●M12



XS130B3●•L2



Senso	rs 3-w	ire 	12-24 V, short ca	ise mo	del (continued)	
	Function		Connection	Sold in lots of	Unit reference	Weight kg
Ø 18, thr	eaded M18	3 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, thr	eaded M30	0 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

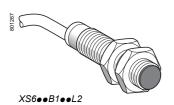
Accessories (2)			
Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 6.5 (plain)	XSZB165	0.005
	Ø 8 (M8 x 1)	XSZB108	0.006
	Ø 12 (M12 x 1)	XSZB112	0.006
	Ø 18 (M18 x 1)	XSZB118	0.010
	Ø 30 (M30 x 1.5)	XSZB130	0.020

(1) For a 5 m long cable replace L2 by **L5**.

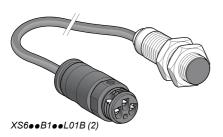
Example: XS118B3PAL2 becomes **XS118B3PAL5** with a 5 m long cable.

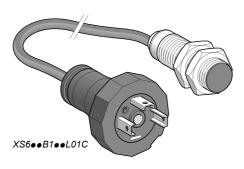
⁽²⁾ For further information, see page 128.

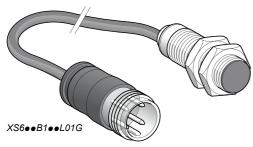
Cylindrical, increased range, flush mountable Three-wire DC, solid-state output













	, -	*****	12-48 V, long case model		
Sensing distant (Sn) mr	e :e	on Output	Connection	Reference	Weigh k
Ø 8, thr	eaded M	8 x 1			
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS608B1PAL2	0.0
			M12 connector	XS608B1PAM12	0.0
		NPN	Pre-cabled (L = 2 m) (1)	XS608B1NAL2	0.0
			M12 connector	XS608B1NAM12	0.0
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS608B1PBL2	0.0
			M12 connector	XS608B1PBM12	0.0
		NPN	Pre-cabled (L = 2 m) (1)	XS608B1NBL2	0.0
			M12 connector	XS608B1NBM12	0.0
Ø 12, th	readed N	/12 x 1			
	NO	PNP	Pre-cabled (L = 2 m) (1)	XS612B1PAL2	0.0
			M12 connector	XS612B1PAM12	0.0
		NPN	Pre-cabled (L = 2 m) (1)	XS612B1NAL2	0.0
			M12 connector	XS612B1NAM12	0.0
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS612B1PBL2	0.0
			M12 connector	XS612B1PBM12	0.0
		NPN	Pre-cabled (L = 2 m) (1)	XS612B1NBL2	0.0
			M12 connector	XS612B1NBM12	0.0
Ø 18, th	readed N	/118 x 1			
	NO	PNP	Pre-cabled (L = 2 m) (1)	XS618B1PAL2	0.1
			M12 connector	XS618B1PAM12	0.0
			Remote screw terminal connector	XS618B1PAL01B (2)	0.1
			Remote EN 175301-803-A connector	XS618B1PAL01C	0.1
			Remote M18 connector	XS618B1PAL01G	0.1
		NPN	Pre-cabled (L = 2 m) (1)	XS618B1NAL2	0.1
			M12 connector	XS618B1NAM12	0.0
			Remote screw terminal connector	XS618B1NAL01B (2)	0.1
			Remote EN 175301-803-A connector	XS618B1NAL01C	0.1
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS618B1PBL2	0.1
			M12 connector	XS618B1PBM12	0.0
			Remote screw terminal connector	XS618B1PBL01B (2)	0.1
			Remote EN 175301-803-A connector		0.1
		NPN	Pre-cabled (L = 2 m) (1)	XS618B1NBL2	0.1
			M12 connector	XS618B1NBM12	0.0
			Remote screw terminal connector	XS618B1NBL01B (2)	0.1
~ 20 4L	was dad N	120 × 4 E	Remote EN 175301-803-A connector	XS618B1NBL01C	0.1
ວ 30, ແ 5	nreaded N NO	PNP	Pre-cabled (L = 2 m) (1)	XS630B1PAL2	0.2
5			M12 connector	XS630B1PAM12	0.1
			Remote screw terminal connector	XS630B1PAL01B (2)	0.2
			Remote EN 175301-803-A connector	. ,	0.2
			Remote M18 connector	XS630B1PAL01G	0.2
		NPN	Pre-cabled (L = 2 m) (1)	XS630B1NAL2	0.2
			M12 connector	XS630B1NAM12	0.1
			Remote screw terminal connector	XS630B1NAL01B (2)	0.2
			Remote EN 175301-803-A connector		0.2
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS630B1PBL2	0.2
		••	M12 connector	XS630B1PBM12	0.1
			Remote screw terminal connector	XS630B1PBL01B (2)	0.2
			Remote EN 175301-803-A connector		0.2
			Remote M18 connector	XS630B1PBL01G	0.2
		NPN	Pre-cabled (L = 2 m) (1)	XS630B1NBL2	0.2
			M12 connector	XS630B1NBM12	0.1
			Remote screw terminal connector	XS630B1NBL01B (2)	0.2
			Remote EN 175301-803-A connector		0.2
Access	ories (3)				

Accessories (3)			
Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø8	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 long cable.
(2) Protective cable gland included with sensor.

⁽³⁾ For further information, see page 128.



Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors OsiSense XS, general purpose

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

Sensor type			XS1/XS6eeBeeeM8	XS1/XS6eeBeeeM12	XS1/XS6eeBeeeL2		
Product certifications			UL, CSA, C€	'	'		
Connection	Connector		M8	M12	-		
	Pre-cabled		_	-	Length 2 m		
	Remote connector		Remote screw terminal (L on 0.15 m flying lead.	L01B), EN 175301-803-A (L01C	c) and M18 (L01G) connectors,		
Operating zone (1)	Ø 6.5 and Ø 8	mm	02				
	Ø 12	mm	03.2				
	Ø 18	mm	06.4				
	Ø 30	mm	012				
Differential travel		%	115 of effective sensing	distance (Sr)			
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67 IP 65 and IP 68, douinsulation □ except Ø 6.5 and Ø				
Conforming to DIN 40050			IP 69K for Ø 12, 18 and 30 sensors				
Storage temperature			- 40+ 85				
Operating temperature			- 25+ 70				
Materials	Case		Nickel plated brass (except XS608: stainless steel, grade 303)				
	Sensing face		PPS				
	Cable		_		PvR 3 x 0.34 mm ² except Ø 6.5 and 8: 3 x 0.11 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 po	rts at 90°	Yellow LED, annular		
Rated supply voltage		٧	XS1: 1224 with protection against reverse polarity XS6: 1248 with protection against reverse polarity				
Voltage limits (including ripple)		٧	XS1: == 1036; XS6: == 1058				
Switching capacity		mA	≤ 200 with overload and short-circuit protection				
Voltage drop, closed state		٧	≤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 3	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 132.

Wiring schemes

Connector (1)





Pre-cabled

BU: Blue BN: Brown BK: Black

Setting-up

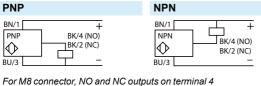
Minimum mounting distances (mm)







PNP	
BN/1	_ +
PNP	BK/4 (NO)
\Diamond	BK/2 (NC)
BU/3	<u> </u>



Sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 5	e≥30	e ≥ 8
Ø8	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) b

(1) LED

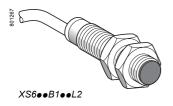
Sensors			Pre-ca	Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
Short cas	se model		а	b	а	b	а	b	
	Ø 6.5	XS106B3	33	_	42	-	45	-	
	Ø8	XS108B3	33	25	42	26	45	24	
	Ø 12	XS112B3	35	25		_	50	30	
	Ø 18	XS118B3	39	28		_	50	28	
	Ø 30	XS130B3	43	32		_	55	32	

	Ø 30	XS130B3	43	32		_	55	32	
Sensors			Pre-ca	abled (mm)	M12 c	onnector (m	m)		
Long cas	se model		а	b	а	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











0	0 40	0.041// -1		
		2-24 V, short case n		
Sensing dista (Sn) mm	ance 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, threade	ed 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, thread	led 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, thread	led 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. thread	led 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
Sancare	2 wire — 1	2-48 V, long case m	odol	
	ance Function	Connection	Reference	Weight
(Sn) mm	ince Function	Connection	Reference	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, threade	ed 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, thread	led M12 x 1			
4	NO	Pre-cabled (L = 2 m) (1)	XS612B1DAL2	0.180
		M12 connector	XS612B1DAM12	0.020

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	I 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, threade	d 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, threade	d 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, threade	d 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 x 1)	XSZB108	0.006
		Ø 12 (M12 x 1)	XSZB112	0.006
		Ø 18 (M18 x 1)	XSZB118	0.010
		Ø 30 (M30 x 1.5)	XSZB130	0.020
(1) For a 5 m long	cable replace	L2 by L5 .		

⁽²⁾ For further information, see page 128.



⁽¹⁾ For a 5 m long cable replace L2 by **L5**.

Example: XS606B3CAL2 becomes **XS606B3CAL5** with a 5 m long cable.

Characteristics, schemes. setting-up, dimensions

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

Sensor type			XS6eeB3eeM12 XS6eeB1DeM12	XS6eeB3eeL2 XS6eeB1DeL2			
Product certifications			UL, CSA, C€				
Connection	Connector		M12 connector 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	02				
	Ø 12	mm	03.2				
	Ø 18	mm	06.4				
	Ø 30	mm	012				
Differential travel		%	115 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 and XS608B1D: stainless steel, grade 303)				
	Sensing face		PPS				
	Cable		PvR 2 x 0.34 mm ² except Ø 6.5 and Ø 8: 2 x 0.11 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°				
Rated supply voltage		V	 1248 non polarised for XS6●●B1D, 1224 non polarised for XS6●●B3● (except Ø 6.5 short and Ø 8 short: polarised), with protection against reverse polarity 				
Voltage limits (including ripple)		٧	1058 for XS6•●B1D 1036 for XS6•●B3•				
Switching capacity		mΑ	≤ 100 with overload and short-circuit protect	ion			
Voltage drop, closed state		٧	≤ 4.2				
Residual current, open state		mΑ	≤ 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 132.

Wiring schemes

M12 connector Pre-cabled

Setting-up

Minimum mounting distances (mm)











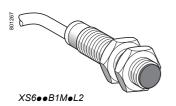
2-wire non polarised	
NO output	NC output
BN/3 +/- BU/4 -/+	BN/1 +/- BU/2 -/+
2-wire == polarised	
XS6●●B3CA	XS6eeB3CB
BN/1 +	BN/1 + BU/2 -

Sensors	Side by side	Face to face	Facing a metal object
Ø 6.5	e ≥ 5	e ≥ 30	e≥8
Ø8	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

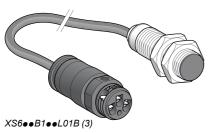
Dimensions
a
(1) LED

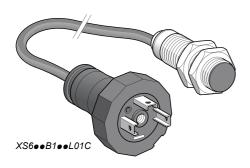
Sensors	Sensors		Pre-ca	Pre-cabled (mm)		onnector (mm)	
Short cas	Short case model		а	b	а	b	
	Ø 6.5	XS606B3C	33	-	_	-	
	Ø8	XS608B3C	33	25		24	
	Ø 12	XS612B3D	35	25	50	30	
	Ø 18	XS618B3D	39	28	50	28	
	Ø 30	XS630B3D	43	32	55	32	
Long cas	e model		а	b	а	b	
	Ø 6.5	XS606B1D	51	-	_	-	
	Ø8	XS608B1D	51	42	62	40	
	Ø 12	XS612B1D	53	42	62	42	
	Ø 18	XS618B1D	62	52	74	52	
	Ø 30	XS630B1D	62	52	74	52	

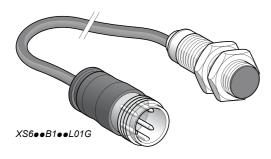
OsiSense XS, general purpose Cylindrical, increased range, flush mountable Two-wire AC or DC (1)

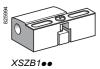












Sensing	Function	Connection	Reference	Weight
distance (Sn) mm				kg
Ø 12, threa	ded M12 x 1			
4	NO	Pre-cabled (L = 2 m) (2)	XS612B1MAL2	0.075
		1/2"-20UNF connector	XS612B1MAU20	0.025
	NC	Pre-cabled (L = 2 m) (2)	XS612B1MBL2	0.075
		1/2"-20UNF connector	XS612B1MBU20	0.02
Ø 18, threa	ded M18 x 1			
8	NO	Pre-cabled (L = 2 m) (2)	XS618B1MAL2	0.100
		1/2"-20UNF 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"-20UNF 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, threa	ded M30 x 1.	5		
15	NO	Pre-cabled (L = 2 m) (2)	XS630B1MAL2	0.20
		1/2"-20UNF connector	XS630B1MAU20	0.14
		Remote screw terminal connector	XS630B1MAL01B (3)	0.205
		Remote EN 175301-803-A connector	XS630B1MAL01C	0.205
		Remote M18 connector	XS630B1MAL01G	0.20
	NC	Pre-cabled (L = 2 m) (2)	XS630B1MBL2	0.205
		1/2"-20UNF 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
Accessorie	es (4)			
Description	1	For use with sensors	Reference	Weight kg
Fixing clam	ps	Ø 12	XSZB112	0.006
Fixing clam	ps	Ø 12 Ø 18	XSZB112 XSZB118	

⁽¹⁾ Ø 8 plastic, double insulation, version available: see page 66.

Ø 30

XSZB130

0.020



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

⁽³⁾ Protective cable gland included with sensor.

⁽⁴⁾ For further information, see page 128.

Characteristics, schemes. setting-up, dimensions

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

Sensor type			XS6eeB1MeU20	XS6eeB1MeLe	
Product certifications			UL, CSA, CE	ACCOUNT INVOLU	
Connection	0		1/2"-20UNF	T T	
Connection	Connector Pre-cabled		1/2"-20UNF	-	
				Length 2 m	
	Remote connector		Remote screw terminal (L01B), EN 175301- on 0.15 m flying lead.	·803-A (L01C) and M18 (L01G) connector	
Operating zone (1)	Ø 12	mm	03.2		
	Ø 18	mm	06.4		
	Ø 30	mm	012		
Differential travel		%	115 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 co	onnector version	
Rated supply voltage		٧	≂24240 (~ 50/60 Hz)		
Voltage limits (including ripple)		٧	≂20264		
Switching capacity	XS612B1M●●●	mA	5200 (2)		
	XS618B1M••• XS630B1M•••	mA	∼5300 or == 5200 (2)		
Voltage drop, closed state		٧	≤ 5.5		
Residual current, open state		mA	≤0.8		
Maximum switching frequency	Ø 12	Hz	 1000 / ∼ 25		
(DC/AC)	Ø 18	Hz	1000 / ∼ 25		
	Ø 30	Hz	 500 / ∼ 25		
Delays	First-up	ms	≤ 25 for Ø 18 and Ø 30 sensors; ≤ 20 for Ø 1	2 sensors	
	Response	ms			
	Recovery	ms	s ≤ 0.2 for Ø 12 sensors; ≤ 0.5 for Ø 18 sensors; ≤ 2 for Ø 30 sensors		

⁽¹⁾ Detection curves, see page 132.

Wiring schemes

Connector (1) Pre-cabled 2-wire ∼ or ... 1/2"-20UNF BU: Blue NO or NC output BN: Brown ≂: 2 ≟: 1

±: on connector models only

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

Setting-up

Minimum mounting distances (mm)

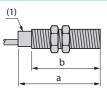






Sensors	Side by side	Face to face	Facing a metal object
Ø 12	e≥8	e ≥ 50	e ≥ 12
Ø 18	e ≥ 16	e ≥ 100	e ≥ 25
Ø 30	e≥30	e ≥ 180	e ≥ 45

Dimensions



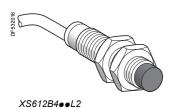
ors	Pre-cabled	(
	а	
XS612B1M●	53	
XS618B1M●	62	
XS630B1M●	62	
	XS612B1M● XS618B1M●	a XS612B1Me 53 XS618B1Me 62

Pre-cab	led (mm)	Connec	ctor (mm)	
а	b	а	b	
53	42	62	42	
62	52	73	52	
62	52	73	52	

(1) LED

⁽²⁾ It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

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









Sensors, 3-v	vire 1	248	V, long case mod	lel	
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
22	NO	PNP	Pre-cabled (L = 2 m) (1)	XS630B4PAL2	0.205
			M12 connector	XS630B4PAM12	0.145
		NPN	Pre-cabled (L = 2 m) (1)	XS630B4NAL2	0.205
			M12 connector	XS630B4NAM12	0.145
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS630B4PBL2	0.205
			M12 connector	XS630B4PBM12	0.145
		NPN	Pre-cabled (L = 2 m) (1)	XS630B4NBL2	0.205
			M12 connector	XS630B4NBM12	0.145
Accessories (2)	1				
Description		For use v	with	Reference	Weight kg
Fixing clamps		Ø 12		XSZB112	0.006
		Ø 18		XSZB118	0.010
		Ø 30		XSZR130	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 long cable.

⁽²⁾ For further information, see page 128.

Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors OsiSense XS, general purpose

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

Sensor type			XS6•eB4•eM12	XS6eeB4eeL2	
Product certifications			UL, CSA, C€	•	
Connection	Connector		M12	-	
	Pre-cabled		-	Length: 2 m	
Operating zone	Ø 12	mm	05.6	•	
	Ø 18	mm	09.6		
	Ø 30	mm	017.6		
Differential travel		%	115 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 3 x 0.34 mm ²	
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 H:	z)	
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		٧	== 1248 with protection against revers	se polarity	
Voltage limits (including ri	pple)	٧	 1058		
Switching capacity		mA	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		٧	≤2		
Current consumption, no-l	oad	mA	≤ 10		
Maximum switching	XS612B4•••	Hz	2500		
frequency	XS618B4•••	Hz	1000		
	XS630B4•••	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 Pre-cabled

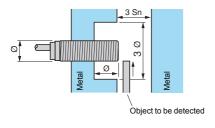
M12

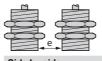
BU: Blue BN: Brown BK: Black



Setting-up

Minimum mounting distances (mm)



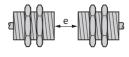


Side by side	
e ≥ 48	
e ≥ 72	
e ≥ 120	

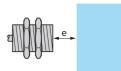
Ø 12

Ø 18

Ø 30



Face to face	
e ≥ 84	
e ≥ 144	
e ≥ 264	



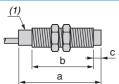
Facing a metal object

e ≥ 21

e ≥ 36

e ≥ 66

Dimensions



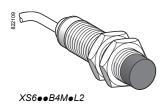
XS6 Ø 12 Ø 18 Ø 30

Pre-c	Pre-cabled (mm)					
а	b	С				
55	42	5				
60	44	8				
63	41	13				

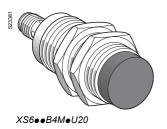
tor (mm)		
b	С	
42	5	
44	8	
41	13	
	b	b c 42 5 44 8

(1) LED

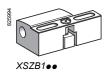
Inductive proximity sensors
OsiSense XS, general purpose
Cylindrical, increased range, non flush mountable
Two-wire AC or DC



Sensors, 2-w	rire ≂ 24	. 240 V, long case model	
Ø 18, threaded N	/118 x 1		
Sensing distance (Sn) mm	Function	Connection Reference	Weight kg
12	NO	Pre-cabled (L = 2 m) (1) XS618B4MAL2	0.120
		1/2"-20UNF connector XS618B4MAU20	0.060
	NC	Pre-cabled (L = 2 m) (1) XS618B4MBL2	0.120
		1/2"-20UNF connector XS618B4MBU20	0.060



Ø 30, threaded M	130 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"-20UNF connector	XS630B4MAU20	0.145
	NC	Pre-cabled (L = 2 m) (1) XS630B4MBL2	0.205
		1/2"-20UNF connector	XS630B4MBU20	0.145



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 long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**. Example: XS618B4MAL2 becomes **XS618B4MAL5** with a 5 m long cable.



⁽²⁾ For further information, see page 128.

Characteristics, schemes. setting-up, dimensions

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

Sensor type			XS6eeB4MeU20	XS6eeB4MeL2
Product certifications				ASOPEDAMELZ
	0		UL, CSA, C€	
Connection	Connector		1/2"-20UNF	-
	Pre-cabled		-	Length: 2 m
Operating zone	Ø 18	mm	09.6	
	Ø 30	mm	017.6	
Differential travel		%	115 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 mm ²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz	(1)
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		٧	\sim or == 24240 (\sim 50/60 Hz)	
Voltage limits (including	ripple)	V	~ or == 20264	
Switching capacity		mA	~5300 or 5200 <i>(1)</i>	
Voltage drop, closed sta	te	V	≤ 5.5	
Residual current, open s	state	mA	≤0.8	
Maximum switching	XS618B4M●●●	Hz	~ 25 or == 1000	
frequency	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

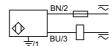
Connector 1/2"-20UNF





Pre-cabled

BU: Blue BN: Brown

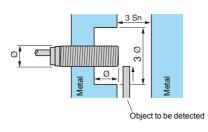


2-wire \sim or $\overline{...}$

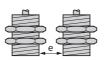
NO or NC output

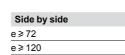
±: on connector models only

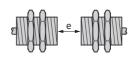
Setting-up



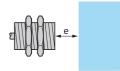
Minimum mounting distances (mm)





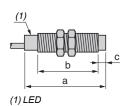


Face to face	
e ≥ 144	
e ≥ 264	



Facing a metal object	
e ≥ 36	
e ≥ 66	

Dimensions



	Pre-	Pre-cabled (mm)				
XS6	а	b	С			
Ø 18	60	44	8			
Ø 30	63	41	13			

Ø 18

Ø 30

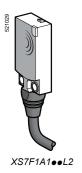
Connec	ctor (mm)		
а	b	С	
72	44	8	
74	41	13	

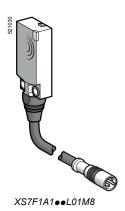
References

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









Flat, 8 x 22 x	8 mm f	ormat	(1) (2)		
Three-wire ===					
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
2.5	NO	PNP	Pre-cabled (L = 2 m) (3)	XS7J1A1PAL2	0.060
			Remote M8 connector on 0.15 m flying lead	XS7J1A1PAL01M8	0.040
		NPN	Pre-cabled $(L=2 m) (3)$	XS7J1A1NAL2	0.060
			Remote M8 connector on 0.15 m flying lead	XS7J1A1NAL01M8	0.040
	NC	C PNP	Pre-cabled (L = 2 m) (3)	XS7J1A1PBL2	0.060
			Remote M8 connector on 0.15 m flying lead	XS7J1A1PBL01M8	0.040
		NPN	Pre-cabled (L = 2 m) (3)	XS7J1A1NBL2	0.060
			Remote M8 connector on 0.15 m flying lead	XS7J1A1NBL01M8	0.040

Two-wire					
Sensing distance (Sn) mm	e Function Out	put	Connection	Reference	Weight kg
2.5	NO		Pre-cabled (L = 2 m) (3)	XS7J1A1DAL2	0.050
			Remote M8 connector on 0.15 m flying lead	XS7J1A1DAL01M8	0.035
	NC		Pre-cabled (L = 2 m) (3)	XS7J1A1DBL2	0.050
			Remote M8 connector on 0.15 m flying lead	XS7J1A1DBL01M8	0.035

Flat, 15 x 32	Flat, 15 x 32 x 8 mm format (1)							
Three-wire ===								
Sensing distance (Sn) mm	e Function	Output	Connection	Reference	Weight kg			
5	NO	PNP	Pre-cabled (L = 2 m) (3)	XS7F1A1PAL2	0.065			
			Remote M8 connector on 0.15 m flying lead	XS7F1A1PAL01M8	0.045			
		NPN	Pre-cabled (L = 2 m) (3)	XS7F1A1NAL2	0.065			
			Remote M8 connector on 0.15 m flying lead	XS7F1A1NAL01M8	0.045			
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS7F1A1PBL2	0.065			
			Remote M8 connector on 0.15 m flying lead	XS7F1A1PBL01M8	0.045			
		NPN	Pre-cabled (L = 2 m) (3)	XS7F1A1NBL2	0.065			
			Remote M8 connector on 0.15 m flying lead	XS7F1A1NBL01M8	0.045			

Two-wire Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
5	NO		Pre-cabled (L = 2 m) (3)	XS7F1A1DAL2	0.055
			Remote M8 connector on 0.15 m flying lead	XS7F1A1DAL01M8	0.045
	NC		Pre-cabled (L = 2 m) (3)	XS7F1A1DBL2	0.055
			Remote M8 connector on 0.15 m flying lead	XS7F1A1DBL01M8	0.045



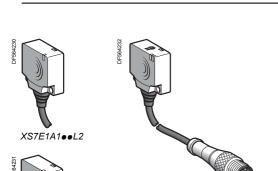
⁽¹⁾ For accessories, see page 128.
(2) Sensors **XS7J** include a fixing clamp with screw.
(3) For a 5 m long cable replace L2 by **L5**; for a 10 m long cable replace L2 by **L10**. Example: XS7J1A1PAL2 becomes XS7J1A1PAL5 with a 5 m long cable.

Characteristics, schemes, setting-up, dimensions

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

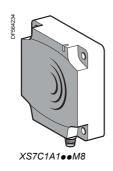
Characteristics						
Sensor type			XS7JeeeeL01M8	XS7FeeeeL01M8	XS7Jeeeee	L2, XS7FeeeeeL2
Product certifications			C€	UL, CSA, C€		
Connection	Connector		Remote M8 connector	r on 0.15 m flying lead	_	
	Pre-cabled		-		Length: 2 m	
Operating zone	XS7J	mm	02			
	XS7F	mm	04			
Differential travel		%	115 of effective sen	sing distance (Sr)		
Degree of protection	Conforming to IEC 60529	70	IP 67 (XS7J), IP 68 (X			
	Comorning to IEC 00329	°C	- 40+ 85	(071)		
Storage temperature		°C	- 40+ 65			
Operating temperature	0	<u> </u>				
Materials	Case		PBT	2 0 11 2 (VOTE 0	0 . 0 0 4	- 2\
	Cable			2 x 0.11 mm² (XS7F: 2	or 3 x 0.34 mn	<u>n²)</u>
/ibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 r			
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms			
Output state indication			Yellow LED			
Rated supply voltage		٧	== 1224 with protect	ction against reverse p	olarity	
oltage limits (including ripple)	1	٧	 1036			
Current consumption, no-load	3-wire	mA	≤ 10			
Residual current, open state	2-wire	mA	≤ 0.5			
Switching capacity	3-wire	mA		d short-circuit protection	nn .	
Switching capacity	2-wire	mA		ad and short-circuit protection		
Altono duon al				and Short-Circuit pro	i e cuon	
Voltage drop, closed state	3-wire	٧	≤2			
	2-wire	٧	≤4			
Maximum switching frequency		kHz	2			
	2-wire	kHz	4 for XS7J , 5 for XS7I	F		
Delays	First-up	ms	Three-wire: 5			
		ms	Two-wire: 10 XS7J, 5	XS7F		
	Response	ms	Three-wire: 0,1			
	- >p	ms	Two-wire: 0,5 XS7J , 5	5 XS7F		
	Recovery	ms	Three-wire: 0,1			
	1.000vory		· · · · · · · · · · · · · · · · · · ·	V97E		
147		ms	Two-wire: 1 XS7J , 5)	NO/F		
Wiring schemes						
Connector	Pre-cabled	PNP	NO or NC	NPN NO or NO		2-wire NO
M8		DNI/4		D1/4		
	BU: Blue	BN/1 PNP	¬ +	BN/1	+	BN/3 +/-
	BN: Brown	1 .	BK/4	NPN L		
1 () 3	BK: Black	<u> </u>		BK/4		NO BU/4
		BU/3		BU/3		BO/4 — -/+
						2-wire NC
						BN/1 +/-
						NC BU/3
						DO/3/+
Setting-up						
		Minis	mum mounting dist	tances (mm)		
		IVITIII	nam mounting dist	tances (IIIIII)		
		7				
		чe	-	<mark>e</mark>		e e
		919	119			4
		Ħ	Ħ	# #		
		77	П	п Ц		П
		Side I	by side	Face to face		Facing a metal object
	XS7J	e ≥ 1		e ≥ 6		e ≥ 7.5
		<u>e ≥ 1</u>		e ≥ 12		e ≥ 15
Dimensions						
		VOTE			VO-	,
		XS7F			XS7.	J
		8	15 (1)		8	8 4 (1) 25 27
			Ø3,5 (((1) LE (2) Fol	Ø3,5 (2) D C CHC type screws

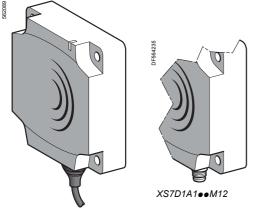
Inductive proximity sensorsOsiSense XS, general purpose, standard range Flat format, flush mountable Two-wire DC Three-wire DC, solid-state output

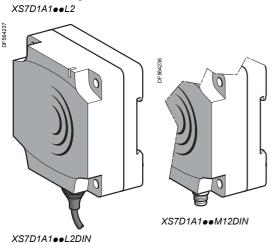












(Sn) mn		·	Connection	Reference	Weigh k
•		13 mm fc	ormat (1)		
Three-	-wire 				
0	NO	PNP	Pre-cabled (L = 2 m) (4)	XS7E1A1PAL2	0.0
			M8 connector	XS7E1A1PAM8	0.0
			Remote M12 connector	XS7E1A1PAL01M12	0.0
		NPN	Pre-cabled (L = 2 m) (4)	XS7E1A1NAL2	0.0
			M8 connector	XS7E1A1NAM8	0.0
			Remote M12 connector	XS7E1A1NAL01M12	0.0
	NC	PNP	Pre-cabled (L = 2 m) (4)	XS7E1A1PBL2	0.0
			M8 connector	XS7E1A1PBM8	0.0
			Remote M12 connector	XS7E1A1PBL01M12	0.0
		NPN	Pre-cabled (L = 2 m) (4)	XS7E1A1NBL2	0.0
			M8 connector	XS7E1A1NBM8	0.0
			Remote M12 connector	XS7E1A1NBL01M12	0.0
Two-w	/ire 				
0	NO		Pre-cabled (L = 2 m) (4)	XS7E1A1DAL2	0.0
			M8 connector	XS7E1A1DAM8	0.0
			Remote M12 connector	XS7E1A1DAL01M12	0.0
	NO termin	nals 1 and 4 (2)	Remote M12 connector	XS7E1A1CAL01M12	0.0
			Remote M12 connector (3)	XS7E1A1CAL08M12	0.0
	NC		Pre-cabled (L = 2 m) (4)	XS7E1A1DBL2	0.0
			M8 connector	XS7E1A1DBM8	0.0
			Remote M12 connector	XS7E1A1DBL01M12	0.0
Flat,	40 x 40 x	15 mm fc	ormat (1)		
Three-	-wire 				
5	NO	PNP	Pre-cabled (L = 2 m) (4)	XS7C1A1PAL2	0.0
			M8 connector	XS7C1A1PAM8	0.0
			Remote M12 connector	XS7C1A1PAL01M12	0.0
		NPN	Pre-cabled (L = 2 m) (4)	XS7C1A1NAL2	0.0
			M8 connector	XS7C1A1NAM8	0.0
			Remote M12 connector	XS7C1A1NAL01M12	0.0
	NC	PNP	Pre-cabled (L = 2 m) (4)	XS7C1A1PBL2	0.0
			M8 connector	XS7C1A1PBM8	0.0
			Remote M12 connector	XS7C1A1PBL01M12	0.0
		NPN	Pre-cabled (L = 2 m) (4)	XS7C1A1NBL2	0.0
			M8 connector	XS7C1A1NBM8	0.0
			Remote M12 connector	XS7C1A1NBL01M12	0.0
Гwo-w	/ire 				
5	NO		Pre-cabled (L = 2 m) (4)	XS7C1A1DAL2	0.0
			M8 connector	XS7C1A1DAM8	0.0
			Remote M12 connector	XS7C1A1DAL01M12	0.0
	NO termin	nals 1 and 4 (2)	Remote M12 connector	XS7C1A1CAL01M12	0.0
			Remote M12 connector (3)	XS7C1A1CAL08M12	0.0
	NC		Pre-cabled (L = 2 m) (4)	XS7C1A1DBL2	0.0
	-		M8 connector	XS7C1A1DBM8	0.0
			Remote M12 connector	XS7C1A1DBL01M12	0.0
Flat.	80 x 80 x	26 mm fc			
	-wire 		, ,		
)	NO	PNP	Pre-cabled (L = 2 m) (4)	XS7D1A1PAL2 (5)	0.3
-			M12 connector	XS7D1A1PAM12 (5)	0.2
		NPN	Pre-cabled (L = 2 m) (4)	XS7D1A1NAL2 (5)	0.3
			M12 connector	XS7D1A1NAM12 (5)	0.2
	NC	PNP	Pre-cabled (L = 2 m) (4)	XS7D1A1PBL2 (5)	0.3
			M12 connector	XS7D1A1PBM12 (5)	0.29

- (1) For accessories, see page 128.
- (2) The NO output is connected to terminals 1 and 4 of the M12
- (3) Remote connector on 0.8 m flying lead.
- (4) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: S7 J1A1PAL2 becomes XS7J1A1PAL5 with a 5 m long cable.

NPN

NO terminals 1 and 4 (2) M12 connector

(5) For clipping onto 35 mm omega rail or 80 x 80 x 40 mm format, add DIN to the end of the reference. Example: XS7D1A1PAL2 becomes XS7D1A1PAL2DIN.

Pre-cabled (L = 2 m) (4)

Pre-cabled (L = 2 m) (4)

Pre-cabled (L = 2 m) (4)

M12 connector

M12 connector

M12 connector

XS7D1A1NBL2 (5) XS7D1A1NBM12 (5)

XS7D1A1DAL2 (5)

XS7D1A1DAM12 (5)

XS7D1A1CAM12 (5)

XS7D1A1DBL2 (5)

XS7D1A1DBM12 (5)

0.290

0.340

0.290

0.290

0.340

0.290



Two-wire ---

NO

40

Characteristics, schemes, setting-up, dimensions

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

Sensor type				XS7E••••M8, XS7C•••••M8, XS7D•••••M12	XS7E••••L01M12, XS7C••••L01M12	XS7E•••••L2 XS7C•••••L2 XS7D•••••L2
Product certifications				UL, CSA, C€		'
Connection	Connector			M8 except M12 on XS7D••••M12	M12 on 0.15 m flying for XS7 •••• L01M1 :	
	Pre-cabled			-	_	Length: 2 m
Operating zone	XS7E		mm	08		
	XS7C		mm	012		
	XS7D		mm	032		
Differential travel			%	115 of effective sensin	g distance (Sr)	
Degree of protection	Conforming to IEC	60529			(except for M8 connector: IP 6	67) IP 68, 🗆
Storage temperature			°C	- 40+ 85		
Operating temperature			°C	- 25+ 70		
V laterials	Case			PBT		
	Cable			-	PvR 3 x 0.34 mm ² or 2	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		
Rated supply voltage			٧	1224 with protection a	gainst reverse polarity	
Voltage limits (including ripple)			٧	1036		
Current consumption, no-load	3-wire		mA	≤ 10		
Residual current, open state	2-wire		mA	≤ 0.5		
Switching capacity	3-wire		mA	≤ 100 with overload and	short-circuit protection	
- · ·	2-wire		mA	1.5100 with overload a	and short-circuit protection	
Voltage drop, closed state	3-wire		٧	≤2	, , , , , , , , , , , , , , , , , , , ,	
.,,	2-wire		٧	≤4		
Maximum switching frequency	XS7E, XS7C		kHz	1		
	XS7D		Hz	100		
Delays	First-up	3-wire	ms	10 XS7E and XS7C , 30 2	XS7D	
		2-wire	ms	5 XS7E and XS7D, 10 X		
	Response	3-wire	ms	2 XS7E and XS7C, 5 XS		
	Response	2-wire	ms	0,3 XS7E and XS7D , 10		
	Recovery	3-wire	ms	6 XS7E, 5 XS7C, 35 XS		
	Recovery	2-wire	ms	0,7 XS7E and XS7D , 10		
Minimum a ala anno a		Z-WIIC	1113	0,7 A37 E and A37 D, 10	ASTE	
Wiring schemes						
Connector	Pre-cabled		PNP	M12 or M8	2-wire NO/M12 or M8	2-wire NC/M12 or M8
	BU: Blue		BN/1□	+	BN/3 +/-	BN/1
	BN: Brown BK: Black		PNP	BK/4 (NO)	BN/3 17-	
	BK: Black		\Diamond	BK/2 (NC)	♦ No L	NC BU/2 (M12)
			BU/3	- 무 -	BU/4 □ -/+	BU/3 (M8)
1 2				/N40 N0	0 NO/M40 VOT	04
			NPN	/M12 or M8	2-wire NO/M12 XS7	CA•••
			BN/1	+	BN/1 +/-	
			NPN	BK/4 (NO)	l. — —	
			\Diamond	BK/2 (NC)		For M8 connector, NO an
			BU/3		BU/4 -/+	NC outputs on terminal 4
Setting-up			Dim	ensions		
	(IOID.	VOTE
Minimum mounting distance	, ,		XS70	C/D/E XS7	C/D	XS7E
Side by side e ≥		XS7D	C	· -	B	(1)
	4 5	40	D	- -	E ► (1)	──
e e				 		<u></u>
0 0				† [<u> </u>		\$ 75L
\forall						F (2)
п п	XS7E XS7C	XS7D				\
Face to face e ≥		300			ш	
Face to face e >	72 110			a 1		 < ~ >
Face to face e >	72 110					' R '
	72 110					В
	72 110]_	9.		<mark>■ B</mark>
				5(2)		
	XS7E XS7C	XS7D 120		F(2)	< \	(1) LED (2) For CHC type screw



XS7DeeDIN

14

14

23

XS7E

XS7C

XS7D

A (connector)

26

80

80

13

15

26

11

11

18

3.5

4.5

5.5

5.1

8.8

16

33

65

Cubic case, 40 x 40 x 70 mm, M12 or 1/2"-20UNF connector 5 position turret head

Flush mountable in metal Non flush mountable in metal Sensor



Nominal sensing distance (Sn)		15 mm	20 mm	40 mm
References				
4-wire	PNP NO+NC	-	XS8C2A1PCM12	XS8C2A4PCM12
	NPN NO+NC	_	XS8C2A1NCM12	XS8C2A4NCM12
3-wire	PNP NO	XS7C2A1PAM12	_	_
	NPN NO	XS7C2A1NAM12	_	_
	PNP NC	XS7C2A1PBM12	_	_
	NPN NC	XS7C2A1NBM12	_	_
2-wire	NO	XS7C2A1DAM12	XS8C2A1DAM12	XS8C2A4DAM12
	NC	XS7C2A1DBM12	XS8C2A1DBM12	XS8C2A4DBM12
2-wire (~/-::) unprotected (1)	NO	XS7C2A1MAU20	XS8C2A1MAU20	XS8C2A4MAU20
	NC	XS7C2A1MBU20	XS8C2A1MBU20	XS8C2A4MBU20
Weight (kg)		0.149	0.149	0.149
Characteristics				
Operating zone		012 mm	016 mm	032 mm
Product certifications		UL, CSA, CE. TÜV (4-	wire versions)	
Conformity to standards		IEC 60947-5-2		
Conformity to safety	For XS8C2A PCM12	EN 62061 (2005): SIL		
standards (2)		EN 61508 (2010): SIL EN ISO 13849 (2008):		
Reliability data (2)	For XS8C2A PCM12	MTTFd = 1546 years	. I L U	
		PFHd = 7.4 10-8 1/h		
Connection		M12 connector for == \ 1/2 "-20UNF connector		
Differential travel		315% of Sr		
Degree of protection	Conforming to IEC 60529 and DIN 40050	IP 65, IP 67 and IP 69	K	
Temperature	Storage	- 40+ 85°C		
	Operation (3)	- 25+ 70°C		
Material		Case: PBT		
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 n	nm (f = 1055 Hz)	
Shock resistance	Conforming to IEC 60068-2-27	50 gn for 11 ms Yellow LED		
Indicators	Output state Power on		, 3-wire and 2-wir	ra o /— varsions
Rated supply voltage	4-wire		on against reverse pol	
· · · · · · · · · · · · · · · · · · ·	3-wire	·	on against reverse pol	
	2-wire		on against reverse pol	
	2-wire ~/	24240 V (~ 50/60 H		anty
Voltage limits	4-wire ===	1058 V	·-/	
(including ripple)	3-wire	1036 V		
,	2-wire ===	1058 V		
	2-wire ~/	20264 V		
Current consumption, no-load	3-wire and 4-wire ==	< 15 mA		
Residual current, open state	2-wire ===	< 0.6 mA		
nesiduai current, open state	2-wire 2-wire ~/	1.5 mA		
Switching canacity	2-wire ∼/ 3-wire and 4-wire		d and short aircuit and	eaction
Switching capacity			d and short-circuit prot	
	2-wire		d and short-circuit prot	ection
	2-wire <i></i> √/ 	∼: 5300 mA (1) : 5200 mA (1)		
Voltage drop, closed state	3-wire and 4-wire ===	<2 V		
	2-wire	< 4.2 V		
	2-wire/∼	< 5.5 V		
Maximum switching frequency		Flush mountable: == 3		
Deleve	First up	Non flush mountable:	150 Hz,	and 2 wire —/a
Delays	First-up	`	,, ,	,
	Response		2 ms. Non flush mount	
<u> </u>	Recovery		8 ms. Non flush mount	
(1) Sensor must be protected by a	a () 4 A quick-blow fuse (reference	XUZ E04) connected in	series with the load (se	ee nage 128)

⁽¹⁾ Sensor must be protected by a 0.4 A quick-blow fuse (reference **XUZ E04**) connected in series with the load (see page 128).
(2) SIL 2 protection can only be obtained by connecting both outputs to a safety PLC. Please refer to the "Safety solutions using Preventa" catalogue.
(3) 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.



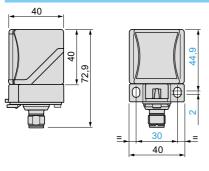
Inductive proximity sensors

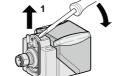
OsiSense XS, general purpose Cubic case, 40 x 40 x 70 mm, M12 or 1/2"-20UNF connector 5 position turret head

Setting-up precautions Minimum mounting distances (mm) Side by side Face to face Facing a metal object Sensors flush mountable in metal XS7C2A1 e≥60 e ≥ 120 e ≥ 45 XS8C2A1ee e≥80 e ≥ 160 e ≥ 60 Sensors non flush mountable in metal XS8C2A4ee e ≥ 160 e ≥ 320 e ≥ 120 Wiring schemes 4-wire ---, NO + NC outputs 3-wire, PNP 3-wire, NPN 2-wire, 1/2"- 20UNF XUZ E04 4 (NO) 4 (NO)[PNF PNP NPN NPN 4 (NO) 2 (NC) 2 (NC) \Diamond \Diamond $| \diamondsuit$ 2 (NC) 30 2-wire ..., NO output 2-wire ..., NC output M12 connector 1/2"-20UNF connector (M12 connector) (M12 connector) + V: 1 NC: 2 NO 40 NO: 4

Accessory references				
Description	Type	Length	Reference	Weight
		m		kg
Pre-wired M12 connectors	Straight	2	XZCP1141L2	0.090
Female, 4-pin, zinc die-cast, nickel plated		5	XZCP1141L5	0.190
clamping ring		10	XZCP1141L10	0.370
	Elbowed	2	XZCP1241L2	0.090
		5	XZCP1241L5	0.190
		10	XZCP1241L10	0.370
Pre-wired 1/2"-20UNF connectors	Straight	5	XZCP1865L5	0.180
Female, 3-pin, zinc die-cast, nickel plated clamping ring		10	XZCP1865L10	0.350
	Elbowed	5	XZCP1965L5	0.180
		10	XZCP1965L10	0.350
Dimensions		Head positions		

Dimensions





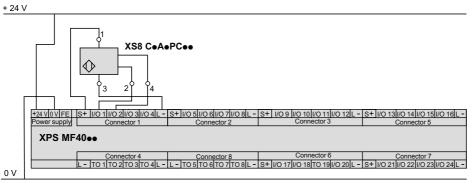








Example SIL 2 wiring scheme (with Preventa XPS MF40 safety PLC)



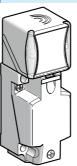
SFF (Safe Failure Fraction): 92,68 % DC (Diagnosis Coverage): 75,8 %

S+: 24 V L -: 0 V I/O 1...24: safety I/O

Inductive proximity sensors

OsiSense XS, general purpose Plastic case, 40 x 40 x 117 mm, plug-in 5 position turret head

ensor Flu	sh mountable in metal	Non flush mountable in metal
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Nominal sensing distance (Si	1)		15 mm	20 mm	40 mm
References					
4-wire 	PNP	NO+NC	-	XS8C4A1PCP20	XS8C4A4PCP20
	NPN	NO+NC	-	XS8C4A1NCP20	XS8C4A4NCP20
2-wire	NO or N	C programmable	XS7C4A1DPP20	XS8C4A1DPP20	XS8C4A4DPP20
2-wire (~/-::) unprotected (1)	NO or N	C programmable	XS7C4A1MPP20	XS8C4A1MPP20	XS8C4A4MPP20
Weight (kg)			0.244	0.244	0.244
	Note : These sensors have an M20 cable entry. They can also be supplied with a PG 13.5 call entry (e.g. XS8C4A4PCG13) or a 1/2" NPT cable entry (e.g. XS8C4A1MPN12). Please consult our Customer Care Centre.				

Characteristics Operating zone 0...12 mm 0...16 mm 0...32 mm UL, CSA, CE. TÜV (4-wire versions) **Product certifications** IEC 60947-5-2 **Conformity to standards** Conformity to safety For XS8C4A

PCP20 EN 62061 (2005): SILcl2, standards (2) EN 61508 (2010): SIL 2 EN ISO 13849 (2008): PL d Reliability data (2) For XS8C4A

PCP20 MTTFd = 1546 years PFHd = 7.4 10-8 1/h Connection Screw terminals, clamping capacity: 2 or 4 x 1.5 mm2 (3) Differential travel 3...15% of Sr Degree of protection Conforming to IEC 60529 and IP 65, IP 67 and IP 69K DIN 40050 Temperature Storage - 40....+ 85°C Operation (4) - 25....+ 70°C Material Case: PBT Vibration resistance Conforming to IEC 60068-2-6 25 gn, amplitude ± 2 mm (f = 10...55 Hz) Shock resistance Conforming to IEC 60068-2-27 50 gn for 11 ms Indicators Output state Power on Green LED, for 4-wire == and 2-wire ~/== versions Rated supply voltage 4-wire = 12...48 V with protection against reverse polarity 2-wire = 12...48 V with protection against reverse polarity 2-wire ∼/---24...240 V (∼ 50/60 Hz) Voltage limits 4-wire ---10...58 V (including ripple) 2-wire ---10...58 V 20...264 V 2-wire ~/--Current consumption, no-load 4-wire < 15 mA Residual current, open state 2-wire ---< 0.6 mA 2-wire ~/---1.5 mA Switching capacity < 200 mA with overload and short-circuit protection 4-wire ---2-wire ---< 100 mA with overload and short-circuit protection ~: 5...300 mA (1) 2-wire ~/---:: 5...200 mA *(1)* <2V Voltage drop, closed state 4-wire --< 4.2 V 2-wire --< 5.5 V 2-wire ---/~ Maximum switching frequency Flush mountable: --- 300 Hz. ~ 25 Hz Non flush mountable: = 150 Hz, \sim 25 Hz Delays First-up 7 ms (3-wire and 4-wire $\overline{\ }$), 20 ms (2-wire $\overline{\ }$ and 2-wire $\overline{\ }$ / \sim) Flush mountable: ≤ 1.2 ms. Non flush mountable: ≤ 1.4 ms Flush mountable: ≤ 1.8 ms. Non flush mountable: ≤ 3.5 ms Recovery

⁽⁴⁾ 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.



⁽¹⁾ Sensor must be protected by a 0.4 A quick-blow fuse (reference **XUZ E04**) connected in series with the load (see page 128).

⁽²⁾ SIL 2 protection can only be obtained by connecting both outputs to a safety PLC. Please refer to the "Safety solutions using Preventa" catalogue.

⁽³⁾ These sensors are supplied without a cable gland. An adaptable PG 13.5 cable gland is available (reference XSZ PE13). Accessories are available for connection to an M12 or 7/8"-16UN connector which can be added to the PG 13.5 sensor. Please consult our Customer Care Centre.

Inductive proximity sensors

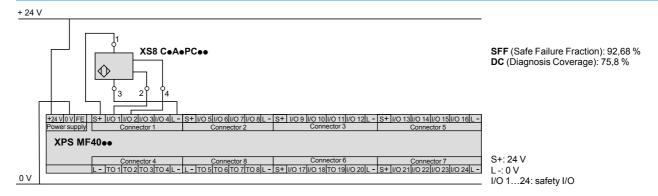
OsiSense XS, general purpose Plastic case, 40 x 40 x 117 mm, plug-in 5 position turret head

Setting-up precautions Minimum mounting distances (mm) Side by side Face to face Facing a metal object XS7C4A1ee Sensors flush mountable in metal e≥60 e ≥ 120 e≥45 XS8C4A1ee e ≥ 160 e≥80 e≥60 Sensors non flush mountable in metal XS8C4A4ee e ≥ 160 e ≥ 320 e ≥ 120 Wiring schemes NO + NC outputs NO or NC outputs, depending on position of link 4-wire ... 2-wire ... (non polarised) 2-wire \sim or \dots (programmable) NO XUZ E04 4 (NO) 4 (NO) PNF NPN 0 \Diamond (NC) 2 (NC) $| \Diamond$ $| \Diamond$ **Dimensions Head positions** 40 40 Ø5,45 15,9 41,3 40

(1) 2 elongated holes Ø 5.3 x 7 cm.

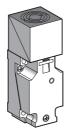
Tightening torque of cover fixing screws and clamp screws: < 1.2 Nm

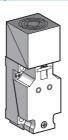
Example SIL 2 wiring scheme (with Preventa XPS MF40 safety PLC)



Inductive proximity sensors
OsiSense XS, general purpose
Plastic case, 40 x 40 x 117 format, plug-in
5 position turret head DC supply

Sensor Flush mountable in metal Non flush mountable in metal





Nominal sensing distance	e (Sn)		15 mm	Increased range	15 mm	20 mm	Increased range	20 mm	
			20 mm			40 mm			
References									
4-wire (complementary outputs)	PNP	NO + NC	XS7C40PC440	XS7C40PC449	-	XS8C40PC440	XS8C40PC449	-	
	NPN	NO + NC	XS7C40NC440	XS7C40NC449	-	XS8C40NC440	XS8C40NC449	-	
2-wire (non polarised)	NO		-	-	XS7C40DA210	-	-	XS8C40DA210	
	NO or progra	NC ammable	_	-	XS7C40DP210	-	-	XS8C40DP210	
Weight (kg)			0.220	0.220	0.220	0.220	0.220	0.220	
Characteristics									
Product certifications			UL, CSA, C€						
Degree of protection conf IEC 60529	orming 1	to	IP 67						
Operating temperature		-25+70 °C							
Connection		Screw terminals, clamping capacity: 2 or 4 x 1.5 mm² (1)							
Operating zone			012 mm	016 mm	012 mm	016 mm	032 mm	016 mm	
Repeat accuracy			≤3 % of effective	sensing distance (S	Sr)	•		•	
Differential travel			320 % of effect	ive sensing distance	e (Sr)				
Status indication	Outpu		Yellow LED Yellow LED Yellow LED						
	Suppl	y on	Green LED – Green LED –						
Rated supply voltage			== 1248 V with protection against reverse polarity						
Voltage limits (including i	ripple)		1058 V						
Current consumption, no	-load		≤10 mA		-	≤ 10 mA		_	
Switching capacity			0200 mA		1.5100 mA	0200 mA		1.5100 mA	
			With overload and	d short-circuit protec	ction				
Residual current, open state		-		≤ 0.5 mA	-		≤ 0.5 mA		
Voltage drop, closed state		≤2 V		≤4 V	≤2 V		≤4 V		
Maximum switching frequ	uency		1000 Hz		1500 Hz	1000 Hz	500 Hz	800 Hz	
Delays	First-u	ıp	≤ 5 ms		≤ 5 ms	≤ 5 ms	≤ 5 ms	≤ 5 ms	
	Respo	onse	≤ 0.3 ms		≤2 ms	≤ 0.3 ms	< 1 ms	≤2 ms	
Recovery		≤ 0.7 ms		≤5 ms	≤ 0.7 ms	< 1 ms	≤7 ms		

⁽¹⁾ Cable gland not included with sensor. For suitable 13P cable gland (XSZPE13), see page 128.

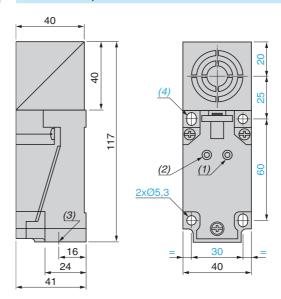


OsiSense XS, general purpose Plastic case, 40 x 40 x 117 format, plug-in 5 position turret head DC supply

Dimensions

XS7C40De210, XS8C40De210

XS7C40eC44e, XS8C40eC44e

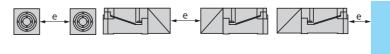


- (1) Output LED.
- (2) 1 tapped entry for 13P cable gland.
- (3) 2 elongated holes Ø 5 3 x 7

- (1) Output LED.
- (2) Supply LED.
- (3) 1 tapped entry for 13P cable gland.
- (4) 2 elongated holes Ø 5.3 x 7.

Setting-up

Minimum mounting distances (mm)



		Side by s
Sensors flush mountable	XS7	e ≥ 40
in metal	XS7 increased range model	e ≥ 80
Sensors non flush	XS8	e ≥ 80
mountable in metal	XS8 increased range model	e ≥ 160

Side by side	Face to face
e ≥ 40	e ≥ 120
e ≥ 80	e ≥ 240
e ≥ 80	e ≥ 160
e ≥ 160	e ≥ 320

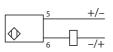
Facing a metal object	
e ≥ 45	
e ≥ 60	
e ≥ 60	
e≥120	

 $\underline{ \mbox{Tightening torque of cover fixing screws and clamp screws:} < 1.2 \ \mbox{N.m} \\$

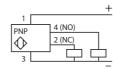
Wiring schemes

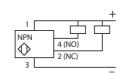
2-wire ... (non polarised), NO or NC output depending on position of link











Inductive proximity sensors
OsiSense XS, general purpose
Plastic case, 40 x 40 x 117 format, plug-in
5 position turret head AC or DC supply

Sensor		Flush mountable in metal		Non flush mountable in metal		
		AC	AC/DC	AC	AC/DC	
Nominal sensing distance (Sn)	15 mm		20 mm		
References						
2-wire ∼	NO or NC programmable	XS7C40FP260	-	XS8C40FP260	-	
2-wire ∼ or universal model	NO or NC programmable	-	XS7C40MP230	_	XS8C40MP230	
Weight (kg)		0.220	0.220	0.220	0.220	
Characteristics						
Product certifications		UL, CSA, C€				
Degree of protection conform	ning to IEC 60529	IP 67				
Operating temperature		-25+70 °C				
Connection		Screw terminals, clamping capacity 2 x 1.5 mm ² (1)				
Operating zone		012 mm		016 mm		
Repeat accuracy		≤ 3 % of effective sen	≤ 3 % of effective sensing distance (Sr)			
Differential travel		320 % of effective sensing distance (Sr)				
Output state indication		Yellow LED				
Rated supply voltage with protection against reverse	e polarity	∼ 24…240 V, 50/60 Hz	∼ 24240 V, 50/60 Hz or 24210 V	∼ 24…240 V, 50/60 Hz	∼ 24240 V, 50/60 Hz or 24210 V	
Voltage limits (including rip	ple)	∼20264 V	∼ or == 20264 V	∼20264 V	~ or == 20264 V	
Current consumption, no-lo	ad	-				
Switching capacity		5500 mA (2) (2 A inrush)	~ 5300 mA or == 5200 mA (2)	5500 mA (2) (2 A inrush)	∼ 5300 mA or 5200 mA (2)	
Residual current, open state	•	≤ 1.5 mA	0.8 mA on 24 V 1.5 mA on 120 V	≤ 1.5 mA	0.8 mA on 24 V 1.5 mA on 120 V	
Voltage drop, closed state		1.5 mAon 120 v				
Maximum switching frequer	псу	25 Hz	∼ 25 Hz, == 50 Hz	25 Hz	∼ 25 Hz, == 50 Hz	
Delays	First-up	≤ 120 ms				
Response Recovery		≤ 30 ms				
		<20 ms				



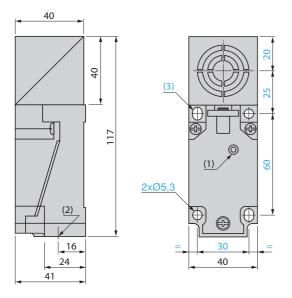
⁽¹⁾ Cable gland not included with sensor. For suitable 13P cable gland (XSZPE13), see page 128.
(2) These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a "quick-blow" fuse in series with the load, see page 128.

Dimensions, setting-up, schemes

Inductive proximity sensors
OsiSense XS, general purpose
Plastic case, 40 x 40 x 117 format, plug-in 5 position turret head AC or DC supply

Dimensions

XS7C40FP260, XS7C40MP230, XS8C40FP260, XS8C40MP230



(1) Output LED.

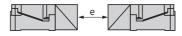
(2) 1 tapped entry for 13P cable gland.

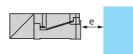
gated holes Ø 5.3 x 7

Setting-up

Minimum mounting distances (mm)







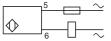
	Side by side	Face to face	Facing a metal object
XS7 flush mountable	e ≥ 40	e ≥ 120	e ≥ 45
XS8 non flush mountable	e ≥ 80	e ≥ 160	e ≥ 60

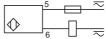
Tightening torque of cover fixing screws and clamp screws: < 1.2 N.m

Wiring schemes

2-wire \sim programmable, NO or NC output depending on position of link

2-wire \sim or $\overline{\dots}$ programmable, NO or NC output depending on position of link









Inductive proximity sensors OsiSense XS Application

For conveying and material handling applications Plastic case, cubic 40 form, multiposition DC supply

		•					metal	
					<u></u>		J &	
Nominal sensing	g distance (Sn)	15 mm					20 mm	
References	s							
2-wire (non polarised)	NO	XS7T4DA210	-	XS7T4DA214LD	-	XS7T4DA214LD01	_	-
4-wire (complementary	PNP NO+NC	-	XS7T4PC440	-	XS7T4PC440LD	-	XS8T4PC440	XS8T4PC440LD
outputs)	NPN NO+NC	-	XS7T4NC440	-	XS7T4NC440LD	-	XS8T4NC440	XS8T4NC440LD
Weight (kg)		0.265	0.265	0.220	0.220	0.200	0.265	0.220
Characteri	stics							
Product certifica	ations	UL, CSA, C€						
Degree of protect		IP 67						
Operating tempe		- 25+ 70 °C						
Connection	Pre-cabled	2 x 0.5 mm ² length 2 m (1)	4 x 0.34 mm ² length 2 m (1)	-			4 x 0.34 mm ² length 2 m (1)	-
	Connector Remote M12	-		0.8 m flying lead		0.15 m flying lead	-	0.8 m flying lead
Operating zone	Temote W12	012 mm					016 mm	<u> </u>
Repeat accuracy	у	≤3 % of Sr (effe	ective sensing di	stance)				
Differential trave	el	320 % of Sr (effective sensing	g distance)				
Output state ind	ication	Yellow LED, on	rear					
Rated supply vo	ltage	== 1248 V wit	h protection aga	inst reverse polarit	у			
Voltage limits (ir	ncluding ripple)	1058 V						
Current consum	ption, no-load	_	≤ 10 mA	-	≤ 10 mA	-	≤ 10 mA	
Switching capac	city	1.5100 mA	0200 mA	1.5100 mA	0200 mA	1.5100 mA	0200 mA	
Residual curren	t, open state	With overload a ≤ 0.7 mA	and short-circuit ≤ 0.1 mA	protection ≤ 0.7 mA	≤ 0.1 mA	≤ 0.7 mA	≤ 0.1 mA	
Voltage drop, clo	osed state	≤ 5.2 V	≤2 V	≤ 5.2 V	≤2 V	≤ 5.2 V	≤2 V	
Maximum switch	hing frequency	150 Hz	1000 Hz	150 Hz	1000 Hz	150 Hz	1000 Hz	
Delaye	Firet_up	< 5 me	< 7 me	< 5 mc	< 7 me		< 7 mc	
Delays	First-up Response	≤ 5 ms ≤ 2 ms	≤ 7 ms ≤ 0.3 ms	≤5 ms ≤2 ms	≤ 7 ms ≤ 0.3 ms	≤ 5 ms ≤ 2 ms	≤ 7 ms ≤ 0.3 ms	

(1) Sensors available with other cable lengths:

Length of cable	Suffix to be added to references stated above for 2 m pre-cabled sensors	Weight increase
5 m	L1	0.120 kg
10 m	L2	0.320 kg

Example: sensor XS7T4DA210 with 5 m cable becomes XS7T4DA210L1

Sensors specifically designed for other operating temperatures. Please consult our Customer Care Centre. Other versions



Dimensions, setting-up, schemes

Inductive proximity sensors OsiSense XS Application

For conveying and material handling applications Plastic case, cubic 40 form, multiposition DC supply

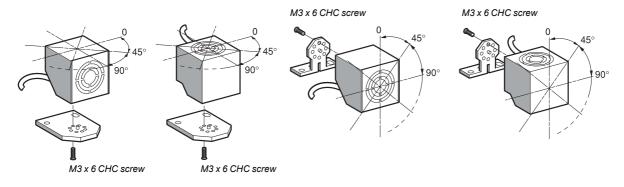
Dimensions XSeT4eeee, XSeT4eeeeLD, XS7T4eeeeLD01 Plate mounted **Bracket mounted** 40 40 40 40 43 9 4 (1) 53 31 Ø 5,3 x 8 45

(1) LED.

Alternative positions of head

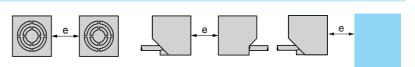
Ø 5,3 x 8

55



Setting-up

Minimum mounting distances (mm)



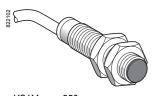
		Side by side	Face to face	Facing a metal object
Sensors flush mountable in	XS7T, 2-wire	e ≥ 40	e ≥ 120	e ≥ 45
metal	XS7T, 4-wire	e ≥ 40	e ≥ 120	 e ≥ 45
Sensors non flush	XS8T, 4-wire	e ≥ 60	e ≥ 160	e ≥ 60

Wiring schemes				
Connector	Pre-cabled	2-wire, NO output	4-wire ==, NO + NC outpu	ıt
4 1 2	BU: Blue BN: Brown BK: Black WH: White	BN/1 +/- BU/4 -/+	BN/1	BN/1 + BK/4 (NO) BU/3 WH/2 (NC)

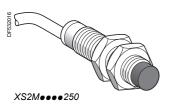
References

Inductive proximity sensors
OsiSense XS, general purpose
Multivoltage sensor, cylindrical, flush mountable and non flush mountable

Two-wire AC or DC, short-circuit protection













Sensing distance	Function	Connection	Reference	Weight
(Sn) mm				kg
Ø 12, thre	eaded M12 x 1			
Flush moun	ntable			
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 m	nountable			
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, thre	eaded M18 x 1			
Flush moun	ntable			
-	NO	Dec	V04844084A050	0.400

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	n 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 th	readed M30 x 1.5			

Ø 30, thr	readed M30 x 1.5			
Flush mou	ıntable			
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 128.

Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors

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

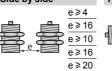
Sensor type			XS•M••M•250K	XSeMeeMe250	
Product certifications			UL. CSA. C€	ACCINICATION 230	
Connection			1/2"-20UNF connector	Pre-cabled, length: 2 m	
Operating zone	Ø 12 flush mountable	mm	01.6	FTE-Cabled, leftgtil. 2 III	
Operating zone	Ø 12 non flush mountable		03.2		
	Ø 18 flush mountable	mm	04		
	Ø 18 non flush mountable		06.4		
	Ø 30 flush mountable	mm	08		
	Ø 30 non flush mountable		012		
Differential travel	2 oo non naan maantasie	%	115 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529	,,,	IP 67	IP 68. double insulation	
Storage temperature		°C	- 40+ 85	co, acabic incalation	
Operating temperature		°C	- 25+ 70		
Materials	Case		Nickel plated brass		
	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		
ndicators	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		٧	~ 24240 (50/60 Hz) or 24210		
/oltage limits (including ripple)		٧	∼ or 20264		
Switching capacity		mA	\sim 5300 or == 5200 (except Ø 12: \sim 0 protection	or == 5200) with overload and short-circui	
/oltage drop, closed state		٧	≤ 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	\sim 25 or $=$ 2000		
	Ø 30 non flush mountable	Hz	\sim 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 fl mountable	ush mountable, ≤ 10 for Ø 30 non flush	
Wiring schemes					
1/2"-20UNF connector	Pre-cabled	2-wir	e ∼ or 		
1	BU: Blue BN: Brown	NO or	NC output — BN/2		

Setting-up

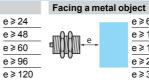
Side by side Sensor Ø 12 flush mountable e ≥ 4 e ≥ 16 Ø 12 non flush mountable Ø 18 flush mountable

Minimum mounting distances (mm) Face to face

e ≥ 60







<u>e</u>≥6 e ≥ 12 e ≥ 15 e ≥ 24 e ≥ 30

e ≥ 45

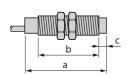
Mounted in a metal support d ≥ 12 h ≥ 0 d≥36 h≥8 d ≥ 18 h ≥ 0 $d \ge 54 h \ge 16$ d ≥ 30 h ≥ 0 $d \ge 90 h \ge 30$

Dimensions

Ø 18 non flush mountable

Ø 30 non flush mountable

Ø 30 flush mountable



Sensor	
Ø 12	
Ø 18	
Ø 30	

Flush mountable in metal						
Pre-cabled Connector						
а	b	а	b	С		
55	47	66	48	5		
60	51	72	51	8		
60	51	72	51	13		

e ≥ 180

Non	Non flush mountable in metal							
Pre-	Pre-cabled Connector							
а	b	а	b	С				
55	42	66	42	5				
60	44	72	44	8				
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





XS1 • • • C410



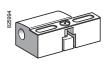
XS2 • • • C410



XS1N•••C410D



XS2N•••C410D



XSZB1••

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5 plain					
Stainless stee	l case, flus	h mounta	ble		
1.5	NO + NC	PNP	Pre-cabled (L = 2 m) (1)	XS1L06PC410	0.025
		NPN	Pre-cabled (L = 2 m) (1)	XS1L06NC410	0.025
Ø 8. thread	ed M8 x 1				

Do, till co	adea Mo X	•			
Stainless st	teel case, flus	sh moun	table		
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 st	teel case, nor	n flush m	ountable		
2.5	NO + NC	PNP	Pre-cabled (L = 2 m)	XS2M08PC410	0.035
			M12 connector	XS2M08PC410D	0.025
		NPN	Pre-cabled (L = 2 m)	XS2M08NC410	0.035
			M12 connector	XS2M08NC410D	0.025

	readed M12				
Brass cas	e, flush mount	able			
2	NO + NC	NC PNP	Pre-cabled ($L = 2 m$) (1	1) XS1N12PC410	0.070
			M12 connector	XS1N12PC410D	0.020
		NPN	Pre-cabled ($L = 2 m$) (1	1) XS1N12NC410	0.070
			M12 connector	XS1N12NC410D	0.020
Brass cas	e, non flush m	ountable	e (2)		
4	NO + NC	PNP	Pre-cabled ($L = 2 m$) (1	1) XS2N12PC410	0.070
			M12 connector	XS2N12PC410D	0.020
		NPN	Pre-cabled ($L = 2 m$) (1	1) XS2N12NC410	0.070
			M12 connector	XS2N12NC410D	0.020

Ø 18, th	readed M18	X 1				
Brass cas	se, flush mount	able				
5 NO + NC		PNP	Pre-cabled ($L = 2 m$)	Pre-cabled (L = 2 m) (1) XS1N18PC410		
			M12 connector	XS1N18PC410D	0.040	
		NPN	Pre-cabled ($L = 2 m$)	(1) XS1N18NC410	0.100	
			M12 connector	XS1N18NC410D	0.040	
Brass cas	se, non flush m	ountable	e (2)			
8	NO + NC	PNP	Pre-cabled ($L = 2 m$)	(1) XS2N18PC410	0.100	
			M12 connector	XS2N18PC410D	0.040	
		NPN	Pre-cabled ($L = 2 m$)	(1) XS2N18NC410	0.100	
			M12 connector	XS2N18NC410D	0.040	

10 30, th	readed M30	X 1.5			
Brass cas	e, flush mount	able			
10	NO + NC	PNP	Pre-cabled (L = 2 m)	(1) XS1N30PC410	0.160
		M12 connector	XS1N30PC410D	0.100	
		NPN	Pre-cabled (L = 2 m)	(1) XS1N30NC410	0.160
			M12 connector	XS1N30NC410D	0.100
Brass cas	e, non flush m	ountable	(2)		
15	NO + NC	PNP	Pre-cabled (L = 2 m)	(1) XS2N30PC410	0.160
			M12 connector	XS2N30PC410D	0.100
		NPN	Pre-cabled (L = 2 m)	(1) XS2N30NC410	0.160
			M12 connector	XS2N30NC410D	0.100

Accessories (3))		
Description mm		Reference	Weight kg
Fixing clamps	Ø8	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; for a 10 m long cable add L2 to the reference. Example: XS1N12PC410 becomes XS1N12PC410L1 with a 5 m long cable.
 (2) For a sensor with a plastic case, non flush mountable, replace 2N by 4P in the reference. Example: XS2N12PC410 becomes XS4P12PC410 with a plastic case.

⁽³⁾ For further information, see page 128.



Characteristics, schemes, setting-up, dimensions

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

Sensor type			XSeeeeC410D		XS•••••C410		
Product certifications			UL, CSA, C€		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Connection			M12 connector		Pre-cabled, length: 2 m		
Operating zone	Ø 6.5 and Ø 8 flush mtble	mm	01.2		Tre capica, iongui. 2 m		
oporating zone	Ø 8 non flush mountable	mm	02				
	Ø 12 flush mountable	mm	01.6				
	Ø 12 non flush mountable		03.2				
	Ø 18 flush mountable	mm	04				
	Ø 18 non flush mountable		06.4				
	Ø 30 flush mountable	mm	08				
	Ø 30 non flush mountable		012				
Differential travel	2 00 Horr Hadir Hountable	%	115 of effective sens	sing distance (Sr)			
Degree of protection	Conforming to IEC 60529	70	IP 67	oning distance (or)	IP 68. double insulation		
20g.00 o. protocaon	20111011111111111111111111111111111111		01		(except Ø 6.5 and Ø 8: IP 67)		
Storage temperature		°C	- 40+ 85		,		
Operating temperature		°C	- 25+ 70				
Materials	Case		Nickel plated brass for XS1N and XS2N Stainless steel, grade 303, for XS1L06, XS1M08 and XS2M08 Plastic, PPS, for XS4P				
	Cable		_		PvR 4 x 0.34 mm ² except Ø 6.5 and 8: 4 x 0.08 mm		
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 n	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		٧	== 1224 with protect	tion against reverse	polarity		
Voltage limits (including ripple)		٧	1036				
Switching capacity		mA	≤ 200 with overload ar	nd short-circuit prote	ection		
Voltage drop, closed state		٧	€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	2, ≤ 0.15 for Ø 18, ≤ 0	0.3 for Ø 30		
	Recovery	ms	≤ 0.1 for Ø 8 and Ø 12	2, ≤ 0.35 for Ø 18, ≤ 0	0.7 for Ø 30		
Wiring schemes							
M12 connector	Pre-cabled	PNP	4-wire	NPN 4-wire			
4 3	BU: Blue BN: Brown BK: Black WH: White	BN/1 PNP	BK/4 (NO) + WH/2 (NC)	BN/1 NPN BK/4 (NO) WH/2 (NO			

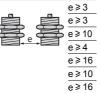
Setting-up

Sensor
Ø 6.5 flush mountable XS1L06
Ø 8 flush mountable XS1M08
Ø 8 non flush mountable XS2M08
Ø 12 flush mountable XS1N12
Ø 12 non flush mtble XS2N12 or XS4P12
Ø 18 flush mountable XS1N18
Ø 18 non flush mtble XS2N18 or XS4P18

Minimum mounting	distances (mm)
Cida bu aida	Foreste fores

e ≥ 20

e ≥ 60







e ≥ 60

e ≥ 96

e ≥ 120



Facing a metal object e≥4.5 e ≥ 4.5 e ≥ 7.5

e ≥ 6

e ≥ 12

e ≥ 15

e ≥ 24

e ≥ 30

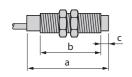


 $d \!\geqslant\! 6.5\,h \!\geqslant\! 0$ d≥8h≥0 d≥24 h≥5 d≥12h≥0 d≥36 h≥8 d≥18h≥0 $d \ge 54 h \ge 16$ d ≥ 30 h ≥ 0

d≥90 h≥30

Mounted in a metal support

Dimensions



Ø 30 flush mountable **XS1N30** Ø 30 non flush mtble XS2N30 or XS4P30

	Flush mountable in metal			Non	Non flush mountable in metal				
Sensor	Pre-c	cabled	Conne	ector	Pre-c	Pre-cabled Connector			
	а	b	а	b	а	b	а	b	С
Ø 6.5 metal	50	-	-	_	_	-	-	-	_
Ø 8 metal	50	42	61	42	50	36	61	36	4
Ø 12 metal	33	25	48	29	38	25	53	29	5
Ø 12 plastic	_	_	_	_	33	25	48	29	0
Ø 18 metal	37	28	49	28	37	20	49	20	8
Ø 18 plastic		_	_	_	34	26	48	29	0
Ø 30 metal	41	32	53	32	41	19	53	19	13
Ø 30 plastic		-	_	_	41	33	50	34	0

Inductive proximity sensorsOsiSense XS, general purpose

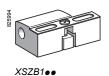
Cylindrical, metal and plastic, flush and non flush mountable Four-wire DC, solid-state PNP + NPN NO/NC programmable output











Sensing distance	Function	Output	Connection	Reference	Weight
(Sn) mm					kg
	eaded M12				
Metal case,	flush mounta	able			
2	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1)	XS1M12KP340	0.075
	programmable		M12 connector	XS1M12KP340D	0.025
Metal case,	non flush mo	ountable			
4	NO/NC programmable	PNP + NPN	Pre-cabled (L = 2 m) (1)	XS2M12KP340	0.075
	programmable		M12 connector	XS2M12KP340D	0.025
Plastic case	e, non flush m	ountable			
4	NO/NC		Pre-cabled (L = 2 m) (1)	XS4P12KP340	0.075
	programmable		M12 connector	XS4P12KP340D	0.025
Ø 18, thre	eaded M18	x 1			
	flush mounta				
5	NO/NC		Pre-cabled (L = 2 m) (1)	XS1M18KP340	0.120
	programmable		M12 connector	XS1M18KP340D	0.060
Metal case,	non flush mo	untable			
8	NO/NC	PNP + NPN	Pre-cabled (L = 2 m) (1)	XS2M18KP340	0.120
	programmable		M12 connector	XS2M18KP340D	0.060
Plastic case	e, non flush m	nountable			
8	NO/NC		Pre-cabled (L = 2 m) (1)	XS4P18KP340	0.120
	programmable		M12 connector	XS4P18KP340D	0.060
Ø 30, thre	eaded M30	x 1.5			
	flush mounta				
10	NO/NC		Pre-cabled (L = 2 m) (1)	XS1M30KP340	0.205
	programmable		M12 connector	XS1M30KP340D	0.145
Metal case.	non flush mo	ountable			
15	NO/NC		Pre-cabled (L = 2 m) (1)	XS2M30KP340	0.205
	programmable		M12 connector	XS2M30KP340D	0.145
Plastic case	e, non flush m	nountable			
15	NO/NC		Pre-cabled (L = 2 m) (1)	XS4P30KP340	0.205
	programmable		M12 connector	XS4P30KP340D	0.145
Accesso	ries (2)				
Description mm				Reference	Weight kg
Fixing clamps	· · · · · · · · · · · · · · · · · · ·	Ø 12		XSZB112	0.006

 ⁽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 128.

XSZB118

XSZB130

0.010

0.020

Ø 18

Ø 30



Characteristics, schemes. setting-up, dimensions

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

Sensor type			XSeMeeKP340D	XSeMeeKP340
Product certifications			UL, CSA, C€	
Connection			M12 connector	Pre-cabled, length: 2 m
Operating zone	Ø 12 flush mountable	mm	01.6	
	Ø 12 non flush mountable	mm	03.2	
	Ø 18 flush mountable	mm	04	
	Ø 18 non flush mountable	mm	06.4	
	Ø 30 flush mountable	mm	08	
	Ø 30 non flush mountable	mm	012	
Differential travel		%	115 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		٧	== 1224 with protection against reverse	polarity
Voltage limits (including ripple)		٧	 1036	
Switching capacity		mΑ	≤ 200 with overload and short-circuit prote	ection
Voltage drop, closed state		٧	≤ 2.6	
Current consumption, no-load		mΑ	≤ 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

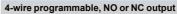
Wiring schemes

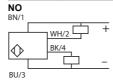
M12 connector

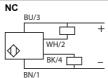
Pre-cabled

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

PNP + NPN







Setting-up

Sensor

Ø 12 flush mountable XS1M12	
\emptyset 12 non flush mountable XS2M12 and XS4P12	
Ø 18 flush mountable XS1M18	

Ø 18 non flush mountable XS2M18 and XS4P18 Ø 30 flush mountable XS1M30

Ø 30 non flush mountable XS2M30 and XS4P30

Minimum mounting distances (mm)

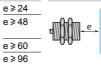
e ≥ 20

e ≥ 60



e ≥ 16 e ≥ 10 e ≥ 16





e ≥ 120

e ≥ 180

<u>e</u>≥6 e ≥ 12 e ≥ 15 e ≥ 24

e ≥ 30

e ≥ 45

Facing a metal object

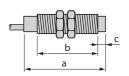


Mounted in a metal support d≥12h≥0 d≥36 h≥8

 $d \ge 18 h \ge 0$ d ≥ 54 h ≥ 16

d≥30 h≥0 d≥90 h≥30

Dimensions



	Flus	h mount	able in m	netal	
Sensor	Pre-c	abled	Conne	ector	
	а	b	а	b	Ī
Ø 12 metal	50	42	61	42	
Ø 12 plastic	-	-	-	_	
Ø 18 metal	60	51	72	51	Т
Ø 18 plastic	_	_	_	_	Т
Ø 30 metal	60	51	72	51	Т
Ø 30 plastic	_	_	_	_	Т
					$\overline{}$

	No	n flush mo	untable	in metal	
	Pre	-cabled	Conn	ector	
	а	b	а	b	С
	55	42	66	42	5
	50	42	61	42	0
_	60	44	72	44	8
_	60	51	70	51	0
_	63	41	75	41	13
_	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









Sensing dist	. Function	Output	Connection	Reference	Weight
(Sn) mm	1840 4				kg
Ø 8, thread					
Three-wire = 2.5	12-24 V NO	PNP	Pre-cabled (L = 2 m) (1) (2)	XS4P08PA340	0.025
2.5	NO	NPN	Pre-cabled (L = 2 m) (1) (2)	XS4P08PA340	0.025
	NC	PNP	Pre-cabled (L = 2 m) (1) (2)	XS4P08PB340	0.025
	110	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 \sim 0		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
C 40 Abres	da d M40 .	. 4	1/2"-20UNF connector	XS4P08MB230K	0.020
Ø 12, thread		(1			
I nree-wire	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P12PA340	0.060
-	110	NPN	Pre-cabled (L = 2 m) (1) (3)	XS4P12PA340 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 \sim 0		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) 1/2"-20UNF connector	XS4P12MB230 XS4P12MB230K	0.065
Ø 18, threa	dad M10 v	. 1	1/2 -200NF Connector	A54P12IVID23UK	0.030
Three-wire		()			
8	NO	PNP	Pre-cabled (L = 2 m) (1) (3)	XS4P18PA340	0.090
· ·	NO	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 ∼ o		V			
8	NO		Pre-cabled (L = 2 m) (1)	XS4P18MA230	0.100
	NO		1/2"-20UNF connector	XS4P18MA230K	0.040
	NC		Pre-cabled (L = 2 m) (1) 1/2"-20UNF connector	XS4P18MB230	0.100
Ø 30, threa	ded M30 v	(15	1/2 -200INF CONNECTOR	XS4P18MB230K	0.040
Three-wire		1.5			
15	NO 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 ∼ o			B 11 10 5 10	Va. 184417.	
15	NO		Pre-cabled (L = 2 m) (1)	XS4P30MA230	0.140
	NC		1/2"-20UNF connector	XS4P30MA230K	0.080
	NC		Pre-cabled (L = 2 m) (1) 1/2"-20UNF connector	XS4P30MB230	0.140
			1/2 -ZUDINF 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.



Characteristics, schemes. setting-up, dimensions

Inductive proximity sensors

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

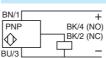
Sensor type			XS4Peee340e	XS4Peeee370e	XS4PeeMe230e			
Product certifications			UL, CSA, C€		'			
Connection	Pre-cabled		Length: 2 m					
	Connector		M8 on Ø 8	1/2"-20UNF				
			M12 on Ø 12, Ø 18 and Ø 30					
Operating zone	Ø 6.5 and Ø 8	mm	02	02				
	Ø 12	mm	03.2					
	Ø 18	mm	06.4					
	Ø 30	mm	012					
Differential travel			115 of effective sensing di	stance (Sr)				
Degree of protection	Conforming to IEC 60529		IP 68, double insulation for p IP 67 for connector version	ore-cabled version (except Ø	98: IP 67)			
Storage temperature			- 40+ 85					
Operating temperature		°C	- 25+ 70					
Materials	Case		PPS					
	Cable		PvR 3 x 0.34 mm ² except Ø	6.5 and 8: 3 x 0.11 mm ²	PvR 2 x 0.34 mm ² except Ø 8: 2 x 0.11 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: 4 viewing ports at 90° on connector version					
Rated supply voltage		V	== 1224 with protection against reverse polarity	== 1248 with protection against reverse polarity	∼ or 24240 (50/60 Hz)			
Voltage limits (including ripple)		٧	 1036	 1058	∼ or 20264			
Switching capacity		mA	≤ 200 with overload and short-circuit protection		5100 for Ø 8, 5200 for Ø 12, 5200 and 5300 \(\cap for Ø 18 and 30)			
Voltage drop, closed state		٧	€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, ≤ 0.1	5 for Ø 18, ≤ 0.3 for Ø 30	≤ 0.2			
	Recovery	ms	≤ 0.1 for Ø 8 and Ø 12, ≤ 0.3	5 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	Pre-cabled	PNP	NP	N	2-wire ∼ or			
			141					

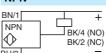


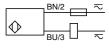




BU: Blue BN: Brown BK: Black







For M8 connector, NO and NC outputs on terminal 4

Setting-up



Minimum mounting distances (mm) Ø8

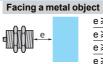
Ø 12 Ø 18 Ø 30



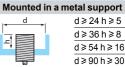






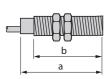






 $d \ge 24 h \ge 5$ d≥36 h≥8 $d \ge 54 h \ge 16$ d≥90 h≥30

Dimensions



	3-wi	re 12-24	٧	
	Pre-c	abled (mm)	Coni	nector (mm)
XS4P	а	b	а	b
Ø8	33	26	42	26
Ø 12	35	25	48	27
Ø 18	36	25	48	29
Ø 30	43	32	50	34

3-wire	12-48 V	or 2-wire	24-240 V
Pre-ca	bled (mm)	Conne	ector (mm)
а	b	а	b
50	40	61	40
52	42	61	42
62	52	70	52
62	52	70	52

Inductive proximity sensors
OsiSense XS, general purpose
Basic, plastic, cylindrical, non flush mountable Three-wire DC, solid-state output







Mistance (Sn) Mistance (Sn) Mistance (Sn) Mistance (Sn)
Three-wire ::: 12-24 V, non flush mountable 2.5 NO PNP Pre-cabled (L = 2 m) (1) XS208ALPAL2 0.03 NC PNP Pre-cabled (L = 2 m) (1) XS208ALPAL2 0.03 NC PNP Pre-cabled (L = 2 m) (1) XS208ALPBL2 0.00 NPN Pre-cabled (L = 2 m) (1) XS208ALNBL2 0.03 Ø 12, threaded M12 x 1 Three-wire ::: 12-24 V, non flush mountable 4 NO PNP Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 NPN Pre-cabled (L = 2 m) (2) XS212ALNBM12 0.01 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
2.5 NO PNP Pre-cabled (L = 2 m) (1) XS208ALPAL2 0.03 NPN Pre-cabled (L = 2 m) (1) XS208ALNAL2 0.03 NC PNP Pre-cabled (L = 2 m) (1) XS208ALNBL2 0.00 NPN Pre-cabled (L = 2 m) (1) XS208ALNBL2 0.00 Ø 12, threaded M12 x 1 Three-wire ::: 12-24 V, non flush mountable 4 NO PNP Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 M12 connector XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALPAM12 0.01 M12 connector XS212ALPAM12 0.01 M12 connector XS212ALPAM12 0.01 M12 connector XS212ALPAM12 0.01 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
NPN Pre-cabled (L = 2 m) (1) XS208ALNAL2 0.03 NC
NC
NPN Pre-cabled (L = 2 m) (1) XS208ALNBL2 0.03 Ø 12, threaded M12 x 1 Three-wire ::: 12-24 V, non flush mountable 4
Ø 12, threaded M12 x 1 Three-wire ::: 12-24 V, non flush mountable 4 NO PNP Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 M12 connector XS212ALPAM12 0.06 M12 connector XS212ALNAL2 0.06 M12 connector XS212ALNAM12 0.01 NC PNP Pre-cabled (L = 2 m) (2) XS212ALPBL2 0.06 M12 connector XS212ALPBM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNBL2 0.06 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
Three-wire ::: 12-24 V, non flush mountable 4 NO PNP Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 M12 connector XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNAL2 0.06 M12 connector XS212ALNAM12 0.01 NC PNP Pre-cabled (L = 2 m) (2) XS212ALNAM12 0.06 M12 connector XS212ALNAM12 0.06 M12 connector XS212ALPBL2 0.06 M12 connector XS212ALPBM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNBM12 0.01 M12 connector XS212ALNBM12 0.01 M13, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
4 NO PNP Pre-cabled (L = 2 m) (2) XS212ALPAL2 0.06 M12 connector XS212ALPAM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNAL2 0.06 M12 connector XS212ALNAM12 0.01 NC PNP Pre-cabled (L = 2 m) (2) XS212ALNAM12 0.06 M12 connector XS212ALNAM12 0.06 M12 connector XS212ALPBL2 0.06 M12 connector XS212ALPBM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNBM12 0.01 M12 connector XS212ALNBM12 0.01 M13, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
M12 connector XS212ALPAM12 0.01
NPN
M12 connector XS212ALNAM12 0.01 NC
NC
M12 connector XS212ALPBM12 0.01 NPN Pre-cabled (L = 2 m) (2) XS212ALNBL2 0.06 M12 connector XS212ALNBM12 0.01 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
NPN Pre-cabled (L = 2 m) (2) XS212ALNBL2 0.06 M12 connector XS212ALNBM12 0.01 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
M12 connector XS212ALNBM12 0.01 Ø 18, threaded M18 x 1 Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
Ø 18, threaded M18 x 1 Three-wire 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
Three-wire ::: 12-24 V, non flush mountable 8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
8 NO PNP Pre-cabled (L = 2 m) (2) XS218ALPAL2 0.09
(-)
M12 connector YC249ALDAM42 0.02
IVITZ CONNECTOR A32TOALPAWITZ 0.02
NPN Pre-cabled (L = 2 m) (2) XS218ALNAL2 0.09
M12 connector XS218ALNAM12 0.02
NC PNP Pre-cabled (L = 2 m) (2) XS218ALPBL2 0.09
M12 connector XS218ALPBM12 0.02
NPN Pre-cabled (L = 2 m) (2) XS218ALNBL2 0.09
M12 connector XS218ALNBM12 0.02
Ø 30, threaded M30 x 1.5
Three-wire == 12-24 V, non flush mountable
15 NO PNP Pre-cabled (L = 2 m) (2) XS230ALPAL2 0.13
M12 connector XS230ALPAM12 0.06
NPN Pre-cabled (L = 2 m) (2) XS230ALNAL2 0.13
M12 connector XS230ALNAM12 0.06
NC PNP Pre-cabled (L = 2 m) (2) XS230ALPBL2 0.13
M12 connector XS230ALPBM12 0.06
NPN Pre-cabled (L = 2 m) (2) XS230ALNBL2 0.13
M12 connector XS230ALNBM12 0.06
Accessories (3)
Description Reference Weight
Fixing clamps Ø 8 XSZB108 0.00
Ø 12 XSZB112 0.00
Ø 18 XSZB118 0.01
Ø 30 XSZB130 0.02

⁽¹⁾ For a 5 m long cable replace L2 by L5.

Example: XS208ALPAL2 becomes XS208ALPAL5 with a 5 m long cable.

(2) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.

Example: XS218ALPAL2 becomes XS218ALPAL5 with a 5 m long cable.

⁽³⁾ For further information, see page 128.

Characteristics, schemes, setting-up, dimensions

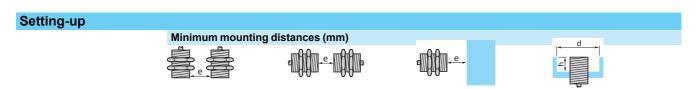
Inductive proximity sensors OsiSense XS, general purpose

OsiSense XS, general purpose Basic, plastic, cylindrical, non flush mountable Three-wire DC, solid-state output

Sensor type			XS200ALP0L2 XS200ALN0L2	XS2••ALP•M12 XS2••ALN•M12
Product certifications			UL, CSA, C€	•
Connection	Pre-cabled		Length: 2 m	-
	Connector		-	M12
Operating zone (1)	Ø8	mm	02	-
	Ø 12	mm	03.2	
	Ø 18	mm	06.4	
	Ø 30	mm	012	
Differential travel		%	115 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		PPS	
	Cable		PVC 3 x 0.34 mm ² except Ø 8: 3 x 0.11 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, on rear	Yellow LED: 4 viewing ports at 90°
Rated supply voltage		V	== 1224 with protection against reverse polarity	
Voltage limits (including ripple)		V	 1036	
Switching capacity		mA	≤ 100 (except Ø 8: ≤ 50) with overload and short-circuit protection	
Voltage drop, closed state		V	≤2	
Current consumption, no-load		mA	≤ 10	
Maximum switching frequency	Ø8	Hz	1000	
	Ø 12	Hz	1000	
	Ø 18	Hz	1000	
	Ø 30	Hz	1000	
Delays	First-up	ms	≤5	
	Response	ms	≤ 0.3	
	Recovery	ms	≤0.3	

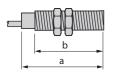
(1) Detection curves, see page 132.

Wiring schemes Connector Pre-cabled **PNP** NPN M12 BU: Blue BN/1 BN/1 BN: Brown PNP BK/4 (NO) BK/2 (NC) NPN BK: Black \Diamond \Diamond BK/2 (NC) BU/3



Sensors		Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø8	XS208AL	e ≥ 10	e ≥ 30	e≥7.5	d ≥ 24 h ≥ 5
Ø 12	XS212AL	e≥16	e ≥ 48	e ≥ 12	d≥36 h≥8
Ø 18	XS218AL	e≥16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
Ø 30	XS230AI	e ≥ 60	e≥180	e≥45	d≥90 h≥30

Dimensions



Sensors	
Ø8	XS208AL
Ø 12	XS212AL
Ø 18	XS218AL
Ø 30	XS230AL

Non flush mountable in metal								
Pre-cabled (mm)	Connector (Connector (mm)					
а	b	а	b					
49	40	_	_					
49	42	61	42					
59	52	71	52					
59	52	71	52					

References: page 68



Three-wire DC, solid-state output

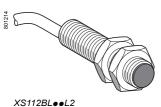


XS106BL•∙L2



XS108BL●●M8







	_				
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 6.5, plain					9
Three-wire =		ush mour	ntable		
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS106BLPAL2	0.030
		NPN	Pre-cabled (L = 2 m) (1)	XS106BLNAL2	0.030
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS106BLPBL2	0.030
		NPN	Pre-cabled (L = 2 m) (1)	XS106BLNBL2	0.030
Ø 8, thread	ed M8 x 1				
Three-wire	: 12-24 V, fl	ush mour	ntable		
1.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS108BLPAL2	0.035
			M8 connector	XS108BLPAM8	0.008
			M12 connector	XS108BLPAM12	0.015
		NPN	Pre-cabled (L = 2 m) (1)	XS108BLNAL2	0.035
			M8 connector	XS108BLNAM8	0.008
			M12 connector	XS108BLNAM12	0.015
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS108BLPBL2	0.035
			M8 connector	XS108BLPBM8	0.008
			M12 connector	XS108BLPBM12	0.015
		NPN	Pre-cabled (L = 2 m) (1)	XS108BLNBL2	0.035
			M8 connector	XS108BLNBM8	0.008
			M12 connector	XS108BLNBM12	0.015
Three-wire ==	•				
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS208BLPAL2	0.035
			M8 connector	XS208BLPAM8	0.008
			M12 connector	XS208BLPAM12	0.015
		NPN	Pre-cabled (L = 2 m) (1)	XS208BLNAL2	0.035
			M8 connector	XS208BLNAM8	0.008
	NO.	DND	M12 connector	XS208BLNAM12	0.015
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS208BLPBL2	0.035
			M8 connector	XS208BLPBM8	0.008
		NPN	M12 connector Pre-cabled (L = 2 m) (1)	XS208BLPBM12 XS208BLNBL2	0.015
		INFIN	M8 connector	XS208BLNBM8	0.033
			M12 connector	XS208BLNBM12	0.005
Ø 12, threa	dad M12 v	<i>r</i> 1	W12 COTTILECTOR	X3200DENDW12	0.013
Three-wire			ntahle		
2	NO	PNP	Pre-cabled (L = 2 m) (2)	XS112BLPAL2	0.070
-	110		M12 connector	XS112BLPAM12	0.015
		NPN	Pre-cabled (L = 2 m) (2)	XS112BLNAL2	0.070
			M12 connector	XS112BLNAM12	0.015
	NC	PNP	Pre-cabled (L = 2 m) (2)	XS112BLPBL2	0.070
			M12 connector	XS112BLPBM12	0.015
		NPN	Pre-cabled (L = 2 m) (2)	XS112BLNBL2	0.070
			M12 connector	XS112BLNBM12	0.015
Two-wire \sim 2	24-240 V, flu	ush moun	table		
2	NO		Pre-cabled (L = 2 m) (2)	XS112BLFAL2	0.075
Three-wire =	: 12-24 V, n	on flush r	nountable		
4	NO	PNP	Pre-cabled (L = 2 m) (2)	XS212BLPAL2	0.070
			M12 connector	XS212BLPAM12	0.015
		NPN	Pre-cabled (L = 2 m) (2)	XS212BLNAL2	0.070
			M12 connector	XS212BLNAM12	0.015
	NC	PNP	Pre-cabled (L = 2 m) (2)	XS212BLPBL2	0.070
			M12 connector	XS212BLPBM12	0.015
		NPN	Pre-cabled (L = 2 m) (2)	XS212BLNBL2	0.070
(1) For a 5 m lo	na cable re	nlooo I 2 h	M12 connector	XS212BLNBM12	0.015

M12 connector (1) For a 5 m long cable replace L2 by L5.

Example: XS106BLPAL2 becomes XS106BLPAL5 with a 5 m long cable. (2) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS112BLPAL2 becomes XS112BLPAL5 with a 5 m long cable.

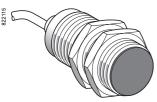
Three-wire DC, solid-state output



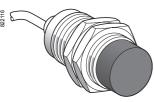
XS118BL●●M12



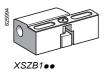
XS118BL●●L2



XS130BL••L2



XS230BL••L2



Sensing	Function	Output	Connection	Reference	Weight
distance (Sn) mm					kg
Ø 18, threa					
Three-wire	 12-24 V, fl	ush moui			
5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS118BLPAL2	0.105
			M12 connector	XS118BLPAM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS118BLNAL2	0.105
			M12 connector	XS118BLNAM12	0.035
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS118BLPBL2	0.105
			M12 connector	XS118BLPBM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS118BLNBL2	0.105
			M12 connector	XS118BLNBM12	0.035
Two-wire ∼	24-240 V, flu	ush moun	table		
5	NO		Pre-cabled (L = 2 m) (1)	XS118BLFAL2	0.120
Three-wire	 12-24 V , n	on flush r	nountable		
8	NO	PNP	Pre-cabled (L = 2 m) (1)	XS218BLPAL2	0.105
			M12 connector	XS218BLPAM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS218BLNAL2	0.105
			M12 connector	XS218BLNAM12	0.035
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS218BLPBL2	0.105
			M12 connector	XS218BLPBM12	0.035
		NPN	Pre-cabled (L = 2 m) (1)	XS218BLNBL2	0.105
			M12 connector	XS218BLNBM12	0.035
Ø 30, threa	ded M30 >	(1.5			
Three-wire			ntable		
10	NO	PNP	Pre-cabled (L = 2 m) (1)	XS130BLPAL2	0.165
			M12 connector	XS130BLPAM12	0.075
		NPN	Pre-cabled (L = 2 m) (1)	XS130BLNAL2	0.165
			M12 connector	XS130BLNAM12	0.075
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS130BLPBL2	0.165
			M12 connector	XS130BLPBM12	0.075
		NPN	Pre-cabled (L = 2 m) (1)	XS130BLNBL2	0.165
			M12 connector	XS130BLNBM12	0.075
Two-wire ∼	24-240 V. fli	ush moun		710100221121112	0.0.0
10	NO NO		Pre-cabled (L = 2 m) (1)	XS130BLFAL2	0.205
Three-wire		on flush r	, ,,,	710.0022.7122	0.200
15	NO	PNP	Pre-cabled (L = 2 m) (1)	XS230BLPAL2	0.155
			M12 connector	XS230BLPAM12	0.085
		NPN	Pre-cabled (L = 2 m) (1)	XS230BLNAL2	0.155
			M12 connector	XS230BLNAM12	0.085
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS230BLPBL2	0.155
			M12 connector	XS230BLPBM12	0.085
		NPN	Pre-cabled (L = 2 m) (1)	XS230BLNBL2	0.155
			M12 connector	XS230BLNBM12	0.085
Accessorie	es (2)		2 001000.	710200221121112	0.000
Description	(-)			Reference	Weight
Soconpuon				. 1010101100	kg
Fixing clamp	s		Ø 6.5	XSZB165	0.005
			Ø8	XSZB108	0.006
			Ø 12	XSZB112	0.006
			Ø 18	XSZB118	0.010
			Ø 30	XSZB130	0.020
(1) For a 5 m le	ona cable re	place L2 b	by L5 ; for a 10 m long cable re		

⁽¹⁾ For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS118BLPAL2 becomes XS118BLPAL5 with a 5 m long cable.

⁽²⁾ For further information, see page 128.

Three-wire DC, solid-state output

Sensor type			XS1eeBLPeL2	XS1eeBLPeMe		XS2••BLP•M•	XS1eeBLFAL2
Product certifications			UL, CSA, CE	XS1eeBLNeMe	X9700RTM0T7	X2500RTM0IM0	
Connection	Pre-cabled		Length 2 m	<u> </u>	Length 2 m	<u> </u>	Length 2 m
Commedia	Connector			M8 on Ø 8 M12 on Ø 8, Ø 12, Ø 18 and Ø 30	-	M8 on Ø 8 M12 on Ø 8, Ø 12, Ø 18 and Ø 30	-
Operating zone (1)	Ø 6.5	mm	01.2		-		-
	Ø8	mm	01.2		02		_
	Ø 12	mm	01.6		03.2		01.6
	Ø 18	mm	04		06.4		04
	Ø 30	mm	08		012		08
Differential travel		%	115 of effective	sensing distance	(Sr)		•
Degree of protection	Conforming to IEC 60529		IP 67				
Storage temperature		°C	- 40+ 85				
Operating temperature			- 25+ 70				
Materials	Case		Nickel plated bra	ss			
	Cable		PVC 3 x 0.34 mm ² except Ø 6.5 and Ø 8: 3 x 0.11 mm ²	-	PVC 3 x 0.34 mm ² except Ø 6.5 and Ø 8: 3 x 0.11 mm ²	-	PVC 2 x 0.34 mm ²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude	± 2 mm (f = 10 to 5	5 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 1	1 ms			
Output state indication			Yellow LED, on rear	Yellow LED: 4 viewing ports at 90°	Yellow LED, on rear	Yellow LED: 4 viewing ports at 90°	Yellow LED, on rear
Rated supply voltage		٧	== 1224 with protection against reverse polarity				~24240
Voltage limits (including ripple)		٧	 1036				~20264
Switching capacity		mA	≤ 100 (except Ø protection	6.5 and Ø 8: ≤ 50) v	vith overload and	short-circuit	40200 (2)
Voltage drop, closed state		٧	≤2				≤ 4.5 (≤ 7 for Ø 12)
Current consumption, no-load		mA	≤ 10				-
Residual current, open state		mΑ	-				≤ 1.5
Maximum switching frequency	Ø 6.5, Ø 8	Hz	1000				-
	Ø 12	Hz	1000				25
	Ø 18	Hz	1000				25
	Ø 30	Hz	1000				25
Delays	First-up	ms	≤5				≤ 40
	Response	ms	≤ 0.3				≤ 10
	Recovery	ms	≤ 0.3				≤ 15

⁽¹⁾ Detection curves, see page 132.

⁽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 128.

Wiring schemes									
Connector		Pre-cabled	PNP	NPN	2-wire \sim				
M8 1 (**)3	M12	BU: Blue BN: Brown BK: Black	BN/1 + BK/4 (NO) BK/2 (NC) BU/3 -	BN/1 + NPN BK/4 (NO) BK/2 (NC)	BN ~				



Three-wire DC, solid-state output

Setting-up

Minimum mounting distances (mm)



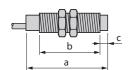






Sensors		Side by side	Face to face	Facing a metal object	Mounted in a metal support
Ø 6.5 flush mountable	XS106	e ≥ 3	e ≥ 18	e ≥ 4.5	d≥6.5 h≥0
Ø 8 flush mountable	XS108	e≥3	e ≥ 18	e ≥ 4.5	d≥8h≥0
Ø 8 non flush mountable	XS208	e ≥ 10	e ≥ 30	e ≥ 7.5	d≥24h≥5
Ø 12 flush mountable	XS112	e ≥ 4	e ≥ 24	e ≥ 6	d≥12h≥0
Ø 12 non flush mountable	XS212	e ≥ 16	e ≥ 48	e ≥ 12	d≥36h≥8
Ø 18 flush mountable	XS118	e ≥ 10	e ≥ 60	e ≥ 15	d≥18h≥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



		Flu	Flush mountable in metal								
Sensors			Pre-cabled (mm)			M8 connector (mm)		M12 connector (mm)			
		а	b		а	b	а	k)		
Ø 6.5	XS106	42	-		_	-	_	-	-		
Ø 8	XS108	42	40		53	42	62	3	39		
Ø 12	XS112	42	58 (1) 39	58 (1)		_	53	3	39		
Ø 18	XS118	52	58 (1) 49	58 (1)	_	_	64		19		
Ø 30	XS130		58 (1) 49	58 (1)		_	64		19		

(1) For XS1 • BLFAL2

		Non fl	Non flush mountable in metal								
Sensors		Pre-cal			M8 connector (mm)			M12 connector (mm)			
		а	b	а	b	С	а	b	С		
Ø8	XS208	42	36	53	38	4	62	36	4		
Ø 12	XS212	42	34	_	-	-	53	34	5		
Ø 18	XS218	51	41		-	-	64	41	8		
Ø 30	XS230	51	36		_	_	64	36	13		

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











Consing	Eunetian	Outrout	Connection	Deference	\Moi~bt
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, thread	ed M8 x 1				
2.5	NO	PNP	Pre-cabled (L = 2 m)	XS1N08PA349	0.035
0	110		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, thread	ded M12	x 1			
4	NO	PNP	Pre-cabled (L = 2 m)	XS1N12PA349	0.070
•	110		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, thread	dod M18	v 1			
			December 1 (1 and 1)	V04N40D4040	0.400
10	NO	PNP	Pre-cabled (L = 2 m) M12 connector	XS1N18PA349	0.100
		NIDNI		XS1N18PA349D	0.040
		NPN	Pre-cabled (L = 2 m) M12 connector	XS1N18NA349 XS1N18NA349D	0.100
	NC	PNP			
	NC	FINE	Pre-cabled (L = 2 m) M12 connector	XS1N18PB349	0.100
		NDN		XS1N18PB349D	0.040
		NPN	Pre-cabled (L = 2 m) M12 connector	XS1N18NB349 XS1N18NB349D	0.100
C 00 41	d - d 8400	. 4 5			
Ø 30, thread					
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
	Ø8	XSZB108	0.006
	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

(1) For further information, see page 128.



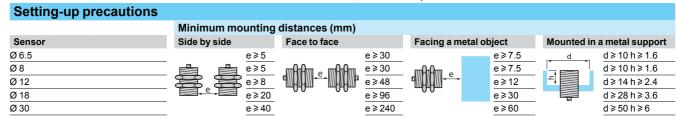
Characteristics, schemes, setting-up, dimensions

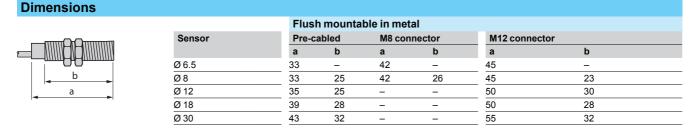
Inductive proximity sensors OsiSense XS, general purpose

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

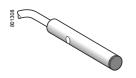
	XS1 • • • • • 34	XS1 • • • • 349S	טפ	XS1 • • • •				or type	
	UL, CSA, C€						ns	ct certificati	
d, length: 2 m	Pre-cabled, le	M8 connector	r	M12 conn				ction	
				02	mm	Ø 6.5 and Ø 8		ting zone	
				03.2	mm	Ø 12			
				08	mm	Ø 18			
				016	mm	Ø 30			
		ng distance (Sr)	ive sensing	115 of e	%		Differential travel		
ble insulation 6.5 and Ø 8: IP 67	IP 68, double (except Ø 6.5			IP 67		Conforming to IEC 60529	n	e of protecti	
			2 to Ø 30	IP 69K for		Conforming to DIN 40050			
				- 40+ 85	°C		е	e temperati	
				- 25+ 70	°C		ure	ting temper	
			orass	Nickel pla		Case		als	
34 mm² except 8: 3 x 0.11 mm²				-		Cable			
		m (f = 10 to 55 Hz)	de ± 2 mm	25 gn, am		Conforming to IEC 60068-2-6	IEC 60068-2-6		
			n 11 ms	50 gn, dui		Shock resistance Conforming to IEC 60068-2-27			
), annular	Yellow LED, 4 viewing ports at 90° Yellow LED, annular							t state indic	
=== 1224 with protection against reverse polarity					٧		je	supply volta	
				== 1036	٧		iding ripple)	•	
		I short-circuit protection	erload and s	≤ 200 with	mA			ing capacit	
				≤2	٧			e drop, clos	
				≤ 10	mA		on, no-load	t consump	
				2500	Hz	Ø 6.5, Ø 8 and Ø 12	g frequency	um switchii	
				1000	Hz	Ø 18			
				500	Hz	Ø 30			
				≤ 5	ms	First-up		;	
		≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30	nd Ø 12, ≤ 0	≤ 0.2 for Ø	ms	Response			
		≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30	nd Ø 12, ≤ 0	≤ 0.2 for Ø	ms	Recovery			
							nes	ng sche	
		NPN 3-wire	N	3-wire	PNP	Pre-cabled		ector	
		BN/1 +	O) N	ВК	BN/1 PNP	BU: Blue BN: Brown BK: Black	M12	3	
		BN/1 +	+ BN O) N		BN/1 [BU: Blue BN: Brown BK: Black	M12	nector	

For M8 connector, NO and NC outputs on terminal 4





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

NPN	Ø 4 plain (1)					
No		e Function	Output		Reference	-
M8 connector	Brass case, flu	ısh mounta	able			
NPN	1	NO	PNP	Pre-cabled (L = 2 m)	XS1L04PA310	0,025
NC				M8 connector	XS1L04PA310S	0.010
NC			NPN	Pre-cabled (L = 2 m)	XS1L04NA310	0.025
M8 connector XS1L04PB310S 0.010				M8 connector	XS1L04NA310S	0.010
NPN		NC	PNP	Pre-cabled (L = 2 m)	XS1L04PB310	0.025
M8 connector XS1L04NB310S 0.010				M8 connector	XS1L04PB310S	0.010
Stainless steel case, flush mountable			NPN	Pre-cabled (L = 2 m)	XS1L04NB310	0.025
NO				M8 connector	XS1L04NB310S	0.010
No	Stainless stee	l case, flus	h mounta	able		
NPN	0,8	NO	PNP	Pre-cabled (L = 2 m)	XS1L04PA311	0.025
NC				M8 connector	XS1L04PA311S	0.010
NC			NPN	Pre-cabled (L = 2 m)	XS1L04NA311	0.025
M8 connector				M8 connector	XS1L04NA311S	0.010
NPN		NC	PNP	Pre-cabled (L = 2 m)	XS1L04PB311	0.025
M8 connector XS1L04NB311S 0.010				M8 connector	XS1L04PB311S	0,010
Ø 5, threaded M5 x 0.5 (1) Sensing distance Function (Sn) mm Output (2) Connection (2) Reference (Sn) mm Weight (kg) kg 1 NO PNP Pre-cabled (L = 2 m) XS1N05PA310 0,030 NC PNP Pre-cabled (L = 2 m) XS1N05NA310 0,030 NC PNP Pre-cabled (L = 2 m) XS1N05PB310 0,030 Stainless steel case, flush mountable 0.8 NO PNP Pre-cabled (L = 2 m) XS1N05PB311 0.030 NPN Pre-cabled (L = 2 m) XS1N05PB311 0.030 NPN Pre-cabled (L = 2 m) XS1N05NB311 0.030 NPN Pre-cabled (L = 2 m)			NPN	Pre-cabled (L = 2 m)	XS1L04NB311	0.025
Sensing distance Function Courbut Connection (2) Reference Refer				M8 connector	XS1L04NB311S	0.010
Sensing distance Function Courbut Connection (2) Reference Refer	Ø 5, threade	ed M5 x 0).5 (1)			
1 NO PNP Pre-cabled (L = 2 m) XS1N05PA310 0,030 NPN Pre-cabled (L = 2 m) XS1N05NA310 0,030 NPN Pre-cabled (L = 2 m) XS1N05NA310 0,030 NPN Pre-cabled (L = 2 m) XS1N05NB310 0,030 NPN Pre-cabled (L = 2 m) XS1N05PA311 0,030 NPN Pre-cabled (L = 2 m) XS1N05PA311 0,030 NPN Pre-cabled (L = 2 m) XS1N05NA311 0,030 NPN Pre-cabled (L = 2 m) XS1N05NA311 0,030 NPN Pre-cabled (L = 2 m) XS1N05PB311 0,030 NPN Pre-cabled (L = 2 m) XS1N05PB311 0,030 NPN Pre-cabled (L = 2 m) XS1N05PB311 0,030 NPN Pre-cabled (L = 2 m) XS1N05NB311 0,030 NPN NPN Pre-cabled (L = 2 m) XS1N05NB311 0,030 NPN NPN Pre-cabled (L = 2 m) XS1N05NB311 0,030 NPN NPN NPN NPN NPN NPR-cabled (L = 2 m) XS2L06PA340 0,025 NPN NPN NPN Pre-cabled (L = 2 m) XS2L06PA340 0,010 NPN NPN NPN NPN NPN NPN NPN NPN NPN NP	Sensing distanc		7.7		Reference	-
NPN	Brass case, flu	ish mounta	able			
NC	1	NO	PNP	Pre-cabled (L = 2 m)	XS1N05PA310	0,030
NPN Pre-cabled (L = 2 m) XS1N05NB310 0,030			NPN	Pre-cabled (L = 2 m)	XS1N05NA310	0,030
Stainless steel case, flush mountable Pre-cabled (L = 2 m) XS1N05PA311 0.030		NC	PNP	Pre-cabled (L = 2 m)	XS1N05PB310	0,030
NO PNP Pre-cabled (L = 2 m) X\$1N05PA311 0.030 M8 connector X\$1N05PA311\$ 0.015 M8 connector X\$1N05NA311 0.030 M8 connector X\$1N05NA311\$ 0.030 M8 connector X\$1N05NA311\$ 0.015 M8 connector X\$1N05PB311 0.030 M8 connector X\$1N05PB311 0.030 M8 connector X\$1N05PB311 0.030 M8 connector X\$1N05NB311 0.030 M8 connector X\$1N05NB311 0.030 M8 connector X\$1N05NB311 0.030 M8 connector X\$1N05NB311\$ 0.015 M8 connector X\$1N05NB311\$ 0.015 M8 connector X\$1N05NB311\$ 0.015 M8 connector X\$1N05NB311\$ 0.015 M8 connector X\$2L06PA340 0.025 M8 connector X\$2L06PA340 0.015 M12 connector X\$2L06PA340D 0.015 M12 connector X\$2L06PA340D 0.015 M8 connector X\$2L06PA340D 0.025 M8 connector X\$2L0			NPN	Pre-cabled (L = 2 m)	XS1N05NB310	0,030
M8 connector X\$1N05PA311\$ 0.015	Stainless stee	l case, flus	h mounta	able		
NPN	0.8	NO	PNP	Pre-cabled (L = 2 m)	XS1N05PA311	0.030
NC					XS1N05PA311S	0.015
NC			NPN	Pre-cabled (L = 2 m)	XS1N05NA311	0.030
M8 connector X\$1N05PB311\$ 0.015						
NPN		NC	PNP	Pre-cabled (L = 2 m)	XS1N05PB311	0.030
M8 connector X\$1N05NB311S 0.015				M8 connector	XS1N05PB311S	0.015
Ø 6.5 plain (1) Sensing distance Function (Sn) mm Output (2) Connection (2) Reference kg Weight kg Stainless steel case, non flush mountable 2.5 NO PNP Pre-cabled (L = 2 m) XS2L06PA340 0.025 M8 connector M8 connector XS2L06PA340D 0.010 M12 connector XS2L06PA340D 0.015 M12 connector NPN Pre-cabled (L = 2 m) XS2L06NA340 0.025 M8 connector M8 connector XS2L06NA340S 0.010			NPN	Pre-cabled (L = 2 m)	XS1N05NB311	0.030
Sensing distance Function (Sn) mm Output (2) Connection (2) Reference kg 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				M8 connector	XS1N05NB311S	0.015
Sensing distance Function (Sn) mm Output (2) Connection (2) Reference (2) 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	Ø 6.5 plain	1)				
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	Sensing distanc		Output		Reference	
PNO 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) XS2L06PA340 0.025 M8 connector XS2L06NA340 0.010	` '	l case. non	flush mo	. ,		9
M8 connector XS2L06PA340S 0.010 M12 connector XS2L06PA340D 0.015 NPN Pre-cabled (L = 2 m) XS2L06NA340 0.025 M8 connector XS2L06NA340S 0.010	2.5	•			XS2L06PA340	0.025
M12 connector XS2L06PA340D 0.015 NPN Pre-cabled (L = 2 m) XS2L06NA340 0.025 M8 connector XS2L06NA340S 0.010		-				
NPN Pre-cabled (L = 2 m) XS2L06NA340 0.025 M8 connector XS2L06NA340S 0.010						
M8 connector XS2L06NA340S 0.010			NPN			
			-			

Sensing dista (Sn) mm	ance Function	Output	Connection (2)	Reference	Weight kg
Stainless st	teel case, non	flush mo	ountable		
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 128.
(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.

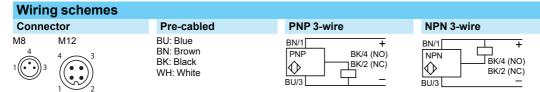
Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors

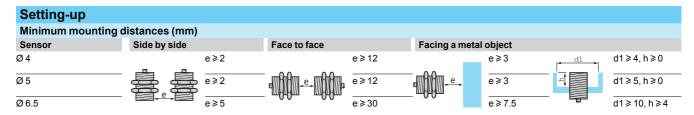
OsiSense XS, general purpose Miniature, cylindrical, flush and non flush mountable Three-wire DC, solid-state output

Sensor type			XS1••••••B, XS1•••••B, XS2L06•A340•	XS1••••••, XS2L06•A340	
Product certifications			UL, CSA, C€		
Connection (1)	Connector		M8 on XS1••••••S and M12 on XS1••••••D	-	
	Pre-cabled		-	Length: 2 m	
Operating zone	Ø 4	mm	00.8 (brass), 00.6 (stainless steel)		
	Ø 5	mm	00.8 (brass), 00.6 (stainless steel)		
	Ø 6.5 non flush mountable	mm	02 (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, grade 303		
	Cable		PvR 3 x 0.11 mm ² or 4 x 0.08 mm ²		
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz	<u>z</u>)	
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	524 for XS1L04••••• and XS1N 1224 for XS2L06•••••	105•••••	
Voltage limits (including	ripple)	V	530 for XS1L04 ••••• and XS1N 1038 for XS2L06 •••••	105•••••	
Current consumption, no	-load	mA	≤ 10		
Switching capacity	3-wire PNP/NPN	mA	≤ 100 with overload and short-circuit pro ≤ 200 for XS2L06 with overload and sho		
Voltage drop, closed state	е	٧	€2		
Maximum switching frequ	iency	kHz	5		
Delays	First-up	ms	≤ 5		
	Response	ms	≤ 0.1		
	Recovery	ms	≤ 0.1		

⁽¹⁾ Detection curves, see page 132



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



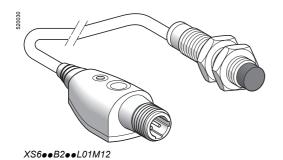
Tightening torque

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

Dimensions Sensor Pre-cabled M8 connector M12 connector а b С а b С а b С Ø4 29 41 Ø5 29 24 41 24 33 49 Ø 6.5 46

Inductive proximity sensors OsiSense XS Application

Adjustable range sensors
Cylindrical, flush mountable and non flush mountable Three-wire DC, solid-state output



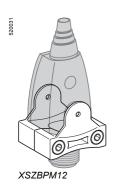
Ø 12, thread	ed M12	x 1			
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
5	NO	PNP	Remote M12 connector on 0.15 m flying lead	XS612B2PAL01M12	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	XS612B2NAL01M12	0.100
	NC	PNP	Remote M12 connector on 0.15 m flying lead	XS612B2PBL01M12	0.100
		NPN	Remote M12 connector on 0.15 m flying lead	XS612B2NBL01M12	0.100

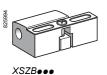
	Ø 18, thread	ed M18	x 1			
	Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
9	9	NO	PNP	Remote M12 connector on 0.15 m flying lead	XS618B2PAL01M12	0.140
			NPN	Remote M12 connector on 0.15 m flying lead	XS618B2NAL01M12	0.140
		NC	PNP	Remote M12 connector on 0.15 m flying lead	XS618B2PBL01M12	0.140
			NPN	Remote M12 connector on 0.15 m flying lead	XS618B2NBL01M12	0.140

	Ø 30, thread	ed 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

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 128.





Characteristics, schemes, setting-up, dimensions

Inductive proximity sensors OsiSense XS Application

Adjustable range sensors Cylindrical, flush mountable and non flush mountable Three-wire DC, solid-state output

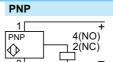
Sensor type				XS6eeB2eeL01M12	
Product certifications				UL, CSA, CE	
Connection	Connect	or		Remote M12 connector on 0.15 m flying lead	
Sensing distance and		Nominal sensing distance (Sn)	mm	05 non flush mounted / 03.4 flush mounted	
adjustment zone		Precision adjustment zone	mm	1.75 non flush mounted / 1.73.4 flush mounted	
	Ø 18	Nominal sensing distance (Sn)		09 non flush mounted / 06 flush mounted	
		Precision adjustment zone	mm	39 non flush mounted / 36 flush mounted	
	Ø 30	Nominal sensing distance (Sn)	mm	018 non flush mounted / 011 flush mounted	
		Precision adjustment zone	mm	618 non flush mounted / 611 flush mounted	
Differential travel			%	115 of effective sensing distance (Sr)	
Degree of protection	Conform	ing to IEC 60529		IP 67, 🛽	
Storage temperature			°C	-40+85	
Operating temperature	9		°C	- 25+ 70	
Materials	Case			Nickel plated brass	
	Remote control			PBT	
	Cable			PvR - Ø 4.2 mm	
Vibration resistance	Conform	ing to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)	
Shock resistance		ing to IEC 60068-2-27		50 gn, duration 11 ms	
Indicators	Output s	tate		Yellow LED	
	Supply o	n and teach mode		Green LED	
Rated supply voltage			٧	== 1224 with protection against reverse polarity	
Voltage limits (includi	ng ripple)	٧	 1036	
Switching capacity			mA	≤ 100 with overload and short-circuit protection	
Voltage drop, closed s	tate		٧	≤2	
Current consumption,	no-load		mA	≤10	
Maximum switching fr	equency	,	Hz	1000	
Delays	First-up		ms	≤10	
	Respons	se	ms	≤0.3	
	Recover	у	ms	≤0.7	

Wiring schemes

Connector

M12

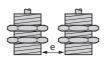


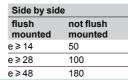


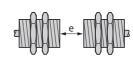


Setting-up

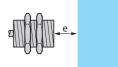
Minimum mounting distances (mm)







Face to face					
flush mounted	not flush mounted				
e≥50	100				
e ≥ 100	200				
0 > 180	360				

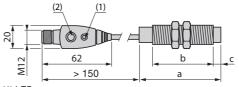


Facing a metal object

e ≥ 3.4 e ≥ 6 e ≥ 11

Dimensions

XS6



(1) LED

(2) Teach mode button

Conn	ector (m	m)	
а	b	С	
54.6	42	5	
60	44	8	
62.6	41	13	

Ø 12 Ø 18 Ø 30

Ø 12

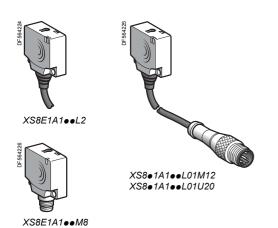
Ø 18

Ø 30

а	b	С	
54.6	42	5	
60	44	8	
62.6	41	13	

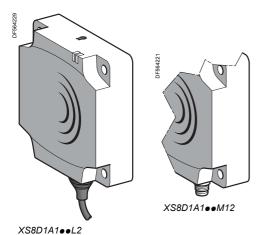
Inductive proximity sensorsOsiSense XS, general purpose with increased range Flat, flush mountable/non flush mountable + teach mode (1) Two-wire AC or DC

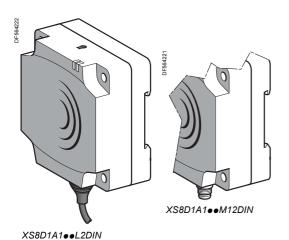
Three-wire DC, solid-state output











	Function	Output	Connection	Reference	Weight
distance (Sn) mm					kg
Three-w	ire wi	th overl	oad and short-circuit prote	ection	
5	NO	PNP	Pre-cabled (L = 2 m) (3)	XS8E1A1PAL2	0.07
			M8 connector	XS8E1A1PAM8	0.04
			Remote M12 connector	XS8E1A1PAL01M12	0.04
		NPN	Pre-cabled (L = 2 m) (3)	XS8E1A1NAL2	0.07
			M8 connector	XS8E1A1NAM8	0.04
			Remote M12 connector	XS8E1A1NAL01M12	0.04
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS8E1A1PBL2	0.07
			M8 connector	XS8E1A1PBM8	0.04
			Remote M12 connector	XS8E1A1PBL01M12	0.04
		NPN	Pre-cabled (L = 2 m) (3)	XS8E1A1NBL2	0.07
			M8 connector	XS8E1A1NBM8	0.04
			Remote M12 connector	XS8E1A1NBL01M12	0.04
Two-wir	e ∼ or 	unpro	tected (4)	XOOL IX INDED IN 12	0.0
5	NO	-	Pre-cabled (L = 2 m) (3)	XS8E1A1MAL2	0.07
			Remote 1/2"-20UNF connector	XS8E1A1MAL01U20	0.04
	NC	_	Pre-cabled (L = 2 m) (3)	XS8E1A1MBL2	0.07
			Remote 1/2"-20UNF connector	XS8E1A1MBL01U20	0.04
Flat. 4	$0 \times 40 \times$	(15 m	m format (2)		
Sensing			Connection	Reference	Weigh
distance (Sn) mm					kç
Three-w	rire wi	th overl	oad and short-circuit prote	ection	
5	NO	PNP	Pre-cabled (L = 2 m) (3)	XS8C1A1PAL2	0.09
			M8 connector	XS8C1A1PAM8	0.06
			Remote M12 connector	XS8C1A1PAL01M12	0.06
		NPN	Pre-cabled (L = 2 m) (3)	XS8C1A1NAL2	0.09
			M8 connector	XS8C1A1NAM8	0.06
			Remote M12 connector	XS8C1A1NAL01M12	
			TACITIOLE IN 12 CONFICCION	7.000 I7.1117.E0 IIII.IE	0.06
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS8C1A1PBL2	
	NC	PNP			0.09
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS8C1A1PBL2	0.08
	NC	PNP NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector	XS8C1A1PBL2 XS8C1A1PBM8	0.06
	NC		Pre-cabled (L = 2 m) (3) M8 connector	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12	0.06 0.06 0.09
	NC		Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3)	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2	0.06 0.06 0.06 0.06
Two-wir		NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8	0.06 0.06 0.06 0.06
		NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8	0.09 0.06 0.09 0.06 0.06
	e ∼ or 	NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector tected (4)	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8 XS8C1A1NBL01M12 XS8C1A1MAL2	0.06 0.06 0.06 0.06 0.06 0.06
Two-wir 5	e ∼ or 	NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector tected (4) Pre-cabled (L = 2 m) (3)	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8 XS8C1A1NBL01M12 XS8C1A1MAL2	0.09 0.06 0.09 0.06 0.06
	e ∼ or NO	NPN	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector tected (4) Pre-cabled (L = 2 m) (3) Remote 1/2"-20UNF connector	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8 XS8C1A1NBL01M12 XS8C1A1MAL2 XS8C1A1MAL01U20 XS8C1A1MBL2	0.09 0.06 0.06 0.06 0.06
5	e ∼ or NO NC	NPN - unpro	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector tected (4) Pre-cabled (L = 2 m) (3) Remote 1/2"-20UNF connector Pre-cabled (L = 2 m) (3) Remote 1/2"-20UNF connector	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8 XS8C1A1NBL01M12 XS8C1A1MAL2 XS8C1A1MAL01U20 XS8C1A1MBL2	0.09 0.06 0.09 0.06 0.06 0.09
⁵ Flat, 80	e ~ or NO NC	NPN - unprof	Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector Pre-cabled (L = 2 m) (3) M8 connector Remote M12 connector tected (4) Pre-cabled (L = 2 m) (3) Remote 1/2"-20UNF connector Pre-cabled (L = 2 m) (3)	XS8C1A1PBL2 XS8C1A1PBM8 XS8C1A1PBL01M12 XS8C1A1NBL2 XS8C1A1NBM8 XS8C1A1NBL01M12 XS8C1A1MAL2 XS8C1A1MAL01U20 XS8C1A1MBL2	0.09 0.06 0.09 0.06 0.06 0.00 0.09

(Sn) n	nm				kg
Thre	e-wire '	with ove	rload and short-circuit p	rotection	
60	NO	PNP	Pre-cabled (L = 2 m) (3)	XS8D1A1PAL2 (5)	0.390
			M12 connector	XS8D1A1PAM12 (5)	0.340
		NPN	Pre-cabled (L = 2 m) (3)	XS8D1A1NAL2 (5)	0.390
			M12 connector	XS8D1A1NAM12 (5)	0.340
	NC	PNP	Pre-cabled (L = 2 m) (3)	XS8D1A1PBL2 (5)	0.390
			M12 connector	XS8D1A1PBM12 (5)	0.340
		NPN	Pre-cabled (L = 2 m) (3)	XS8D1A1NBL2 (5)	0.390
			M12 connector	XS8D1A1NBM12 (5)	0.340
Two-	wire \sim or	· unpr	otected (4)		
60	NO	-	Pre-cabled (L = 2 m) (3)	XS8D1A1MAL2 (5)	0.390
			1/2"-20UNF connector	XS8D1A1MAU20 (5)	0.340
	NC	_	Pre-cabled (L = 2 m) (3)	XS8D1A1MBL2 (5)	0.390
			1/2"-20UNF connector	XS8D1A1MBU20 (5)	0.340
(1) For	further info	rmation or	n flush or non flush mountable	sensors using teach mode, se	e page

- (2) For accessories, see page 128.

- (2) For accessines, see page 126.
 (3) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10.
 (4) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.
 (5) For clipping onto 35 mm omega rail or 80 x 80 x 40 mm format, add DIN to the end of the reference. Example: XS8D1A1PAL2 DIN.



Characteristics, schemes, setting-up, dimensions

Inductive proximity sensorsOsiSense XS, general purpose with increased range Flat, flush mountable/non flush mountable + teach mode (1) Two-wire AC or DC Three-wire DC, solid-state output

Characteristics								
Sensor type				XS8E•••••M8, XS8C•••••M8, XS8D•••••M12, XS8D•••••U20	XS8E•••••L01M12, XS8E•••••L01U20, XS8C•••••L01M12, XS8C•••••L01U20	XS8E••••L2 XS8C••••L2 XS8D••••L2		
Product certifications				UL, CSA, C€	•			
Connection Connector			M8 except XS8••••••M12: M12 XS8••••••U20: 1/2"-20UNF	Remote on 0.15 m flying lead XS8•••••L01M12: M12 XS8•••••L01U20: 1/2"-20UNF	_			
	Pre-cable	ed		-	-	Length: 2 m		
Sensing distance and	XS8E	Nominal sensing dist. Sn	mm	015 not flush mounted / 010 fl	ush mounted			
adjustment zone		Fine adjustment zone	mm	515 not flush mounted / 510 fl	ush mounted			
	XS8C	Nominal sensing dist. Sn	mm	025 not flush mounted / 015 fl	ush mounted			
		Fine adjustment zone	mm	825 not flush mounted / 815 fl	ush mounted			
	XS8D	Nominal sensing dist. Sn	mm	060 not flush mounted / 040 fl	ush mounted			
		Fine adjustment zone	mm	2060 not flush mounted / 204	0 flush mounted			
Differential travel			%	115 of effective sensing distance	e (Sr)			
Degree of protection	Conformi	ng to IEC 60529		IP 67, double insulation (except	M8 connector: IP 67)	IP 68, □		
Storage temperature			°C	- 40+85				
Operating temperature			°C	- 25+70				
Materials	Case			PBT				
	Cable			– PvR 3 x 0.34 mm ² \Rightarrow and PvR 2 x 0.34 mm ² \Rightarrow				
Vibration resistance	Conformi	ng to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)				
Shock resistance	Conformi	ng to IEC 60068-2-27		50 gn, duration 11 ms				
Indicators	Output state			Yellow LED				
	Supply or	n and teach mode		Green LED	Green LED			
Rated supply	3-wire		٧	1224 with protection against reverse polarity				
voltage	2-wire		٧	∼ or == 24240 (∼ 50/60 Hz)				
Voltage limits	3-wire		٧	1036				
(including ripple)	2-wire		٧	∼ or == 20264				
Current consumption, no-load	3-wire		mA	≤ 10				
Residual current, open state	2-wire		mA	≤ 1.5				
Switching capacity	3-wire		mA	≤ 100 XS8E , ≤ 200 XS8C and XS8	BD, with overload and short-circuit pr	otection		
	2-wire		mΑ	$5200 extstyle extbf{XS8E}, 5300 extstyle extbf{XS8C}$	and XS8D , 5200 == XS8C and X	S8D		
Voltage drop, closed state	3-wire		٧	≤2				
	2-wire		٧	≤ 5.5				
Maximum switching frequenc	у		Hz	2000 XS8E, 1000 XS8C, 150 XS8	D			
Delays	First-up		ms	≤ 10 XS8E , XS8C and XS8D (3-wi	ire), ≤ 10 XS8E and XS8C , ≤ 15 XS8	D (2-wire)		
	Respons	e	ms	≤ 0.3				
	Recovery	1	ms	≤ 0.8 XS8E and XS8C , ≤ 6 XS8D				

Wiring schemes

Connector

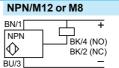


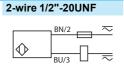
Pre-cabled

BU: Blue BN: Brown BK: Black

<u></u>	2

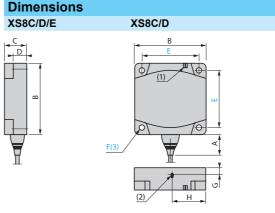


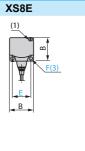




For M8 connector, NO and NC outputs on terminal 4

Setting-up	Setting-up					
Minimum mounting di	stances ((mm)				
Side by side	e≥	XS8E	XS8C	XS8D		
e	Flush mounted	40	60	200		
	Not flush mounted	150	125	600		
Face to face	e≥	XS8E	XS8C	XS8D		
e	Flush mounted	80	120	400		
	Not flush	300	250	not		
A A	mounted			recom- mended		
Facing a metal object	e≥	XS8E	XS8C	XS8D		
		10	15	40		





(1) LED (2) Teach mode button (3) For CHC type screws

Sensor	A (cable)	A (connector)	В	С	D	E	F	G	Н
XS8E	14	11	26	13	8.8	20	3.5	6.8	6.6
XS8C	14	11	40	15	9.8	33	4.5	8.3	13.6
XS8D	23	18	80	26	16	65	5.5	8.5	37.8
XS8DeeDIN	23	18	80	40	30	65	5.1	22.5	37.8

Functions, principle, setting-up

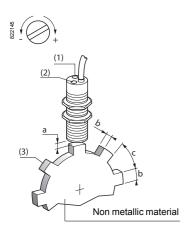
Inductive proximity sensors

OsiSense XS Application

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

Example:Coupling breakage monitoring





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.

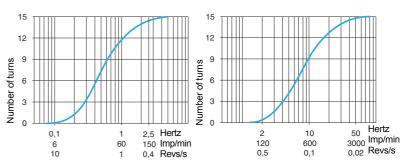
Adjustment of frequency threshold

- 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 (-).

Potentiometer	Diameter of sensor			
LED		а	b	С
Metal target	M30	46 mm	30 mm	60 mm

Potentiometer adjustment curves (for XSAV1ullet801, 2-wire \sim or \equiv sensors)

Low speed version (6...150 impulses/minute) High speed version (120...3000 impulses/minute)



Setting-up	
Minimum distances (mm)	
Side by side	Face to face
	2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
e ≥ 20	e ≥ 120
Facing a metal object	Mounted in a metal support
2 - € -	d d
e ≥ 30	d ≥ 30, h ≥ 0
Fixing nut tightening torque: < 50 N.m	

References, characteristics, dimensions, schemes

Inductive proximity sensorsOsiSense XS Application

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

Sensor Flush mountable in metal Lengths (mm): a = Overall b = Threaded section DC DC DC

		DC	DC	AC/DC	AC/DC
Nominal sensi	ng distance (Sn)	10 mm	10 mm	10 mm	10 mm
Adjustable free	quency range	6150 impulses/min	1203000 impulses/min	6150 impulses/min	1203000 impulses/min
Reference	es				
3-wire ==	PNP/NC	XSAV11373	XSAV12373	_	-
2-wire	or ∼ / NC	-	_	XSAV11801	XSAV12801
Weight (kg)		0.300	-	-	

Characteristics					
Connection	Pre-cabled, 3 x 0.34 mm ² , 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	08 mm				
Repeat accuracy	3 % of Sr				
Differential travel	315 % of Fr				
Operating temperature	- 25+ 70 °C				
Output state indication	Red LED				
Rated supply voltage	== 1248 V with protection against reverse polarity	~ 24240 V (50/60 Hz) or == 24210 V			
Voltage limits (including ripple)	1058 V	∼ or 20264 V			
Switching capacity	≤ 200 mA with overload and short-circuit protection	~ 5350 mA or == 5200 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)				

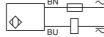
Wiring schemes

3-wire --- XSAV1●373

BN BK

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 128.

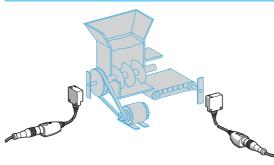
⁽³⁾ For a sensor without a "run-up" delay following power-up, replace XSAV1 in the reference by XSAV0. Example: XSAV11801 becomes **XSAV01801** without a "run-up" delay. For a reduced "run-up" delay of 3 s, replace XSAV1 in the reference by XSAV3.

Principle, adjustment, setting-up, dimensions

Inductive proximity sensorsOsiSense XS Application

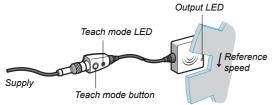
Sensors for rotation monitoring, slip detection and shaft overload detection, with teach mode

Operating principle and applications



- These inductive proximity sensors are designed for monitoring rotational speed or the speed of the flow of objects to be protected or monitored.
- They operate on the principle of comparing a speed threshold preset by the operator against the instantaneous measurement of the speed of the moving object to be protected.
- They provide a simple, economical solution for detecting slip, belt breakage, coupling breakage and overload, etc.
- They are widely used in grinder/crusher, mixer, pump, centrifugal driver, conveyor belt, bucket elevator, Archimedean screw, etc. type applications.

Installation and setting-up



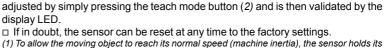
Setting-up and positioning the sensor

- In the positioning phase, the XS9 sensor can operate as a standard inductive sensor (Schneider Electric patent).
- Operation in inductive mode enables validation of reliable detection of all the moving objects to be monitored.
- Using this system, the positioning is therefore made 100 % reliable and can be checked at any time without altering the settings of the sensor.

Speed adjustment in teach mode ■ The normal or reference speed of the moving object (1) to be monitored is



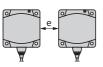




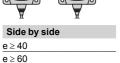
- output closed for 9 seconds. (2) The sensor's default drop-out underspeed corresponds to the preset speed - 30 %.
- Example: If the preset speed is 1000 rpm, the sensor drops out on underspeed when the speed of the moving object drops below $1000 - (1000 \times 0.3) = 700 \text{ rpm}$.
 - 20 %, 11 % and 6 % thresholds can be obtained by pressing the teach mode button.

Setting-up

Minimum mounting distances (mm)



Type XS9E XS9C

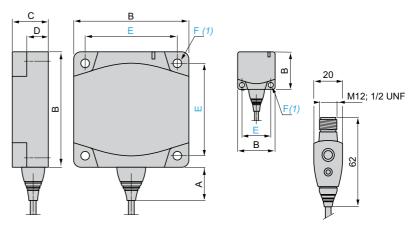




Face to face <u>e</u> ≥ 80 <u>e</u> ≥ 120

Dimensions

XS9E, XS9C



(1) For CHC type screws

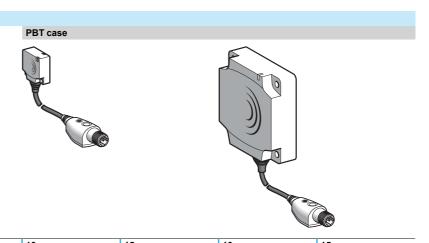
Type	Α	В	С	D	Е	F	
XS9E	14	26	13	8.8	20	3.5	
XS9C	14	40	15	9.8	33	4.5	

References, characteristics, schemes, accessories

Inductive proximity sensors OsiSense XS Application

Sensors for rotation monitoring, slip detection and shaft overload detection, with teach mode

Flush mountable in metal



Nominal sensing distan	ce (Sn)	10 mm	15 mm	10 mm	15 mm		
Adjustable frequency ra	inge	66000 impulses/min	66000 impulses/min				
References							
3-wire	PNP/NC	XS9E11RPBL01M12	XS9C11RPBL01M12	-	-		
2-wire	or ∼ / NC	-	-	XS9E11RMBL01U20	XS9C11RMBL01U20		
Weight (kg)		0.040	0.060	0.040	0.060		
Characteristics							
Product certifications		UL, CSA, C€					
Connection		Remote M12 connecto	r on 0.15 m flying lead	Remote 1/2"-20UNF co	onnector on 0.15 m		
Operating zone		08 mm	012 mm	08 mm	012 mm		
Degree of protection	Conforming to IEC 60529	IP 67, double insulation	IP 67, double insulation				
Storage temperature		- 40+ 85 °C					
Operating temperature		- 25+ 70 °C					
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 m	m (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	Green LED					
Rated supply voltage		1224 V		∼ or == 24240 V (50/60 Hz)			
Voltage limits (including	ripple)	1036 V		~ or == 20264 V			
Switching capacity		≤ 100 mA (1)	≤ 200 mA (1)	\sim or == 5100 mA (2)	5200 mA, ∼ 5300 mA(2)		
Voltage drop, closed sta	te	≤2 V	-	≤ 5.5 V			
Residual current, open s	state	≤ 100 mA		≤ 1.5 mA			
Current consumption, n	o-load	≤10 mA					
Maximum switching free	quency	48,000 impulses/min					
"Run-up" delay followin	g power-up	9 seconds + 1/Fr					

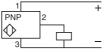
⁽¹⁾ With overload and short-circuit protection.

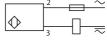
Wiring schemes

Connector 3-wire ---2-wire \sim or $\overline{...}$ 1/2"-20UNF XS9e11RPBL01M12 XS9e11RMBL01U20









Accessory (1)





⁽²⁾ It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

⁽¹⁾ For accessories, see page 128.

Functions, principle, curves, schemes

Inductive proximity sensors

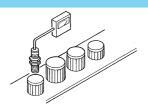
OsiSense XS Application

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

For position, displacement and deformation control/monitoring

Functions

Example: Sorting parts



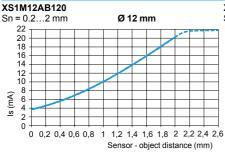
These analogue output proximity sensors are solid-state sensors designed for monitoring displacement. They are not measuring sensors. They are suitable for use in many sectors, particularly for applications involving:

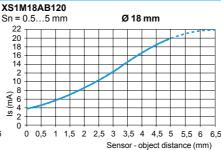
- deformation and displacement monitoring,
- vibration amplitude and frequency monitoring,
- control of dimensional tolerances,
- position control,
- concentricity or eccentricity monitoring.

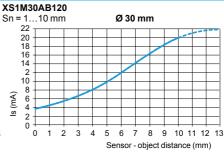
Operating principle

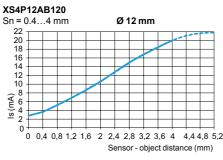
The operating principle of the sensor is that of a damped oscillator. The degree of damping will depend on the distance of an object from the sensing face. The sensor will sense the distance and produce an output current with a value directly proportional to this distance.

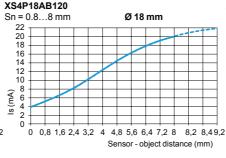
Output curves 4..0.20 mA, 2-wire connection

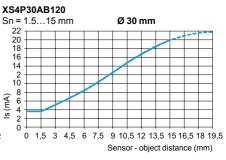




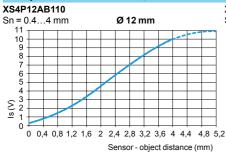


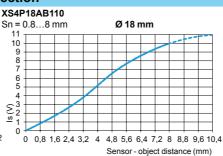


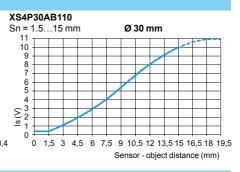




Output curves 0...10 V, 3-wire connection

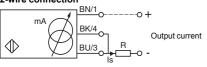






Wiring schemes

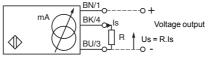
2-wire connection



	Output current	Load impedance value
12 V	420 mA	R ≤ 8.2 Ω
24 V	4 20 mA	R ≤ 470 O

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	010 mA	R ≤ 1500 Ω	010 V	R = 1000 Ω
48 V	010 mA	R ≤ 3300 Ω	010 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 87 to 89

Characteristics: pages 87 to 89



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				
a	b						
Lengths (mm) a = Overall b = Threaded		a = 50 b = 42	a = 50 b = 42	a = 50 b = 42			
		Metal case	Plastic case	Plastic case			
Nominal sen	sing distance (Sn)	2 mm	4 mm	4 mm			
Referen	ces						
3-wire ===	Output 010 V (2)	-	-	XS4P12AB110			
2-wire	Output 420 mA (2)	XS1M12AB120	XS4P12AB120	-			
Weight (kg)		0.075	0.065	0.065			
Characte	eristics						
Product cert	fications	CE, UL, CSA					
Connection		Pre-cabled, PvR 3 x 0.34 mm², length	1 2 m				
Degree of pro		IP 67					
Operating zo	ne	0.22 mm	0.44 mm	0.44 mm			
Repeat accu	racy	± 3 %	'				
Linearity erro	or	± 2 mA		±1V			
Ambient air t	emperature	For operation: - 25+70 °C					
Rated supply	voltage	1224 V	1224 V	2448 V			
Voltage limits (including ripple)		1036 V	1036 V	1558 V			
Output current drift Ambient temperature: - 25+ 70 °C		≤ 10 %					
Current cons	umption, no-load	4 mA	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 86.

Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support	
willimum mounting distances (lilin)	Side by side	z e la	e Pacing a metal object	d d	
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	n (plastic case)			
Other versions	Please consult our Customer Care Centre.				





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			
b c					
Lengths (mm):			_		
a = Overall b = Threaded section	a = 53 b = 44	a = 41 b = 26	a = 41 b = 26		
c = For non flush mountable sensors	c = 0	c = 8	c = 8		
	Metal case	Plastic case	Plastic case		
Nominal sensing distance (Sn)	5 mm	8 mm	8 mm		
References					
3-wire Output 010 V (2)	-	_	XS4P18AB110		
2-wire Output 420 mA (2)	XS1M18AB120	XS4P18AB120	_		
Weight (kg)	0.120	0.080	0.080		
Characteristics					
Product certifications	C€, UL, CSA				
Connection	Pre-cabled, PvR 3 x 0.34 mm ² , length	1 2 m			
Degree of protection Conforming to IEC 60529	IP 67				
Operating zone	0.55 mm	0.88 mm	0.88 mm		
Repeat accuracy	± 3 %	1			
Linearity error	± 2 mA		±1 V		
Ambient air temperature	For operation: -25+70 °C				
Rated supply voltage	1224 V	1224 V	2448 V		
Voltage limits (including ripple)	1036 V	1036 V	1558 V		
Output current drift Ambient temperature: - 25+ 70 °C	≤ 10 %				
Current consumption, no-load	4 mA				
Maximum operating rate	500 Hz				

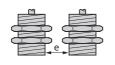
- (1) Voltage range only obtained with a load impedance of 1000 Ω . (2) Output current range Is, see page 86.

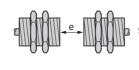
0	_44:			
Э	etti	na	EU D	ı

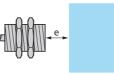
Minimum mounting distances (mm)

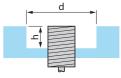
Facing a metal object

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 128

Schemes page 86



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

Sensor	Flush mountable in meta	al Non flush mountable in	n metal			
b c a						
Lengths (mm): a = Overall b = Threaded section c = For non flush mountable so Nominal sensing distance (8	Metal case	a = 53 b = 32 c = 13 Plastic case 15 mm	a = 53 b = 32 c = 13 Plastic case			
References						
3-wire Output 010) V (2)	-	XS4P30AB110			
2-wire Output 420	0 mA (2) XS1M30AB120	XS4P30AB120	-			
Weight (kg)	0.200	0.100	0.100			
Characteristics	ı					
Product certifications	C€, UL, CSA					
Connection	Pre-cabled, PvR 3 x 0.34 mn	n², length 2 m				
Degree of protection Conforming to IEC 60529	IP 67	IP 67				
Operating zone	110 mm	1.515 mm	1.515 mm			
Repeat accuracy	± 3 %	±3%				
Linearity error	± 2 mA	± 2 mA				
Ambient air temperature	For operation: - 25+ 70 °C	For operation: -25+70 °C				
Rated supply voltage	1224 V	1224 V	2448 V			
Voltage limits (including rip	ple) 1036 V	1036 V	1558 V			
Output current drift Ambient temperature: - 25+	70 °C ≤ 10 %	≤ 10 %				
Current consumption, no-lo	ad 4 mA					
Maximum operating rate	300 Hz	300 Hz				

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

⁽²⁾ Output current range Is, see page 86.

Setting-up					
Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support	
		2 - 2	2	d d	
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	N.m (plastic case)			
Other versions	Please consult our Customer Care Centre.				

Accessories: page 128

Schemes: page 86



Functions, principle, curves, schemes

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.

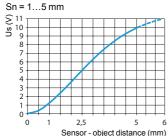
Operating principle

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.

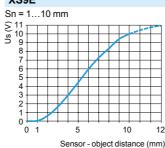
Output curves 0...10 V, 3-wire connection

XS9F



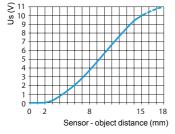


XS9E



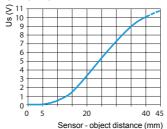
XS9C

Sn = 2...15 mm



XS9D

Sn = 5...40 mm



Wiring schemes

Connector

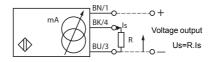
Pre-cabled

M8 M12



BN: Brown BU: Blue BK: Black

3-wire connection



	Output current	Load impedance value	Output voltage	Load impedance value
24 V	010 mA	R ≤ 1400 Ω	010 V	$R = 1000 \Omega$

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 .



References, characteristics, dimensions, setting-up

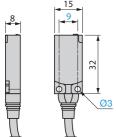
Inductive proximity sensorsOsiSense XS Application

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

Flush mountable in metal PBT case

Nominal sensing distance	e (Sn)	5 mm	10 mm	15 mm	40 mm		
References							
3-wire	Pre-cabled (L = 2 m) (2)	XS9F111A1L2	XS9E111A1L2	XS9C111A1L2	XS9D111A1L2		
010 V	Connector	XS9F111A1L01M8	XS9E111A1L01M12	XS9C111A1L01M12	XS9D111A1M12		
Weight (kg)	Pre-cabled (L = 2 m) (2)	0.060	0.075	0.095	0.340		
	Connector	0.040	0.055	0.075	0.320		
Characteristics							
Product certifications		UL, CSA, C€					
Connection	Pre-cabled	PvR 3 x 0.34 mm ² , leng	th 2 m for XS9e111AeL	2			
	Connector	0.15 m flying lead with M8 connector	th 0.15 m flying lead with M12 connector M12		M12		
Operating zone		15 mm	110 mm	215 mm	540 mm		
Degree of protection	Pre-cabled	IP 68	IP 68, double insulation	1 	-		
Conforming to IEC 60529	Connector	IP 67	IP 67, double insulation	n 🛮			
Storage temperature		- 40+ 85 °C	- 40+ 85 °C				
Operating temperature		-25+ 70 °C					
Materials		PBT case	PBT case				
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	50 gn, duration 11 ms				
Output state indication		No					
Rated supply voltage		24 V					
Voltage limits (including r	ipple)	1536 V					
Repeat accuracy		± 3 %					
Linearity error		±1V					
Current consumption, no-	-load	≤ 4 mA with overload a	nd short-circuit protectio	n			
Maximum operating frequ	iency	2000 Hz 1000 Hz 1000 Hz					
Output current drift		≤ 10 % (throughout the	operating temperature r	ange)			

Dimensions XS9F XS9E XS9E/C/D XS9C/D



C P	∞			B E		- (2)	(2) For CHC type screws
A (L2)	A (M12)	В	С	D	E	F	
14	_	26	13	8.8	20	3.5	
14	_	40	15	9.8	33	4.5	

Type	A (L2)	A (M12)	В	С	D	E	F
XS9E	14	_	26	13	8.8	20	3.5
XS9C	14	-	40	15	9.8	33	4.5
XS9D	23	14	80	26	16	65	5.5

Setting-up (Minimum mounting distances (mm))

Type XS9F XS9E XS9C XS9D

Side by Side					
0/	0/0	e ≥ 1			
-	e_	e ≥ 3			
0 10	01 10	e ≥ 4			
W .		e ≥ 1			

	гасе	to race
5		
0	- €	-
5	LF	a J
120	A	¥
	п	п



Facing a metal object

e ≥ 30 $e \geq 45\,$ $e\,\geq 120$

⁽²⁾ For a 5 m long cable replace L2 by L5, for a 10 m long cable replace L2 by L10. Example: XS9C111A1L2 becomes XS9C111A1L5 with a 5 m long cable





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

Functions. principle, curves, schemes

Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 4...20 mA 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,
- $\hfill\Box$ control of dimensional tolerances,
- □ position control,
- □ concentricity or eccentricity monitoring.

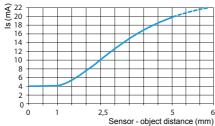
Operating principle

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.

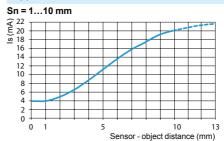
Output curves 4...20 mA, 2-wire connection

XS9F

Sn = 1...5 mm

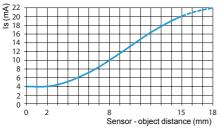


XS9E



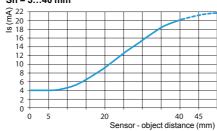
XS9C

Sn = 2...15 mm



XS9D

Sn = 5...40 mm



Wiring schemes

Connector

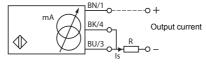
M8

Pre-cabled



BN: Brown BU: Blue BK: Black

2-wire connection



	Output current	Load impedance value
12 V	420 mA	R≤8.2Ω
24 V	420 mA	R ≤ 470 Ω

Note: Ensure a minimum of 10 V between the + (terminal 1) and - (terminal 3) of the sensor.

References, characteristics, dimensions, setting-up

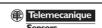
Inductive proximity sensors

OsiSense XS Application

Sensors with analogue output signal 4...20 mA For position, displacement and deformation control/monitoring

Flush mountable in metal PBT case Nominal sensing distance (Sn) 5 mm 10 mm 15 mm 40 mm References Pre-cabled (L = 2 m) (1) XS9F111A2L2 XS9E111A2L2 XS9C111A2L2 XS9D111A2L2 2-wire == 4...20 mA Connector XS9F111A2L01M8 XS9E111A2L01M12 XS9C111A2L01M12 XS9D111A2M12 Weight (kg) Pre-cabled (L = 2 m) 0.060 0.075 0.095 0.340 Connector 0.040 0.055 0.075 0.320 **Characteristics Product certifications** UL. CSA. C€ Connection Pre-cabled PvR 3 x 0.34 mm², length 2 m for XS9•111A•L2 0.15 m flying lead with 0.15 m flying lead with M12 connector M12 Connector M8 connector Operating zone 1...5 mm 2...15 mm 5...40 mm Degree of protection Pre-cabled IP 68 IP 68, double insulation Conforming to IEC 60529 Connector IP 67 IP 67, double insulation Storage temperature - 40...+ 85 °C Operating temperature - 25...+ 60 °C - 25...+ 70 °C Materials PBT case 25 gn, amplitude ± 2 mm (f = 10 to 55 Hz) Vibration resistance Conforming to IEC 60068-2-6 Shock resistance Conforming to IEC 60068-2-27 50 gn, duration 11 ms **Output state indication** Nο --- 12...24 V Rated supply voltage Voltage limits (including ripple) == 10...36 V Repeat accuracy ±3% Linearity error ±2 mA Current consumption, no-load ≤ 4 mA with overload and short-circuit protection **Maximum operating frequency** 2000 Hz 1000 Hz 100 Hz Output current drift ≤ 10 % (throughout the operating temperature range) **Dimensions** XS9E XS9F XS9E/C/D XS9C/D C D. F (1) \odot (1) For CHC type screws A (L2) A (M12) В C D Type XS9E 14 26 13 8.8 3.5 XS9C 14 40 15 9.8 4.5 23 5.5 XS9D 80 26 16 Setting-up (Minimum mounting distances (mm)) Side by side Face to face Facing a metal object Type

(1) For a 5 m long cable replace L2 by L5; for a 10 m long cable replace L2 by L10. Example: XS9F111A2L2 becomes XS9F111A2L5 with a 5 m long cable.

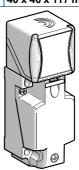


Inductive proximity sensorsOsiSense XS Application

Sensors with analogue output signal 0...10 V (1) or 4...20 mA. Plastic case, 40 x 40 mm front face 5 position turret head

Sensor	Non flush mountable in metal	
Dimensions	40 x 40 x 70 mm	40 x 40 x 117 mm





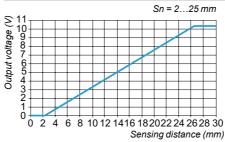
Nominal sensing distance (Sn)	25 mm		
References				
3-wire	010 V output (1)	XS9C2A2A1M12	XS9C4A2A1P20 (2)	
2-wire	420 mA output	XS9C2A2A2M12	XS9C4A2A2P20 (2)	
		XS9C4eeeP20 sensors are available with an Is a PG 13.5 (e.g. XS9C4A2A1G13) or a 1/2" NP please consult our Customer Care Centre for n	T (e.g. XS9C4A2A2N12) cable entry:	
Weight (kg)		0.149	0.244	
Characteristics				
Product certifications		UL, CSA, CE		
Conformity to standards		IEC 60947-5-2 and IEC 60947-5-7		
Connection		M12 connector (4-pin)	Screw terminals, clamping capacity 3 x 1.5 mm ²	
Operating zone		227 mm		
Linearity error		< 3%		
Repeat accuracy		< 3%		
Output current drift		< 5%		
Degree of protection	Conforming to IEC 60529 and DIN 40050	IP 65, IP 67 and IP 69K		
Temperature	Storage	-40+85°C		
	Operation (3)	- 25+ 70°C		
Material		Case: PBT		
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 mm (f = 1055 Hz)		
Shock resistance	Conforming to IEC 60068-2-27	50 gn for 11 ms		
Indicators	Output state (alignment aid)	Yellow LED		
Rated supply voltage	420 mA	== 1224 V with protection against reverse po	larity	
	010 V	== 24 V with protection against reverse polarity		
Voltage limits	420 mA	1236 V		
(including ripple)	010 V	1536 V		
Current consumption, no-load	3-wire ===	< 4 mA		
Delays	First-up	< 7 ms		
	Response	< 6 ms		
	Recovery	< 6 ms		

Analogue outputs 4-20 mA and 0-10 V

XS9 C2A2A2M12 and XS9 C4A2A2P20

22 20 18 16 14 12 10 86 4 20 Output current (mA) 0 2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 Sensing distance (mm)

XS9 C2A2A1M12 and XS9 C4A2A1P20



- (1) Voltage range only obtained with a load impedance of 1000 Ω.
 (2) These sensors are supplied without a cable gland. An adaptable PG 13.5 cable gland is available (reference XSZ PE13).
 (3) 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.



Setting-up, schemes, dimensions

Inductive proximity sensorsOsiSense XS Application

Sensors with analogue output signal 0...10 V (1) or 4...20 mA. Plastic case, 40 x 40 mm front face 5 position turret head

Setting-up precautions

Minimum mounting distances (mm)

Sensors non flush mountable in metal



Side by side

Face to face

Facing a metal object

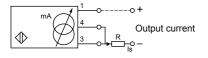
e ≥ 120

e ≥ 240

e ≥ 90

Wiring schemes

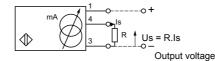
2-wire



	Output current	Load impedance value
12 V	420 mA	R ≤ 82 Ω
24 V	420 mA	R ≤ 560 Ω

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

3-wire

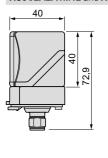


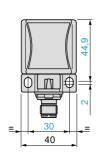
	Output current	Load impedance value	Output voltage	Load impedance value
12 V	010 mA	R ≤ 630 Ω	_	_
24 V	010 mA	R ≤ 1500 Ω	010 V	R = 1000 Ω

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

Dimensions

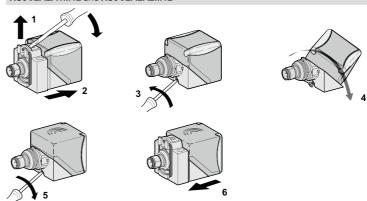
XS9C2A2A1M12 and XS9C2A2A2M12



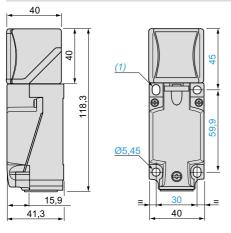


Head positions

XS9C2A2A1M12 and XS9C2A2A2M12



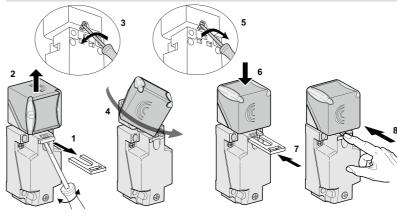
XS9C4A2A1P20 and XS9C4A2A2P20





Tightening torque of cover fixing screws and clamp

XS9C4A2A1P20 and XS9C4A2A2P20



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

References, schemes

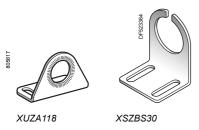
Inductive proximity sensors
OsiSense XS Application
Cylindrical, stainless steel 316L front face
for food and beverage applications and harsh industrial environments. Three-wire DC, solid-state output















Ø 12 mm, threade	ed M12 x	1			
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V ==,	flush mou	ntable			
6	NO	PNP	M12	XS912S1PAM12	0.024
Three-wire 12-24V ==-,	non flush	mountabl	е		
10	NO	PNP	M12	XS912S4PAM12	0.023

Ø 18 mm, thread	ed M18 x	1			
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V	, flush mou	ıntable			
10	NO	PNP	M12	XS918S1PAM12	0.051
Three-wire 12-24V	, non flush	mountab	le		
20	NO	PNP	M12	XS918S4PAM12	0.051

Ø 30 mm, thread	ed M30 x	1.5			
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V	, flush mou	ıntable			
20	NO	PNP	M12	XS930S1PAM12	0.140

Three-wire 12-24V ==	, non flush	mountab	le		
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	g cables (PVC) (1)		
Description	Туре	Length m	Reference	Weight kg
Pre-wired M12 connectors	Straight	2	XZCPA1141L2	0.090
Female, 4-pin Stainless steel clamping ring		5	XZCPA1141L5	0.190
ciamping ring		10	XZCPA1141L10	0.370
	Elbowed	2	XZCPA1241L2	0.090
		5	XZCPA1241L5	0.190
		10	XZCPA1241L10	0.370

Wiring schemes	
M12 connector	PNP
1 3	9NP 4(NO) + 3 -

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



Characteristics, setting-up, dimensions

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

Sensor type	Flush		XS912S1PAM12	XS918S1PAM12	XS930S1PAM12
3,1	Non flush		XS912S4PAM12	XS918S4PAM12	XS930S4PAM12
Product certifications			CE, cULus		
Connection	Connector		M12		
Operating zone	Flush	mm	04.8	08	016
	Non flush	mm	08	016	032
Differential travel		%	115 (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 (-13185°F)		
Operating temperature		°C	-25+ 85 (-13185°F)		
Materials	Case		Stainless steel, 316L grade		
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		٧	== 1224 with protection ag	ainst reverse polarity	
Voltage limits (including ripple)		٧	 1030		
Switching capacity		mΑ	≤ 200 with overload and sho	rt-circuit protection	
Voltage drop, closed state		٧	≤2		
Current consumption, no-load		mΑ	≤ 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
,	۵>38	a > 30

Ø 12 Ø 18 e≥42 Ø 30 e ≥ 80



e ≥ 40





Facing a metal object

Mounted in a metal support

d ≥ 24 d≥50 d ≥ 90



Minimum mounting distances in mm, non flush version Side by side

Ø 12	e ≥ 108
Ø 18	e ≥ 182

e ≥ 182 e ≥ 270



<u>e ≥ 4</u>0 e ≥ 70 e ≥ 130



Facing a metal object

e ≥ 30 e≥60 e ≥ 120

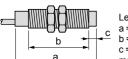
Mounted in a metal support

d≥30	h ≥ 22	
d≥60	h ≥ 34	
d ≥ 120	h ≥ 34	



Dimensions

Ø 30



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

	Flush s	Flush sensor				
	M12	M18	M30			
a (mm)	60	63.5	63.5			
b (mm)	41	42	42			
c (mm)	0	0	0			

Non flush sensor						
M12	M18	M30				
60	63.5	63.5				
36	35	32				
5	7	10				

Reduction coefficient

Steel	
Aluminum	
Brass	
Cupper	
Stainless steel	

Flush-non mounted

	1	1	1
	1	1	1
	1.3	1.2	1.3
	0.85	0.8	0.9
Thickness 1 mm	0.5	0.5	0.35
Thickness 2 mm	0.9	0.9	0.7

Flush sensor

Non flush sensor				
M12	I12 M18 M3			
1	1	1		
1	1	1		
1.4	1.35	1.2		
0.8	0.9	0.9		
(1)	0.3	(1)		
0.66	0.6	0.25		

Flush mounted

Steel	
Aluminum	_
Brass	_
Stainless steel	_

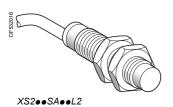
M12	M18	M30
0.7	0.75	0.9
1.15	0.9	0.7
1.05	0.75	0.6
0.8	0.8	1.3

(1) No detection.

References

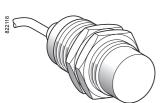
Inductive proximity sensorsOsiSense XS Application, food and beverage processing series

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









XS230SA••L2









Ø 12, threade	ed M12 x	c 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)	XS212SANAL2	0.075
			M12 connector	XS212SANAM12	0.035

Ø 18, thread	ed M18 b	k 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, thread	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	Туре	Length m	Reference	Weight kg
Pre-wired M12 connectors	Straight	2	XZCPA1141L2	0.090
Female, 4-pin, stainless steel clamping ring		5	XZCPA1141L5	0.210
		10	XZCPA1141L10	0.410
	Elbowed	2	XZCPA1241L2	0.090
		5	XZCPA1241L5	0.210
		10	XZCPA1241L10	0.410
M12 jumper cable	Straight	2	XZCRA151140A2	0.095
Male, 3-pin, stainless steel clamping ring		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 128.



Characteristics, schemes, setting-up, dimensions

Inductive proximity sensorsOsiSense XS Application, food and beverage processing series

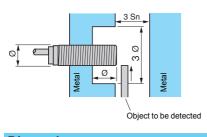
Cylindrical, stainless steel, non flush mountable Three-wire DC, solid-state output

Sensor type			XS2eeSAeeM12	XS2eeSAeeL2
Product certifications/a	oprovals	T	UL, CSA, CE	, 102000, 100 <u>22</u>
Connection	Connector		M12	_
	Pre-cabled		_	Length: 2 m
Operating	Ø 12	mm	05.6	
zone	Ø 18	mm	09.6	
	Ø 30	mm	017.6	
Differential travel		%	115 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	°C -40+ 85 (1)	
Operating temperature		°C	C - 25+ 85	
Materials	Case		Stainless steel 316 L	
	Cable		-	Non-poisonous PVC, 3 x 0.34 mm ²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 H	z)
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	== 1224 with protection against reverse polarity	
Voltage limits (including	ripple)	V	 1036	
Switching capacity		mA	≤ 200 with overload and short-circuit pr	otection
Voltage drop, closed sta	te	V	≤2	
Current consumption, n	o-load	mA	≤ 10	
Maximum switching	XS212SA••••	Hz	2500	
frequency	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	

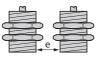
(1) + 100 °C for cleaning and sterilization phases whilst not in service.

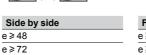
willing scheme.	3		
Connector	Pre-cabled	PNP	NPN
M12 4	BU: Blue BN: Brown BK: Black	BN/1 + BK/4 (NO) BU/3 -	BN/1 + NPN BK/4 (NO)

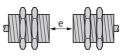
Setting-up

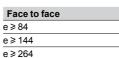


Minimum mounting distances (mm)

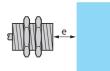








XUZA118



Facing a metal object e ≥ 21 e ≥ 36 e ≥ 66

XSZBS30

Dimensions XS2

(1) b a	
d →	
(1) LED	

	Pre-ca	Pre-cabled (mm)		ector (mm	1)
XS2	а	b	а	b	С
Ø 12	54.5	38	61	37	5
Ø 18	60	40	70	42	8
Ø 30	62.5	41	70	36	13

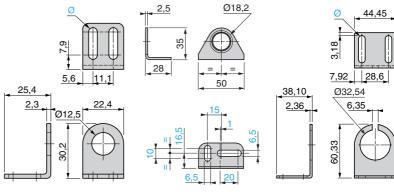
XSZBS12

e ≥ 120

Ø 12

Ø 18

Ø 30



Ø: 2 elongated holes Ø 4.8 x 12.7



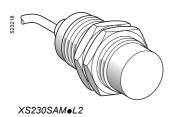
References

Inductive proximity sensors
OsiSense Application, food and beverage processing series

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











Ø 18, threade	d 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

Ø 30, threade	d 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

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

Accessories (2)			
Description	For use with	Reference	Weight kg
Stainless steel fixing bracket	Ø 18 sensor	XUZA118	0.045
	Ø 30 sensor	XSZBS30	0.080

⁽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. (2) For further information, see page 128.

Characteristics, schemes. setting-up, dimensions

Inductive proximity sensorsOsiSense Application, food and beverage processing series

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

Sensor type			XS2eeSAMeU20	XS2eeSAMeL2	
Product certifications/ap	provals		UL, CSA, CE	, , , , , , , , , , , , , , , , , , ,	
Connection	Connector		1/2"-20UNF	_	
	Pre-cabled		-	Length: 2 m	
Operating zone	Ø 18	mm	09.6		
	Ø 30	mm 017.6			
Differential travel		%	115 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 <i>(1)</i>		
Operating temperature °C		°C	- 25+ 85		
Materials	Case		Stainless steel 316 L		
	Cable		_	Non-poisonous PVC, 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: 4 viewing ports at 90°	Yellow LED: annular	
Rated supply voltage		V	∼ or 24240 (∼ 50/60 Hz)		
Voltage limits (including	ripple)	V	∼ or 20264		
Switching capacity		mA	~ 5300 or == 5200 (2)		
Voltage drop, closed sta	te	V	≤5.5		
Residual current, open s	tate	mA	≤0.8		
Maximum switching	XS218SAM●●●	Hz	∼ 25 or == 1000		
frequency	XS230SAM●●●	Hz	\sim 25 or == 300		
Delays	First-up	ms	≤ 30		
	Response	ms	≤ 0.5		
	Recovery	ms	< 0.5 XS218SAM●●●, < 2 XS230SAM●●●		

Wiring schemes

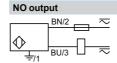
Connector 1/2"-20UNF



AC/DC: 2 AC/DC: 3

Pre-cabled

BU: Blue BN: Brown

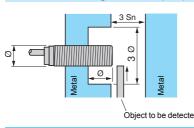


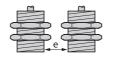
2-wire \sim or =

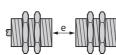
±: on connector models only

Setting-up

Minimum mounting distances (mm)







Face to face

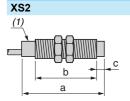
e ≥ 144

e ≥ 264



Facing a metal object e ≥ 36

Dimensions



(1) LED

	Pre-ca	Pre-cabled (mm)		ector (mm)	
XS2	а	b	а	b	С
Ø 18	60	40	72	44	8
Ø 30	62.5	41	74	40	13

XSZA118

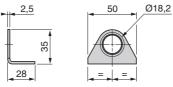
Side by side

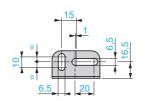
e ≥ 72

e ≥ 120

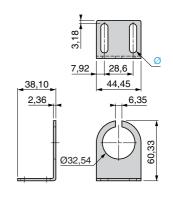
Ø 18

Ø 30





XSZBS30



e ≥ 66

Ø: 2 elongated holes Ø 7.14 x 29.36

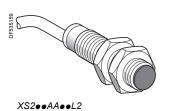


^{(1) + 100 °}C for cleaning and sterilization phases whilst not in service. (2) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

References

Inductive proximity sensorsOsiSense Application, food and beverage processing series

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









Ø 12, threade	ed 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)	XS212AANAL2	0.065
			M12 connector	XS212AANAM12	0.030

Ø 18, threade	ed 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, thread	ed 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)	XS230AANAL2	0.140
			M12 connector	XS230AANAM12	0.080

Accessories (2)	1		
Description		Reference	Weight kg
Fixing clamps	Ø 12	XSZB112	0.006
	Ø 18	XSZB118	0.010
	Ø 30	XSZB130	0.020

Connecting cables				
Description	Туре	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin,	Straight	2	XZCPA1141L2	0.090
stainless steel clamping ring		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,	Straight	2	XZCRA151140A2	0.090
stainless steel clamping ring		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 128.



Characteristics, schemes, setting-up, dimensions

Inductive proximity sensorsOsiSense Application, food and beverage

OsiSense Application, food and beverage processing series
Cylindrical, plastic, non flush mountable
Three-wire DC, solid-state output

Sensor type			XS2••AA••M12	XS2••AA••L2	
Product certifications/app	rovals		UL, CSA, C€	·	
Connection	Connector		M12	-	
	Pre-cabled		_	Length: 2 m	
Operating zone	Ø 12	mm	05.6		
	Ø 18	mm	09.6		
	Ø 30	mm	017.6		
Differential travel		%	115 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 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		
Rated supply voltage		V	1248 for T - 25+ 85 °C		
Voltage limits (including ripple)		V	1058 for T - 25+ 85 °C		
Switching capacity		mA	≤ 200 with overload and short-circuit pro	otection	
Voltage drop, closed state		٧	≤2		
Current consumption, no-	load	mA	≤ 10		
Maximum switching	XS212AA••••	Hz	2500		
frequency	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

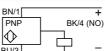
Connector

M12

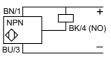
BU: Blue BN: Brown BK: Black

Pre-cabled

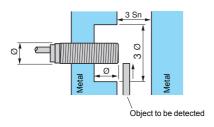
PNP



NPN

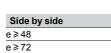


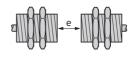
Setting-up



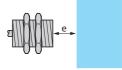
Minimum mounting distances (mm)





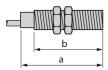


Face to face	
e ≥ 84	
e ≥ 144	
e ≥ 264	



Facing a metal object
e ≥ 21
e ≥ 36
e ≥ 66

Dimensions



XS2

e ≥ 120

	116
XS2	а
Ø 12	50
Ø 18	60
Ø 30	60

Ø 12

Ø 18

Ø 30

Pre-cab	Pre-cabled (mm)		or (mm)	
а	b	а	b	
50	42	61	43	
60	51	70	52	
60	51	70	52	

References

Inductive proximity sensors
OsiSense XS Application, food and beverage processing series

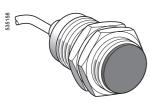
Cylindrical, plastic, non flush mountable Two-wire AC or DC



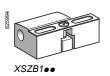




 $XS2 \bullet \bullet AAM \bullet U20$



XS230AAM∙L2



Ø 18, threade	d M18 x 1			
Sensing distance (Sn) mm	Function	Connection	Reference	Weight kg
12	NO	Pre-cabled (L = 2 m)	XS218AAMAL2	0.100
		1/2"-20UNF	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	Туре	Length m	Reference	Weight kg		
Pre-wired connectors 1/2"-20UNF 3-pin female, stainless steel	Straight	5	XZCPA1865L5	0.180		
316 L clamping ring		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 128.

Characteristics, schemes, setting-up, dimensions

Inductive proximity sensorsOsiSense XS Application, food and beverage processing series Cylindrical, plastic, non flush mountable Two-wire AC or DC

Sensor type			XS2••AAM•U20	XS2•eAAMeL2	
Product certifications/a	pprovals		UL, CSA, C€		
Connection	Connector		1/2"-20UNF	-	
	Pre-cabled		-	Length: 2 m	
Operating zone	Ø 18	mm	09.6		
	Ø 30	mm	017.6		
Differential travel		%	115 of effective sensing distance	e (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 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		
Rated supply voltage		V	\sim or == 24240 (\sim 50/60 Hz)		
Voltage limits (including	ripple)	V	~ or == 20264		
Switching capacity		mA	∼5300 or == 5200 (1)		
Voltage drop, closed sta	te	V	≤5.5		
Residual current, open s	state	mA	≤ 0.8		
Maximum switching	XS218AAM●●●	Hz	~ 25 or == 1000		
frequency	XS230AAM●●●	Hz	\sim 25 or $=$ 300		
Delays	First-up	ms	≤ 30		
	Response	ms	≤ 0.5		
	Recovery	ms	≤ 0.5 XS218AAM●●●, ≤ 2 XS230A	AAMeee	

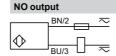
(1) It is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

Wiring schemes

Connector 1/2"-20UNF

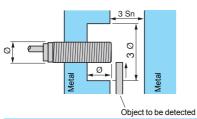
≂: 2 ≂: 3 Pre-cabled

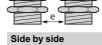
BU: Blue BN: Brown



2-wire \sim or =

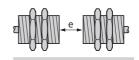
Setting-up



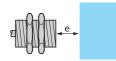


Ø 18 e ≥ 72 Ø 30 e ≥ 120

Minimum mounting distances (mm)



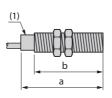
Face to face e ≥ 144 e ≥ 264



Facing a metal object e ≥ 36 e ≥ 66

Dimensions

XS2



(1) LED

XS2	
Ø 18	
Ø 30	

(1) LLD	(1) EED					
Pre-cabled (mm)		Connect	or (mm)			
а	b	а	b			
60	51	70	52			
60	51	70	52			

References, schemes

Inductive proximity sensors
OsiSense XS Application
Cylindrical, stainless steel 303 front face for harsh industrial environments Three-wire DC, solid-state output













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, thread	ed 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, thread	ed 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	

Inree-wire 12-24v, non flush mountable						
20	NO	PNP	M12	XS918R4PAM12	0.051	

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire 12-24V	, flush moເ	ıntable			
20	NO	PNP	M12	XS930R1PAM12	0.140
Three-wire 12-24V	. non flush	mountab	le		

M12

PNP

XS930R4PAM12

0.144

Ø 30 mm, threaded M30 x 1.5

NO

Connecting c	ables (PUR) (1)		
Description	Туре	Length m	Reference	Weight kg
Pre-wired M12 connectors	Straight	2	XZCP1141L2	0.090
Female, 4-pin Metal clamping		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 2	PNP 4(NO) +

⁽¹⁾ For further information, please consult the catalogue "Cabling accessories OsiSense XZ",



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Characteristics, setting-up, dimensions

Inductive proximity sensors

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

Sensor type	Flush		XS908R1PAM12	XS912R1PAM12	XS918R1PAM12	XS930R1PAM12
31	Non flush		XS908R4PAM12	XS912R4PAM12	XS918R4PAM12	XS930R4PAM12
Product certifications			CE, cULus			
Connection	Connector		M12	·		
Operating zone	Flush	mm	02.4	04.8	08	016
	Non flush	mm	04.8	08	016	032
Differential travel		%	115 (real sensing	distance Sr)		•
Degree of protection	Conforming to IEC 60529		IP 67	IP 68 (5 meters unde	rwater for 1 month)	
	Conforming to DIN 40050		IP 69K			
Storage temperature			-25+ 70 (-13158	В°F)		
Operating temperature		°C	-25+ 70 (-13158°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 m			
Output state indication				g points at 90° (blinking	<u>, </u>	
Rated supply voltage		٧	== 1224 with protection against reverse polarity			
Voltage limits (including ripple)		٧	 1030			
Switching capacity		mA	≤ 200 with overload and short-circuit protection			
Voltage drop, closed state		٧	≤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 Face to face

Ø8	e ≥ 14	
Ø 12	e ≥ 38	_
Ø 18	e ≥ 42	
Ø 30	e > 80	

Side by side









Facing a metal object



Mounted in a metal support d ≥ 12

 $\begin{array}{c}
 d \ge 12 \\
 \hline
 d \ge 24 \\
 \hline
 d \ge 50 \\
 \hline
 d \ge 90
 \end{array}$



Minimum mounting distances in mm, non flush version

Ø8	e ≥ 52
Ø 12	e ≥ 108
Ø 18	e ≥ 182
Ø 30	₽≥270







Facing a metal object

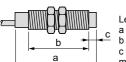


Mounted in a metal support

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

	Flusii selisui				
	M8	M12	M18	M30	
a (mm)	66	60	63.5	63.5	
b (mm)	46	41	42	42	
c (mm)	0	0	0	0	

Non fl	ush sensor	•	
M8	M12	M18	M30
66	60	63.5	63.5
42	36	35	32
4	5	7	10

Reduction coefficient Non flush mounted

Steel	
Aluminum	
Brass	
Cupper	
Stainless steel	

	M8	M12	M18	M30	
	1	1	1	1	
	1	1	1	1	
	1.35	1.3	1.2	1.3	
	0.9	0.85	0.8	0.9	
hickness 1 mm	0.3	0.5	0.5	0.35	
hickness 2 mm	0.6	0.9	0.9	0.7	

Flush sensor

M8	M12	M18	M30
1	1	1	1
1	1	1	1
1.4	1.4	1.35	1.2
0.85	0.8	0.9	0.9
0.3	(1)	0.3	(1)
 0.9	0.66	0.6	0.25

Flush mounted

Steel
Aluminum
Brass
Stainless steel

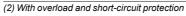
M8	M12	M18	M30
1	0.7	0.75	0.9
0.9	1.15	0.9	0.7
0.9	1.05	0.75	0.6
1	0.8	0.8	1.3

(1) No detection.

Non flush sensor

Inductive proximity sensors
OsiSense XS Application
For assembly, packaging and light material handling
Plastic case, 12 x 26 x 40 mm DC supply, solid-state output

Sensor		Flush mountal	table in metal Non flush mountable in metal				
Nominal sensing distance (S	n)	2 mm			4 mm		
References							
3-wire	PNP NO	XS7G12PA140	-	XS7G12PA140S	XS8G12PA140	-	XS8G12PA140S
	NPN NO	XS7G12NA140	-	XS7G12NA140S	XS8G12NA140	-	XS8G12NA140S
4-wire	PNP NO+NC	_	XS7G12PC440	-	-	XS8G12PC440	-
(complementary outputs)	NIDNI NIO + NIC		V67G42NG440			V69C42NC440	
	NPN NO+NC	-	XS7G12NC440	-	-	XS8G12NC440	-
Weight (kg)		0.100	0.100	0.030	0.100	0.100	0.030
Characteristics							
Product certifications		CSA, UL, C€					
Connection	Pre-cabled	3 x 0.34 mm ² , length 2 m (1)	4 x 0.34 mm ² , length 2 m (1)	-	3 x 0.34 mm ² , length 2 m (1)	4 x 0.34 mm ² , length 2 m (1)	-
	Connector	-	-	M8	-	- lengur 2 m (1)	M8
Operating zone		01.6 mm 03.2 mm					
Repeat accuracy		≤ 10 % of Sr					
Differential travel		320 % of Sr					
Degree of protection		IP 67					
Storage temperature		-40+85°C					
Operating temperature		-25+70 °C					
Materials Vibration resistance		Case: PBT, cable: PVC 25 gp. amplitude ± 2 mm $(f = 10 \text{ to } 55 \text{ Hz})$					
Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)					
Shock resistance		50 gn, duration 11 ms					
Conforming to IEC 60068-2-27		Yellow LED (on top of case)					
Output state indication		Tellow LED (on to	p or case)				
Rated supply voltage		12…24 V	1248 V	-:: 12…24 V	-:: 1224 V	== 1248 V	1224 V
Voltage limits (including ripp	le)	1030 V	1058 V	1030 V	1030 V	1058 V	== 1030 V
Current consumption, no-loa	ad	≤ 10 mA	<u> </u>	<u> </u>	l .	<u> </u>	<u> </u>
Switching capacity		0100 mA (2)	0200 mA (2)	0100 mA (2)	0100 mA (2)	0200 mA (2)	0100 mA (2)
Voltage drop, closed state		≤ 1.8 V	≤2.6 V	≤ 1.8 V	≤ 1.8 V	≤ 2.6 V	≤ 1.8 mA
Maximum switching frequen	cv	≤ 2 kHz			≤1 kHz		
Delays First-up		≤4 ms					
	Response	≤ 0.5 ms					
	Recovery						
		(1) Sensors available with other cable lengths: Length of cable Suffix to be added to references stated above for 2 m pre-cabled Weight increase sensors					
		5 m	L1				0 kg
		10 m	L2	F 1	VOTO (07:		0 kg
			S7G12PA140 with	5 m long cable beco	omes XS/G12PA1	4UL1.	



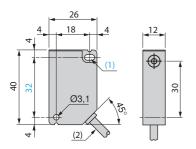


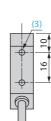
Inductive proximity sensorsOsiSense XS Application

For assembly, packaging and light material handling Plastic case, 12 x 26 x 40 mm DC supply, solid-state output

Dimensions

XS. G12.A140, XS. G12.C440

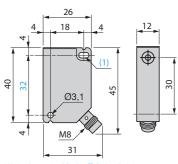


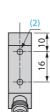


Rear view

(1) 1 elongated hole Ø 3.1 x 5.1. (2) Cable L = 2 m.

XS• G12•A140S





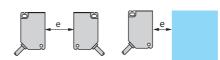
Rear view

(1) 1 elongated hole Ø 3.1 x 5.1. (2) 2 holes M3 x 5.

Setting-up

Minimum mounting distances (mm)





	Side by side	Face to face	Facing a metal object and mounting in a metal support
XS7G flush mountable	e ≥ 0	e ≥ 15	e ≥ 6
XS8G non flush mountable	e ≥ 10	e ≥ 60	e ≥ 12

Wiring schemes

3-wire ..., NO output







4-wire ---, NO + NC output



Connector



Inductive proximity sensors OsiSense XS Application

OsiSense XS Application
For assembly, packaging and light material handling
Plastic case, 12 x 26 x 40 mm
AC or DC supply

Sensor		Flush mountable in metal	Non flush mountable in metal			
Nominal sensing distance ((Sn)	2 mm	4 mm			
References						
2-wire or ∼	NO	XS7G12MA230	XS8G12MA230			
	NC	XS7G12MB230	XS8G12MB230			
Weight (kg)		0.100	0.100			
Characteristics						
Product certifications		CSA, UL, C€				
Connection		Pre-cabled, 2 x 0.34 mm², length 2 m	Pre-cabled, 2 x 0.34 mm², length 2 m (1)			
Operating zone		01.6 mm	03.2 mm			
Repeat accuracy		≤ 10 % of Sr	≤ 10 % of Sr			
Differential travel		320 % of Sr				
Degree of protection		IP 67				
Storage temperature		- 40+ 85 °C				
Operating temperature		- 25+ 70 °C				
Materials		Case: PBT, cable: PVC				
Vibration resistance Conforming to IEC 60068-2-6	3	25 gn, amplitude ± 2 mm (f = 10 to 55	o Hz)			
Shock resistance Conforming to IEC 60068-2-2	27	50 gn, duration 11 ms				
Output state indication		· · · · ·	Yellow LED (on top of case)			
Rated supply voltage			~ 24240 V (50/60 Hz) or 24210 V			
Voltage limits (including rip	ople)		∼ or 20264 V			
Switching capacity		5200 mA (2)				
Voltage drop, closed state		≤ 5.5 V	≤ 5.5 V			
Residual current, open state		≤ 0.8 mA/24 V, 1.5 mA/120 V				
Maximum switching freque		∼ 25 Hz or === 250 Hz				
Delays	First-up	≤ 40 ms				
	Response	≤ 1 ms				
	Recovery	≤2 ms				

(1) Sensors available with other cable lengths:

Length of cable	Suffix to be added to references stated above for 2 m pre-cabled sensors	Weight increase
5 m	L1	0.120 kg
10 m	L2	0.320 kg

Example: sensor **XS7G12MA230** with 5 m long cable becomes **XS7G12MA230L1**.



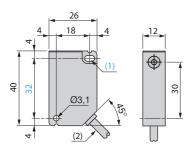
⁽²⁾ These sensors do not incorporate overload or short-circuit protection and therefore, it is essential to connect a 0.4 A "quick-blow" fuse in series with the load.

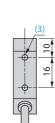
Dimensions, setting-up, schemes

Inductive proximity sensors
OsiSense XS Application
For assembly, packaging and light material handling
Plastic case, 12 x 26 x 40 mm AC or DC supply

Dimensions

XS•G12M•230





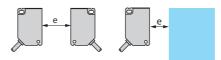
Rear view

(1) 1 elongated hole Ø 3.1 x 5.1. (2) Cable L = 2 m.

Setting-up

Minimum mounting distances (mm)





	Side by side	Face to face	Facing a metal object and mounting in a metal support
XS7G flush mountable	e ≥ 0	e ≥ 15	e≥6
XS8G non flush mountable	e ≥ 10	e ≥ 60	e ≥ 12

Wiring schemes

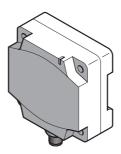
2-wire \sim or $\overline{...}$, NO or NC output



Inductive proximity sensors
OsiSense XS Application
Flat sensor, flush mountable, increased range, switching capacity 300 mA

80 x 80 x 40 format, DIN rail mounting, solid-state output

Sensor	Flush mountable in metal



Dimensions (mm)		80 x 80 x 40		
Nominal sensing distance (Sn)		50 mm (not flush mounted: 42 mm)		
References				
2-wire (non polarised)	NO	XS7D1A3CAM12DIN		
Weight (kg)		0.374		
Characteristics				
Product certifications		CE; CSA, UL: pending		
Degree of protection	Conforming to IEC 60529	IP 67, double insulation		
Temperature	Operating	- 25+ 70 °C		
	Storage	- 40+ 85 °C		
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		
Connection		M12 connector		
Operating zone		040 mm (not flush mounted: 035 mm)		
Repeat accuracy		3 % of Sr		
Differential travel		115 % of Sr		
Output state indication		Yellow LED		
Rated supply voltage		1248 V with protection against reverse polarity		
Voltage limits (including ripple)		1058 V		
Residual current, open state		≤ 0.5 mA		
Switching capacity		1.5300 mA with overload and short-circuit protection		
Voltage drop, closed state		≤4.5 V		
Maximum switching frequency		100 Hz		
Delays	First-up	≤ 10 ms		
	Response	≤2 ms		
	Recovery	≤5 ms		

Dimensions, setting-up, schemes

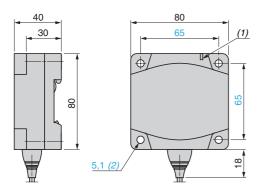
Inductive proximity sensors OsiSense XS Application

Flat sensor, flush mountable, increased range, switching capacity 300 mA

80 x 80 x 40 format, DIN rail mounting, solid-state output

Dimensions

XS7D1A3CAM12DIN



(1) Output LED

Setting-up

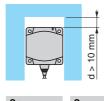
•				
Minimum mounting	distances (mm)			
	Face to face	Side by side	Back to back	Facing a metal object
	e	e	e	e
Flush mounted	450	140	90	150

Flush/non flush conditions

In A37 steel

Not flush mounted



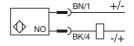


Sn	Su	Sn	Su
42 mm	35 mm	50 mm	40 mm

Wiring schemes

2-wire NO/M12 XS7D1A3CAM12DIN





References, schemes

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









Ø 12 mm, threaded M12 x 1							
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg		
Three-wire 12-24V	, flush moເ	untable					
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 mou	ıntable					
10	NO	PNP	M12	XS918RWPAM12	0.051		

Connecting ca	bles (PUR	(1)		
Description	Туре	Length m	Reference	Weight kg
Pre-wired M12 connectors Female, 4-pin	Straight	2	XZCP1141L2	0.090
Metal clamping ring		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 3	O1 + O4(NO) + O3 - O3

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

Characteristics, setting-up, dimensions

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	04.8	08	
Differential travel		%	115 (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 (-13158°F)		
Operating temperature		°C	-25+ 70 (-13158°F)		
Materials	Case		Stainless steel, 303 grade		
Front face thickness		mm	0.4		
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		٧	== 1224 with protection against reverse po	olarity	
Voltage limits (including ripple)		٧	 1030		
Switching capacity		mΑ	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		٧	≤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 e ≥ 38 Ø 18 e ≥ 42



e ≥ 30 e ≥ 40



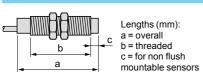
e ≥ 20 e ≥ 30



d≥24 d ≥ 50



Dimensions



	Flusii Selis	Flusii selisti		
	M12	M18		
a (mm)	60	63.5		
b (mm)	41	42		
c (mm)	0	0		

Flush sonsor

Reduction coefficient

Non flush mounted		Flush sen	sor
		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

Steel	
Aluminum	
Brass	
Stainless steel	

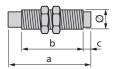
M12	M18	
0.7	0.75	
1.15	0.9	
1.05	0.75	
0.8	0.8	

References, characteristics, dimensions, schemes

Inductive proximity sensors OsiSense XS Application

OsiSense XS Application
Sensors for welding machine applications (1)
Cylindrical type. Metal case, Teflon coated steel, threaded

Sensors flush mountable in metal







Lengths (mm): a = Overall b = Threaded section c = For non flush mountable sensors

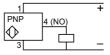
a = 60 b = 40 Ø = M12 x 1 a = 60 b = 40 $\emptyset = M18 \times 1$

		Teflon front face	Teflon front face		
Nominal sensing distance (Sn)		2 mm	5 mm		
Deferences					
References					
3-wire	PNP, NO	XS1M12PAW01D	XS1M18PAW01D		
Weight (kg)		0.025	0.060		
Characteristics					
Product certifications		C€, UL, CSA			
Connection		M12 connector			
Degree of protection	Conforming to IEC 60529	IP 67			
Operating zone		01.6 mm	04 mm		
Repeat accuracy		3 % of Sr			
Differential travel		120 % of Sr			
Operating temperature		- 25+ 70 °C			
Output state indication		Yellow LED, 4 viewing ports at 90°			
Rated supply voltage		== 1224 V with protection against	reverse polarity		
Voltage limits (including	ripple)	1036 V			
Switching capacity		0250 mA with overload and short	circuit protection		
Voltage drop, closed sta	ate	≤2.5 V			
Current consumption, r	no-load	≤ 15 mA			
Immunity to electromag	netic fields	≤ 140 mT	≤ 140 mT		
Maximum switching fre	quency	1000 Hz	500 Hz		
Delays	First-up	≤ 10 ms	≤ 10 ms		
	Response	≤ 0.1 ms	≤ 0.2 ms		
	Recovery	≤ 0.4 ms	≤ 0.6 ms		
Wiring schemes					
1440		2 mins - DND NO systemat			

M12 connector





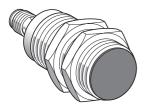


(1) Sensors particularly resistant to welding machine electromagnetic fields.

Inductive proximity sensors OsiSense XS Application

Sensors for welding machine applications (1)
Cylindrical type. Metal case, Teflon coated steel, threaded

Sensors non flush mountable in metal





a = 60 b = 40 $\emptyset = M30 \times 1.5$

≤ 10 ms

Teflon front face

a = 60 b = 36 c = 4 $\emptyset = M12 \times 1$

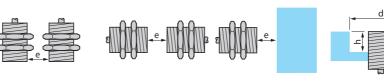
Teflon front face

10 mm	4 mm
References	
XS1M30PAW01D	XS2M12PAW01D
0.145	0.025

Characteristics		
C€, UL, CSA		
M12 connector		
IP 67		
08 mm	03.2 mm	
3 % of Sr		
120 % of Sr		
- 25+ 70 °C		
Yellow LED, 4 viewing ports at 90°		
1036 V		
0250 mA with overload and short-circuit protection		
≤2.5 V		
≤15 mA		
≤140 mT		
250 Hz	1000 Hz	

≤ 0.7 ms		≤ 0.2 ms		
≤5 ms		≤ 0.4 ms		
Setting-up				
Minimum mounting distances (mm)	Side by side	Face to face	Facing a metal object	Mounted in a metal support

≤ 10 ms



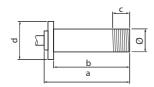
XS1M12 flush mountable	e ≥ 0	e≥7	e ≥ 6	d≥12, h≥0
XS1M18 flush mountable	e ≥ 0	e ≥ 16	e≥9	d ≥ 18, h ≥ 0
XS1M30 flush mountable	e ≥ 0	e ≥ 20	e≥20	d ≥ 30, h ≥ 0
XS2M12 non flush mountable	e ≥ 15	e ≥ 9	e ≥ 11	d ≥ 36, h ≥ 8

Fixing nut tightening torque: XS1M12, XS2M12: < 15 N.m, XS1M18: < 35 N.m, XS1M30: < 50 N.m

References, characteristics, dimensions, schemes

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

Flush mountable in metal

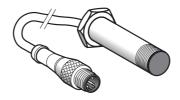


Lengths (mm):

a = Överall

b = To shoulder

c = Removal d = Shoulder



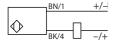
a = 55

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 conform	ming to IEC 60	529	IP 67	IP 67		
Operating zone	-		02.4 mm	02.4 mm		
Repeat accuracy		≤ 3 % of Sr	≤ 3 % of Sr			
Differential travel			115 % of Sr	115 % of Sr		
Operating temperature			- 25+ 80 °C	- 25+ 80 °C		
Output state indication			Yellow LED, annular	Yellow LED, annular		
Rated supply voltage			1248 V	== 1248 V		
Voltage limits (including ripp	le)		1058 V	1058 V		
Switching capacity			1.5100 mA with overload ar	1.5100 mA with overload and short-circuit protection		
Voltage drop, closed state			≤4 V	≤4 V		
Residual current, open state	е		≤ 0.5 mA	≤ 0.5 mA		
Current consumption, no-load		-	-			
Maximum switching freque	ncy		800 Hz	800 Hz		
Delays			First-up: ≤ 5 ms; response: ≤	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 Ø = 18 a = 40a = 45b = 35b = 35c = 0 (PPS front face) c = 20 (Teflon front face and case) $d = \varnothing 22$ $d = \emptyset \hat{22}$ 6.3 mm 10 mm 10 mm References XSLC1401392L1 XSLC1401405L3 XSLC1401405L4 0.100 0.065 0.050 **Characteristics** Remote M12 connector on 0.8 m flying lead Remote M12 connector on 0.15 m flying lead Remote M12 connector on 1.2 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



e ≥ 60

e ≥ 96

e ≥ 15

e ≥ 24

XSLC

Ø 12 (flush

mountable)
Ø 18 (non flush

mountable)

e ≥ 10

e ≥ 16

d = 12, h = 0

d = 54, h = 16

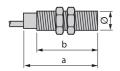
References, characteristics, dimensions, schemes

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 = Överall b = Threaded section

b = 51.5 $Ø = M18 \times 1$ Brass case a = 70 b = 51.5 $Ø = M18 \times 1$

Brass case

Nominal Scholing distance	(511)	V IIIII	
References			
4-wire PNP/PNP programmable NO/NC		XS1M18KPM40	XS1M18KPM40D
Weight (kg)		0.120	0.060
Characteristics			
Product certifications		C€, UL, CSA	
Connection		Pre-cabled, PvR 4 x 0.34 mm ² , length 2 m (2)	M12 connector
Degree of protection Conforming to IEC 60529		IP 68	IP 67
Operating zone		04 mm	

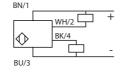
	Pre-cabled, PvR 4 x 0.34 mm², length 2 m (2)	M12 connector		
rming to IEC 60529	IP 68	IP 67		
	04 mm	04 mm		
	3 % of Sr			
	115 % of Sr			
	0+ 50 °C			
	Yellow LED, annular	Yellow LED, 4 viewing ports at 90°		
	1038 V			
	0200 mA with overload and short-circuit protection			
	≤ 2.6 V			
	≤ 15 mA			
Maximum switching frequency		1000 Hz		
ıp	≤ 10 ms			
onse	≤ 0.3 ms			
/ery	≤ 0.7 ms			
	ip onse	P 68		

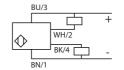
Wiring schemes

M12 connector Pre-cabled 4-wire ---, PNP/NPN, NO or NC output



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



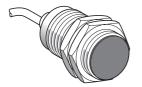


⁽¹⁾ The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %. (2) Sensors available with other cable lengths: please consult our Customer Care Centre.

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

Stainless steel case

a = 60 b = 51.5 $\emptyset = M30 \times 1.5$

Stainless steel case

10 mm	10 mm
References	
XS1M30KPM40	XS1M30KPM40LD
0.205	0.145
Characteristics	
C€, UL, CSA	
Pre-cabled, PvR 4 x 0.34 mm², length 2 m (2)	M12 connector on 0.8 m flying lead
ID 60	ID 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

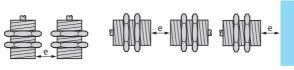
Minimum mounting distances (mm)

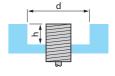
Side by side

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 %.

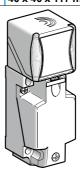
⁽²⁾ Sensors available with other cable lengths: please consult our Customer Care Centre.

Inductive proximity sensors OsiSense XS Application

Factor 1 sensors for ferrous or non ferrous material detection and welding applications. Plastic case, 40 x 40 mm front face. 5 position turret head

Sensor	Flush mountable in metal		
Dimensions	40 x 40 x 70 mm	40 x 40 x 117 mm	
			-





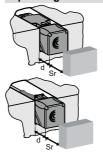
Nominal sensing distance (Sn)		20 mm		
References				
4-wire	PNP NO+NC	XS9C2A1PCM12	XS9C4A1PCP20 (1)	
	NPN NO+NC	XS9C2A1NCM12	XS9C4A1NCP20 (1)	
		XS9C4•••P20 sensors are available with an Is a Pg 13.5 (e.g. XS9C4A1PCG13) or a 1/2" NP please consult our Customer Care Centre for n	T (e.g. XS9C4A1PCN12) cable entry:	
Weight (kg)		0.110	0.220	
Characteristics				
Product certifications		UL, CSA, CE		
Conformity to standards		IEC 60947-5-2		
Connection		M12 connector (4-pin)	Screw terminals, clamping capacity 4 x 1.5 mm ² / 4 x 16 AWG	
Operating zone		016 mm		
Differential travel		315% of Sr		
Repeat accuracy		< 3%		
Immunity to magnetic fields		< 250 mTesla		
Degree of protection	Conforming to IEC 60529 and DIN 40050	IP 65, IP 67 and IP 69K		
Temperature	Storage	- 40+ 85°C		
Operation (2)		- 25+ 70°C		
Material		Case: PBT		
Vibration resistance	Conforming to IEC 60068-2-6	25 gn, amplitude ± 2 mm (f = 1055 Hz)		
Shock resistance	Conforming to IEC 60068-2-27	50 gn for 11 ms		
Indicators		Output state: yellow LED. Supply on: green LE	D	
Rated supply voltage	4-wire	== 1224 V with protection against reverse polarity		
Voltage limits (including ripple)	4-wire	1036 V		
Current consumption, no-load	4-wire ===	< 30 mA		
Switching capacity	4-wire	< 200 mA with protection against overload and short-circuit		
Voltage drop, closed state	4-wire ===	<2V		
Maximum switching frequency	4-wire ===	250 Hz		
Delays	First-up	< 15 ms		
	Response	< 2.5 ms		
	Recovery	< 2.5 ms		
Setting-up				

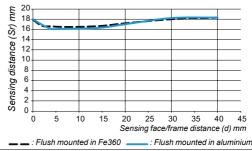
Setting-up

Sensing distance correction factor

1.03 0.80 0.60 SS 303 SS 304 SS 316 Fe360 SS: stainless steel, Fe: steel, Al: aluminium, Cu: copper.

Operating distance (according to the sensor's level of flush mounting)





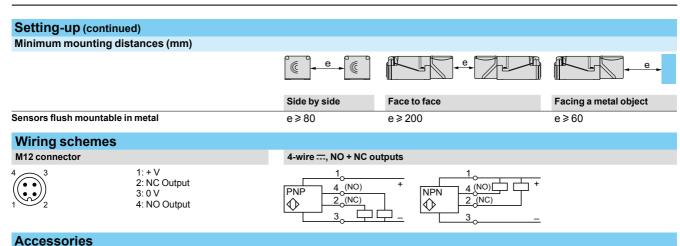
⁽¹⁾ These sensors are supplied without a cable gland. A suitable Pg 13.5 cable gland is available (reference **XSZPE13**).
(2) Sensors are available for very low temperatures (suffix **TF**: - 40°C, + 70°C) or very high temperatures (suffix **TT**: - 25°C, + 85°C); please consult our Customer Care Centre.



Setting-up (continued), schemes, dimensions

Inductive proximity sensorsOsiSense XS Application

Factor 1 sensors for ferrous or non ferrous material detection and welding applications. Plastic case, 40 x 40 mm front face. 5 position turret head



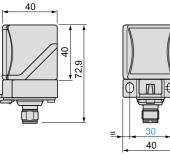
XSZPSC2

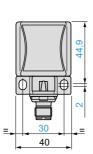


Description	Use for	Reference	Weight kg
Stainless steel rigid protective cover (only suitable for use when detecting from the top)	Welding	XSZPSC2	0.010
Protective sheet (for sensing face of sensor)	Welding	XSZPKC2	0.010

Dimensions

XS9C2A1PCM12 and XS9C2A1NCM12

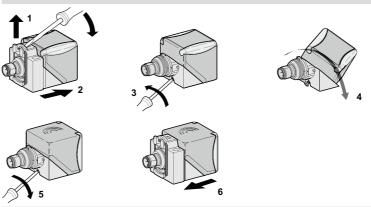




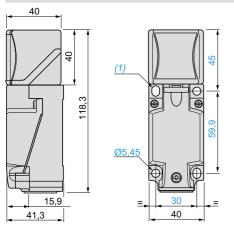
Head positions

Sold in lots of 5

XS9C2A1PCM12 and XS9C2A1NCM12



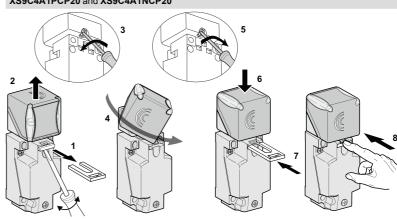
XS9C4A1PCP20 and XS9C4A1NCP20



(1) 2 elongated holes Ø 5.3 x 7 mm. Tightening torque of cover fixing screws and clamp

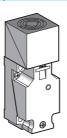
screws: < 1.2 N.m/< 10.62 lb-in.

XS9C4A1PCP20 and XS9C4A1NCP20



Inductive proximity sensors
OsiSense XS Application
Fixed sensing distance detection, Factor 1 (Fe/Nfe) sensors (1) for ferrous and non ferrous materials Solid-state output

Flush mountable in metal Sensor



Nominal sensing distance (Sn)		15 mm
References		
4-wire	PNP/NPN/NO/NC programmable	XS7C40KPM40
Weight (kg)		0.220
Characteristics		
Product certifications		CE, CSA, UL
Degree of protection	Conforming to IEC 60529	IP 67
Operating temperature		0+ 50 °C
Connection		Screw terminals, clamping capacity 4 x 0.34 mm ² (2)
Operating zone		012 mm
Repeat accuracy		3 % of Sr
Differential travel		115 % of Sr
Output state indication		Yellow LED
Rated supply voltage		1224 V with protection against reverse polarity
Voltage limits (including ripple)		1036 V
Current consumption, no-load		≤ 15 mA
Switching capacity		0200 mA with overload and short-circuit protection
Voltage drop, closed state		≤ 2.6 V
Maximum switching frequency		1000 Hz
Delays	First-up	≤ 5 ms
	Response	≤0.3 ms
	Recovery	≤ 0.7 ms

⁽¹⁾ The variation in sensing distance between ferrous and non ferrous materials is typically less than 5 %. (2) Cable gland not included with sensor. For suitable 13P cable gland (XSZPE13), see page 128.



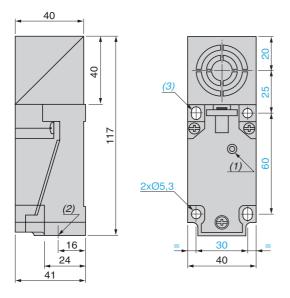
Dimensions, setting-up, schemes

Inductive proximity sensors OsiSense XS Application

Fixed sensing distance detection, Factor 1 (Fe/Nfe) sensors (1) for ferrous and non ferrous materials Solid-state output

Dimensions

XS7C40KPM40



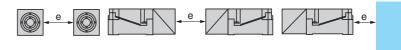
(1) Output LED.

(2) 1 tapped entry for 13P cable gland.

igated holes Ø 5.3 x 7

Setting-up

Minimum mounting distances (mm)



Side by side Face to face Facing a metal object XS7C40KPM40 Sensor flush mountable in metal e ≥ 120 e ≥ 45

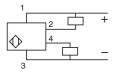
Tightening torque of cover fixing screws and clamp screws: < 1.2 N.m

Wiring schemes

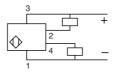
PNP/NPN

4-wire --- programmable, NO or NC output

NO output



NC output



References, characteristics, schemes, dimensions

Inductive proximity sensors OsiSense XS Application

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
	4

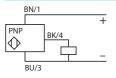
References			
3-wire, ferrous version Insensitive to non ferrous materials	PNP	NO	XS1M18PAS40
3-wire, non ferrous version Insensitive to ferrous materials	PNP	NO	XS1M18PAS20
Weight (kg)			0.120

UL, CSA, C€
Pre-cabled, PvR, 3 x 0.34 mm ² , length 2 m (1)
04 mm
IP 68
- 25+ 70 °C
Yellow LED, annular
== 1224 V with protection against reverse polarity
1038 V
0200 mA with overload and short-circuit protection
≤2.6 V
-
≤ 15 mA
1000 Hz
≤ 10 ms
e ≤ 0.3 ms
≤ 0.7 ms

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

Wiring schemes

3-wire --- PNP



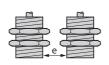
Dimensions

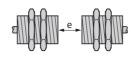


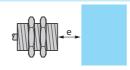
a (mm)	b (mm)
60	51.5

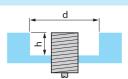
Setting-up

Minimum mounting distances (mm)









XS1M18		

Side by side	
e ≥ 10	

Face to face e ≥ 60 Facing a metal object e ≥ 15

Mounted in a metal support $d \ge 18$, $h \ge 0$ (ferrous metal) $d \ge 18$, $h \ge 5$ (non ferrous metal)

References, characteristics, schemes, dimensions (continued)

Inductive proximity sensorsOsiSense 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 PNP NO Insensitive to non ferrous materials	XS1M18PAS40D	
3-wire, non ferrous version PNP NO Insensitive to ferrous materials	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	04 mm	
Operating temperature	- 25+ 70 °C	
Output state indication	Yellow LED, 4 viewing ports at 90°	
Rated supply voltage	== 1224 V with protection against reverse polarity	

operating temperature	20 70 0
Output state indication	Yellow LED, 4 viewing ports at 90°
Rated supply voltage	== 1224 V with protection against reverse polarity
Voltage limits (including ripple)	1038 V
Switching capacity	0200 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

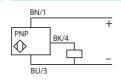
Response ≤ 0.3 ms Recovery ≤ 0.7 ms

Wiring schemes

M12 connector

3-wire --- PNP





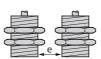
Dimensions XS1M



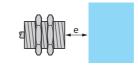
b (mm)
51.5

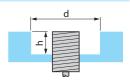
Setting-up

Minimum mounting distances (mm)









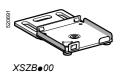
XS1M18

Side by side e ≥ 10 Face to face e ≥ 60 Facing a metal object e ≥ 15

Mounted in a metal support $d \ge 18$, $h \ge 0$ (ferrous metal) $d \ge 18$, $h \ge 5$ (non ferrous metal)

Inductive proximity sensors OsiSense XS

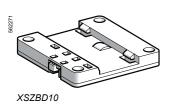
Accessories



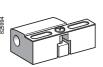


















XSCZ01





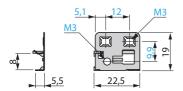
	ing accessories			
Description	For use with sensor		Unit reference	Weigh
	Туре	Diameter (mm)		k,
Clip"	XS∙J		XSZBJ00	0.00
nounting plate Can be mounted without	XS∙F	_	XSZBF00	0.00
clip" on threaded holes	XS∙E	_	XSZBE00	0.02
onp on throaded holes	XS∙C	_	XSZBC00	0.0
Clip" 90°	XS∙J	_	XSZBJ90	0.0
nounting bracket	XS∙F	_	XSZBF90	0.0
Can be mounted without	XS∙E	_	XSZBE90	0.0
clip" on threaded holes	XS∙C	_	XSZBC90	0.0
Replacement bracket	XS●E Replaces: XS7T2,	_	XSZBE10	0.0
	XS8T2, XSE XS●C Replaces: XS7T4,	_	XSZBC10	0.1
	XS7C40, XS8T4, XS8C40 and XSC			
	XS●D (for XSD) (1)		XSZBD10	0.0
ixing clamp for remote ontrol	XS9, XS6●●B2	4 (plain)	XSZBPM12	0.0
ixing clamps	XS1	4 (plain)	XSZB104	0.0
	V04_V00	5 (M5 x 0.5)	XSZB105	0.0
	XS1, XS2	6.5 (plain)	XSZB165	0.0
	XS1, XS2, XS4, XS5, XS6	8 (M8 x 1)	XSZB108	0.0
	XS1, XS2, XS4, XS5,	12 (M12 x 1)	XSZB112	0.0
	XS6, XT1	18 (M18 x 1)	XSZB118	0.0
		30 (M30 x 1.5)	XSZB130	0.0
	XT1	32 (plain)	XUZB32	0.0
et of 2 metal fixing nuts,	XS1	5 (M5 x 0.5)	XSZE105	0.0
ickel plated	XS1, XS2, XS5, XS6	8 (M8 x 1)	XSZE108	0.0
	XS1, XS2, XT1, XS5,	12 (M12 x 1)	XSZE112	0.0
	XS6	18 (M18 x 1)	XSZE118	0.0
		30 (M30 x 1.5)	XSZE130	0.0
et of 2 stainless steel	XS1, XS2, XS5, XS6	8 (M8 x 1)	XSZE308	0.0
xing nuts	XS1, XS2, XT1, XS5,	12 (M12 x 1)	XSZE312	0.0
	XS6	18 (M18 x 1)	XSZE318	0.0
		30 (M30 x 1.5)	XSZE330	0.0
et of 2 plastic	XS4	8 (M8 x 1)	XSZE208	0.0
xing nuts	A34			0.0
g	VC4	12 (M12 x 1)	XSZE212	
	XS4	18 (M18 x 1)	XSZE218	0.0
		30 (M30 x 1.5)	XSZE230	0.0
daptor collar Ø 20	XS⊕, XT⊕	18 (M18 x 1)	XSZA020	0.0
Ø 34	XS⊕, XT⊕	30 (M30 x 1.5)	XSZA034	0.0
Protection acces	sories			
able sleeve adaptor	XS●, XT●	12 (M12 x 1)	XSZP112	0.0
CNOMO type)		18 (M18 x 1)	XSZP118	0.0
		30 (M30 x 1.5)	XSZP130	0.0
Outer cover (IP 68)	XT7, XS7, XS8 and XS9 (C format)	_	XSCZ01	0.1
hread adaptor	XS●, XT●	30 (M30 x 1.5)	XTAZ30	0.0
3P cable gland	Clamping capacity Ø 9 to	12 mm	XSZPE13	0.0
rotective cover old in lots of 50	M12 universal connector	rs .	XSZF10	0.0
Fixings				
hreaded inserts for rear	XS∙E	M3	XSZVF03	0.0
xing	XS∙C	M4	XSZVF04	0.0
	XS∙D	M5	XSZVF05	0.0
Fuses (for unprotected				
Description	Type	Sold in lots of	Unit reference	Weig
artridge fuses	0.4 A "quick-blow"	10	XUZE04	0.0
x 20	0.63 A "quick-blow"	10	XUZE06	0.0
-	<u>_</u>			
	0.8 A "quick-blow"	10	XUZE08	0.0

enables clipping onto 35 mm omega rail.



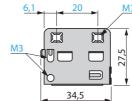
Accessories

XSZBJ00

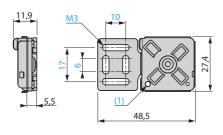


XSZBF00



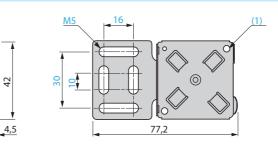


XSZBE00



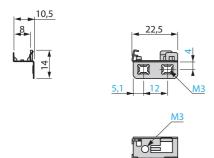
XSZBC00

12

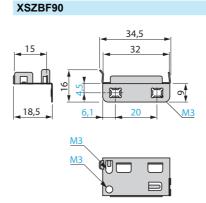


(1) 2 screws M3 x 12 (included).

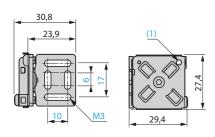
XSZBJ90



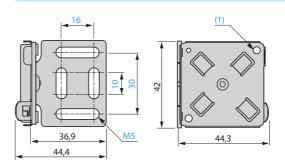
(1) 4 screws M4 x 14 (included).



XSZBE90



XSZBC90

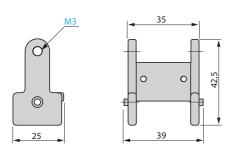


(1) 2 screws M3 x 12 (included).

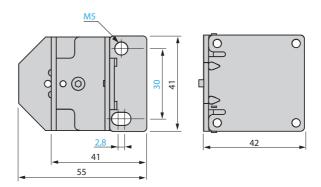
(1) 4 screws M4 x 14 (included).

Accessories

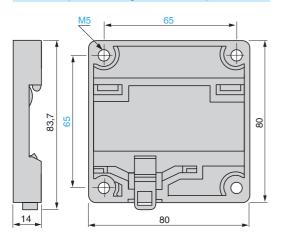
XSZBE10



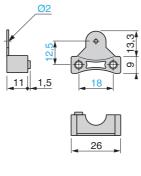
XSZBC10



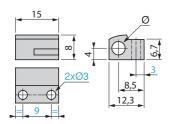
XSZBD10 (for mounting on XSeDeeee)



XSZBPM12



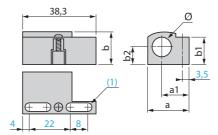
XSZB104, B105



XSZ	Ø	
B104	4	
B105	5	

Note: for fixing clamps XSZB118 and XSZB130, see mounting precautions, page 19.

XSZB108, B112, B118, B130, B165

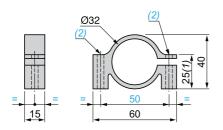


XSZ	а	a1	b	b1	b2	Ø
B108	19.9	14.5	14	12.5	7.5	8
B112	21.9	14.5	16	15.5	8.5	12
B118	26	15.7	22.3	20.1	11.5	18
B130	39	21.7	35.5	31	18.5	30
B165	19.9	14.5	14	12.5	7.5	6.5
(4) 0 1				_		

(1) 2 elongated holes 4 x 8 mm.

Accessories

XUZB32



(1) Maximum value

2 x M5 screws, HM head, included with fixing clamp

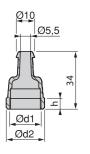
XSZA0●●





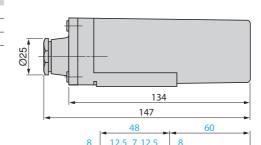
XSZ	а	a1		
A020	Ø18	Ø20		
A034	Ø30	Ø34		

XSZP112, P118, P130



P130	6,2	30	34,4	
P118	6,2	18	23	
P112	7	12	16,8	
XSZ	h	Ø d1	Ø d2	

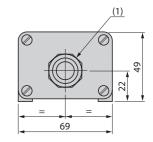
XSCZ01



 $\supset \subset$

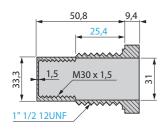
⋺⋪

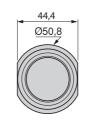
Ø5,3



09

XTAZ30

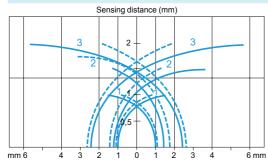




(1) 13P cable gland

Cylindrical type sensors

Flush mountable in metal



Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø4	5 x 5 x 1	00.8
Ø 5	5 x 5 x 1	00.8
Ø 6.5	8 x 8 x 1	01.2
Ø8	8 x 8 x 1	01.2
Ø 12	12 x 12 x 1	01.6

- pick-up points

 --- drop-out points (object approaching from the side)

 1 Ø 4 (plain) XS1 and Ø 5 (M5 x 0.5) XS1

 2 Ø 6.5 (plain) XS1 and Ø 8 (M8 x 1) XS5

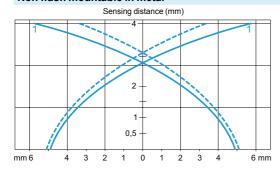
 3 Ø 12 (M12 x 1) XS5

	,	Sensing dis	tance (mr	n)		
		15 -				$\overline{}$
	2	10 -		2		
		8 - 1 5	(/	*****		
		2,5 -	//			
mm 15	10 7,5 5	5 2,5 (2,5	5 7,5	10 1	5 mm

Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 18	18 x 18 x 1	04
Ø 30	30 x 30 x 1	08

- pick-up points
- --- drop-out points (object approaching from the side)
- 1 Ø 18 (M18 x 1) XS5
- 2 Ø 30 (M30 x 1.5) XS5

Non flush mountable in metal



Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 12	12 x 12 x 1	03.2

- pick-up points
 ---- drop-out points (object approaching from the side)
 1 Ø 12 (M12 x 1) XS4

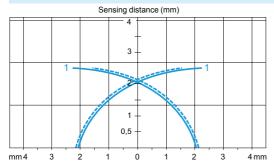
		Sensing of	distance (m	ım)		
2		15			2	
	1.55		3+	×	1	
mm 15	10 7,5	2,5 5 2,5	0 2,5	5 7,5	10 1	5 mm

Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 18	24 x 24 x 1	06.4
Ø 30	45 x 45 x 1	0 12

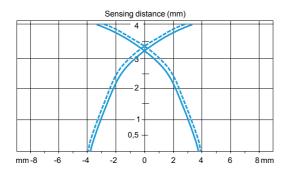
- pick-up points
- ---- drop-out points (object approaching from the side)
 1 Ø 18 (M18 x 1) XS4
- 2 Ø 30 (M30 x 1.5) XS4

Cylindrical type sensors, increased range

Flush mountable in metal

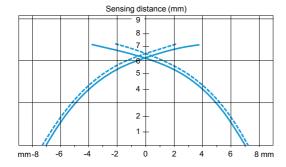


Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 6.5	8 x 8 x 1	02
Ø8	8 x 8 x 1	02



Sensor (mm)	Standard steel target (mm)	Operating zone (mm)		
Ø 12	12 x 12 x 1	03.2		
nick-up points				

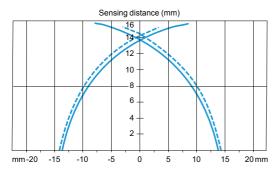
drop-out points (object approaching from the side)



Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 18	24 x 24 x1	06.4

pick-up points

drop-out points (object approaching from the side)



Sensor (mm)	Standard steel target (mm)	Operating zone (mm)
Ø 30	45 x 45 x 1	012

pick-up points

drop-out points (object approaching from the side)

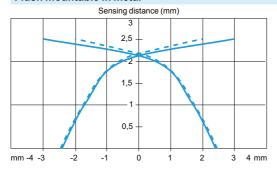
pick-up points

--- drop-out points (object approaching from the side)

1 Ø 6.5 (plain) XS106B3●● and Ø 8 (M8 x 1) XS108B3 and XS608●●

Cubic, flat or rectangular type sensors

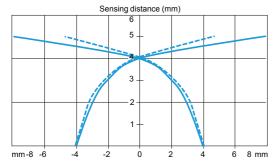
Flush mountable in metal



Standard steel target (mm) Operating zone (mm) XS7J1A1 5 x 5 x 1

pick-up points

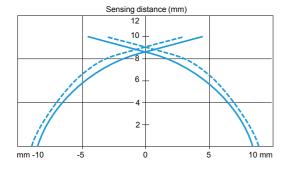
drop-out points (object approaching from the side)



Sensor	Standard steel target (mm)	Operating zone (mm)	
XS7F1A1	5 x 5 x 1	04	

pick-up points

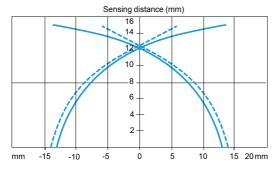
drop-out points (object approaching from the side)



Sensor	Standard steel target (mm)	Operating zone (mm)
XS7E1A1	8 x 8 x 1	08

pick-up points

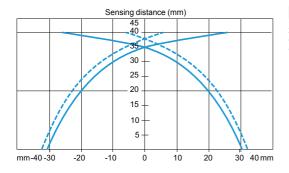
drop-out points (object approaching from the side)



Sensor	Standard steel target (mm)	Operating zone (mm)
XS7C1A1 XS7C2A1 XS7C4A1	18 x 18 x 1	012

pick-up points

drop-out points (object approaching from the side)



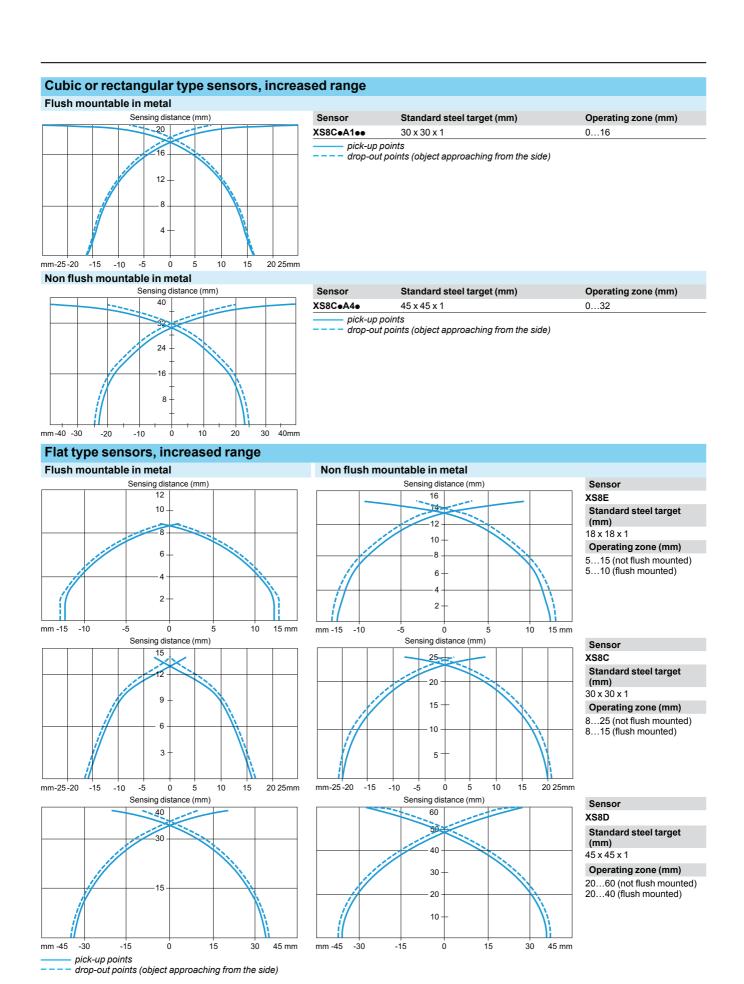
Sensor	Standard steel target (mm)	Operating zone (mm)	
(S7D1A1	30 x 30 x 1	032	

pick-up points

drop-out points (object approaching from the side)

Inductive proximity sensors

OsiSense XS



Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sens
Cylindrical type, DC		XS1M08DA214D	XS508B1CAM12	XS1N08PA349S	XS108B3PAM8
Diameter 6.5 mm		XS1M08DA214LD	XS508B1CAL08M12	XS1N08PB349	XS108B3PBL2
XS1				XS1N08PB349L1	XS108B3PBL5
XS1L06NA140	XS106BLNAL2			XS1N08PB349D	XS108B3PBM12
XS1L06PA140	XS106BLPAL2	XS1M08NA370	XS508BLNAL2	XS1N08PB349S	XS108B3PBM8
		XS1M08NA370D	XS508BLNAM12		
		XS1M08NA370L1	XS508BLNAL5		
XS1L06NA340	XS506B1NAL2	XS1M08NB370	XS508BLNBL2	XS2	
XS1L06NA340S	XS506B1NAM8	XS1M08NB370D	XS508BLNBM12	XS2M08NA340	XS608B1NAL2
XS1L06NB340	XS506B1NBL2	XS1M08PA370	XS508BLPAL2	XS2N08NA340	XS108B3NAL2
XS1L06NB340S	XS506B1NBM8	XS1M08PA370D	XS508BLPAM12	XS2N08NA340D	XS108B3NAM12
XS1L06PA340	XS506B1PAL2	XS1M08PA370L1	XS508BLPAL5	XS2N08NA340L1	XS108B3NAL5
XS1L06PA340L1	XS506B1PAL5	XS1M08PA370L2	XS508BLPAL10	XS2N08NA340L2	XS108B3NAL10
XS1L06PA340D	XS506B1PAM12	XS1M08PA370LD	XS508BLPAM12 (1)	XS2N08NA340S	XS108B3NAM8
XS1L06PA340S	XS506B1PAM8	XS1M08PA370S	XS508BLPAM12 (2)	XS2N08NB340	XS108B3NBL2
XS1L06PB340	XS506B1PBL2	XS1M08PB370	XS508BLPBL2	XS2N08NB340D	XS108B3NBM12
XS1L06PB340L1	XS506B1PBL5	XS1M08PB370D	XS508BLPBM12	XS2N08NB340S	XS108B3NBM8
XS1L06PB340S	XS506B1PBM8	XS1M08PB370L1	XS508BLPBL5	XS2N08PA340	XS108B3PAL2
		XS1M08PB370L2	XS508BLPBL10	XS2N08PA340D	XS108B3PAM12
				XS2N08PA340L1	XS108B3PAL5
XS1L06NA349	XS106B3NAL2			XS2N08PA340L2	XS108B3PAL10
KS1L06NA349S	XS106B3NAM8	XS1N08NA340	XS508B1NAL2	XS2N08PA340S	XS108B3PAM8
KS1L06NB349	XS106B3NBL2	XS1N08NA340D	XS508B1NAM12	XS2N08PB340	XS108B3PBL2
KS1L06NB349S	XS106B3NBM8	XS1N08NA340L1	XS508B1NAL5	XS2N08PB340D	XS108B3PBM12
XS1L06PA349	XS106B3PAL2	XS1N08NA340L2	XS508B1NAL10	XS2N08PB340S	XS108B3PBM8
XS1L06PA349L1	XS106B3PAL5	XS1N08NA340S	XS508B1NAM8		
XS1L06PA349D	XS106B3PAM12	XS1N08NB340	XS508B1NBL2		
XS1L06PA349S	XS106B3PAM8	XS1N08NB340D	XS508B1NBM12	XS3	
XS1L06PB349	XS106B3PBL2	XS1N08NB340S	XS508B1NBM8	XS3P08NA340	XS508B1NAL2 (3)
XS1L06PB349L1	XS106B3PBL5	XS1N08PA340	XS508B1PAL2	XS3P08NA340D	XS508B1NAM12 (3)
XS1L06PB349S	XS106B3PBM8	XS1N08PA340D	XS508B1PAM12	XS3P08NA340L1	XS508B1NAL5 (3)
		XS1N08PA340L1	XS508B1PAL5	XS3P08PA340	XS508B1PAL2 (3)
		XS1N08PA340L2	XS508B1PAL10	XS3P08PA340D	XS508B1PAM12 (3)
Diameter 8 mm		XS1N08PA340LD	XS508B1PAM12	XS3P08PA340L1	XS508B1PAL5 (3)
KS1		XS1N08PA340S	XS508B1PAM8		
XS1D08NA140	XS108BLNAL2	XS1N08PB340	XS508B1PBL2		
XS1D08NA140D	XS108BLNAM12	XS1N08PB340D	XS508B1PBM12	XS3P08NA370	XS508BLNAL2 (3)
XS1D08PA140	XS108BLPAL2	XS1N08PB340L1	XS508B1PBL5	XS3P08NA370L1	XS508BLNAL5 (3)
XS1D08PA140D	XS108BLPAM12	XS1N08PB340L2	XS508B1PBL10	XS3P08PA370	XS508BLPAL2 (3)
XS1D08PA140L1	XS108BLPAL5	XS1N08PB340S	XS508B1PBM8	XS3P08PA370L1	XS508BLPAL5 (3)
XS1M08DA210	XS508B1DAL2	XS1N08NA349	XS108B3NAL2		
XS1M08DA210 XS1M08DA210D	XS508B1DAM12	XS1N08NA349L1	XS108B3NAL5		
KS1M08DA210L1	XS508B1DAL5	XS1N08NA349D	XS108B3NAM12		
(S1M08DA210L2	XS508B1DAL10	XS1N08NA349S	XS108B3NAM8		
KS1M08DA210LD	XS508B1DAL08M12	XS1N08NB349	XS108B3NBL2		
KS1M08DB210	XS508B1DBL2	XS1N08NB349L1	XS108B3NBL5		
KS1M08DB210 KS1M08DB210D	XS508B1DBM12	XS1N08NB349D	XS108B3NBM12		
KS1M08DB210L1	XS508B1DBL5	XS1N08NB349S	XS108B3NBM8		
KS1M08DB210LD	XS508B1DBM12 (1)	XS1N08PA349	XS108B3PAL2		
		XS1N08PA349L1	XS108B3PAL5		
		XS1N08PA349D	XS108B3PAM12		

⁽¹⁾ For the new sensor an integral M12 connector replaces the remote M12 connector on a 0.80 m flying lead.
(2) For the new sensor an M12 connector replaces the M8 connector.
(3) For the new OsiSense XS sensor, the metal case replaces the plastic case.



Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sen
Cylindrical type, DO	C (continued)	XS1N12NB340D	XS512B1NBM12		
Diameter 12 mm		XS1N12PA340	XS512B1PAL2		
XS1		XS1N12PA340D	XS512B1PAM12	XS2N12NA340	XS112B3NAL2
XS1D12NA140	XS112BLNAL2	XS1N12PA340L1	XS512B1PAL5	XS2N12NA340D	XS112B3NAM12
XS1D12NA140D	XS112BLNAM12	XS1N12PA340L2	XS512B1PAL10	XS2N12NA340L1	XS112B3NAL5
XS1D12PA140	XS112BLPAL2	XS1N12PA340LD	XS512B1PAM12 (1)	XS2N12NA340L2	XS112B3NAL10
XS1D12PA140D	XS112BLPAM12	XS1N12PA340S	XS512B1PAM12 (2)	XS2N12NB340	XS112B3NBL2
XS1D12PA140L1	XS112BLPAL5	XS1N12PB340	XS512B1PBL2	XS2N12NB340D	XS112B3NBM12
		XS1N12PB340D	XS512B1PBM12	XS2N12PA340	XS112B3PAL2
		XS1N12PB340L1	XS512B1PBL5	XS2N12PA340D	XS112B3PAM12
KS1M12DA210	XS512B1DAL2			XS2N12PA340L1	XS112B3PAL5
KS1M12DA210D	XS512B1DAM12			XS2N12PA340L2	XS112B3PAL10
(S1M12DA210L1	XS512B1DAL5	XS1M12PA349D	XS612B1PAM12	XS2N12PB340	XS112B3PBL2
(S1M12DA210L2	XS512B1DAL10	XS1N12NA349	XS112B3NAL2	XS2N12PB340D	XS112B3PBM12
(S1M12DA210LA	XS512B1DAL08U78	XS1N12NA349L1	XS112B3NAL5	XS2N12PB340L1	XS112B3PBL5
KS1M12DA210LD	XS512B1DAL08M12	XS1N12NA349D	XS112B3NAM12		
KS1M12DB210	XS512B1DBL2	XS1N12NB349	XS112B3NBL2		
(S1M12DB210 (S1M12DB210D	XS512B1DBM12	XS1N12NB349L1	XS112B3NBL5	XS3	
(S1M12DB210L1	XS512B1DBL5	XS1N12NB349D	XS112B3NBM12	XS3P12NA340	XS512B1NAL2 (3)
KS1M12DB210L2	XS512B1DBL10	XS1N12PA349	XS112B3PAL2	XS3P12NA340D	XS512B1NAM12 (3)
(S1M12DB210LD	XS512B1DBL08M12	XS1N12PA349L1	XS112B3PAL5	XS3P12NA340L1	XS512B1NAL5 (3)
CONVITED BE TOLD	AGG12B1BBEGGW12	XS1N12PA349D	XS112B3PAM12	XS3P12PA340	XS512B1PAL2 (3)
		XS1N12PB349	XS112B3PBL2	XS3P12PA340D	XS512B1PAM12 (3)
KS1M12DA214D	XS512B1CAM12	XS1N12PB349L1	XS112B3PBL5	XS3P12PA340L1	
				X33F12FA340L1	XS512B1PAL5 (3)
XS1M12DA214LD	XS512B1CAL08M12	XS1N12PB349D	XS112B3PBM12		
				XS3P12NA370	XS512BLNAL2 (3)
XS1M12NA370	XS512BLNAL2	XS2		XS3P12NA370L1	XS512BLNAL5 (3)
KS1M12NA370D	XS512BLNAM12	XS2D12NA140	XS212BLNAL2	XS3P12PA370	XS512BLPAL2 (3)
XS1M12NA370L1	XS512BLNAL5	XS2D12NA140D	XS212BLNAM12	XS3P12PA370L1	XS512BLPAL5 (3)
KS1M12NA370L2	XS512BLNAL10	XS2D12NA140L1	XS212BLNAL5	7.007.727.7107.027	7.001.222.7.20(9)
KS1M12NA370S	XS612B1NAM12 (2)	XS2D12PA140	XS212BLPAL2		
KS1M12NB3703		XS2D12FA140D	XS212BLPAM12		
KS1M12NB370 KS1M12NB370D	XS512BLNBL2	XS2D12FA140D XS2D12PA140L1	XS212BLPAL5		
	XS512BLNBM12	X32D12FX140L1	A3212BLFAL3		
(S1M12PA370	XS512BLPAL2				
KS1M12PA370D	XS512BLPAM12	V00144014070	V0040741141.0		
(S1M12PA370L1	XS512BLPAL5	XS2M12NA370	XS612B1NAL2		
(S1M12PA370L2	XS512BLPAL10	XS2M12NA370D	XS612B1NAM12		
(S1M12PA370LA	XS612B1PAL08U78	XS2M12NA370L1	XS612B1NAL5		
(S1M12PA370LD	XS612B1PAL08M12	XS2M12NA370L2	XS612B1NAL10		
(S1M12PB370	XS512BLPBL2	XS2M12NB370	XS612B1NBL2		
KS1M12PB370D	XS512BLPBM12	XS2M12NB370D	XS612B1NBM12		
(S1M12PB370L1	XS512BLPBL5	XS2M12PA370	XS612B1PAL2		
(S1M12PB370L2	XS512BLPBL10	XS2M12PA370D	XS612B1PAM12		
(S1M12PB370LD	XS612B1PAM12 (1)	XS2M12PA370L1	XS612B1PAL5		
		XS2M12PA370L2	XS612B1PAL10		
		XS2M12PA370LA	XS612B1PAL08U78		
KS1N12NA340	XS512B1NAL2	XS2M12PA370LD	XS612B1PAL08M12		
XS1N12NA340D	XS512B1NAM12	XS2M12PB370	XS612B1PBL2		
KS1N12NA340L1	XS512B1NAL5	XS2M12PB370D	XS612B1PBM12		
(S1N12NA340L2	XS512B1NAL10	XS2M12PB370L1	XS612B1PBL5		
XS1N12NB340	XS512B1NBL2	XS2M12PB370S	XS612B1PBM12 (2)		

⁽¹⁾ For the new sensor an integral M12 connector replaces the remote M12 connector on a 0.80 m flying lead.
(2) For the new sensor an M12 connector replaces the M8 connector.
(3) For the new OsiSense XS sensor, the metal case replaces the plastic case.



Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sense
Cylindrical type, DO	(continued)	XS1M18PA370LA	XS618B1PAL08U78	XS2M18NA370	XS618B1NAL2
Diameter 18 mm		XS1M18PA370LD	XS518BLPAM12 (1)	XS2M18NA370A	XS618B1NAL01U78 (4)
XS1		XS1M18PA370DTQ	XS518BLPAM12TQ	XS2M18NA370B	XS618B1NAL01B (4)
XS1D18NA140	XS118BLNAL2	XS1M18PA370TF	XS518BLPAL2TF	XS2M18NA370C	XS618B1NAL01C (4)
XS1D18NA140D	XS118BLNAM12	XS1M18PB370	XS518BLPBL2	XS2M18NA370D	XS618B1NAM12
XS1D18NA140L1	XS118BLNAL5	XS1M18PB370A	XS618B1PBL01U78 (4)	XS2M18NA370L1	XS618B1NAL5
XS1D18PA140	XS118BLPAL2	XS1M18PB370B	XS618B1PBL01B (4)	XS2M18NA370L2	XS618B1NAL10
XS1D18PA140D	XS118BLPAM12			XS2M18NB370	XS618B1NBL2
XS1D18PA140L1	XS118BLPAL5			XS2M18NB370B	XS618B1NBL01B (4)
		XS1		XS2M18NB370C	XS618B1NBL01C (4)
		XS1M18PB370D	XS518BLPBM12	XS2M18NB370D	XS618B1NBM12
XS1M18DA210	XS518B1DAL2	XS1M18PB370L1	XS518BLPBL5	XS2M18NB370L1	XS618B1NBL5
XS1M18DA210B	XS518B1DAL01B (4)	XS1M18PB370L2	XS518BLPBL10	XS2M18NB370L2	XS618B1NBL10
XS1M18DA210C	XS518B1DAL01C (4)	XS1M18PB370C	XS618B1PBL01C (4)	XS2M18PA370	XS618B1PAL2
XS1M18DA210D	XS518B1DAM12			XS2M18PA370A	XS618B1PAL01U78 (4)
XS1M18DA210G	XS518B1DAL01G (4)			XS2M18PA370B	XS618B1PAL01B (4)
XS1M18DA210L1	XS518B1DAL5	XS1N18NA340	XS518B1NAL2	XS2M18PA370C	XS618B1PAL01C (4)
XS1M18DA210L2	XS518B1DAL10	XS1N18NA340D	XS518B1NAM12	XS2M18PA370D	XS618B1PAM12
XS1M18DA210LD	XS518B1DAL08M12	XS1N18NA340L1	XS518B1NAL5	XS2M18PA370G	XS618B1PAL01G (4)
XS1M18DB210	XS518B1DBL2	XS1N18NA340L2	XS518B1NAL10	XS2M18PA370LA	XS618B1PAL08U78 (4)
XS1M18DB210B	XS518B1DBL01B (4)	XS1N18NB340	XS518B1NBL2	XS2M18PA370L1	XS618B1PAL5
XS1M18DB210D	XS518B1DBM12	XS1N18NB340D	XS518B1NBM12	XS2M18PA370L2	XS618B1PAL10
XS1M18DB210LD	XS518B1DBL08M12	XS1N18NB340L2	XS518B1NBL10	XS2M18PB370	XS618B1PBL2
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	A001021222011112	XS1N18PA340	XS518B1PAL2	XS2M18PB370A	XS618B1PBL01U78 (4)
		XS1N18PA340D	XS518B1PAM12	XS2M18PB370B	XS618B1PBL01B (4)
XS1M18DA214D	XS518B1CAM12	XS1N18PA340L1	XS518B1PAL5	XS2M18PB370C	XS618B1PBL01C (4)
XS1M18DA214LD	XS518B1CAL08M12	XS1N18PA340L2	XS518B1PAL10	XS2M18PB370D	XS618B1PBM12
AG INITODAZ 14ED	A0010B10AE00M12	XS1N18PB340	XS518B1PBL2	XS2M18PB370L1	XS618B1PBL5
		XS1N18PB340D	XS518B1PBM12	XS2M18PB370L2	XS618B1PBL10
XS1M18NA370	XS518BLNAL2	XS1N18PB340L2	XS518B1PBL10	XOZWIO BSTOLZ	XOUTOD II DETO
XS1M18NA370A	XS618B1NAL01U78 (4)	X311110F B340L2	ASSIGNIFICATION		
XS1M18NA370A	XS618B1NAL01B (4)			XS3	
	. ,	XS2			VCE40D4NAL2 (2)
XS1M18NA370C	XS618B1NAL01C (4)		VC240DI NAL 2	XS3P18NA340	XS518B1NAL2 (3)
XS1M18NA370D	XS518BLNAM12	XS2D18NA140	XS218BLNAL2	XS3P18NA340D	XS518B1NAM12 (3)
XS1M18NA370L1	XS518BLNAL5	XS2D18NA140D	XS218BLNAM12	XS3P18NA340L1	XS518B1NAL5 (3)
XS1M18NA370L2	XS518BLNAL10	XS2D18PA140	XS218BLPAL2	XS3P18PA340	XS518B1PAL2 (3)
XS1M18NB370	XS518BLNBL2	XS2D18PA140D	XS218BLPAM12	XS3P18PA340D	XS518B1PAM12 (3)
XS1M18NB370B	XS618B1NBL01B (4)	XS2D18PA140L1	XS218BLPAL5	XS3P18PA340L1	XS518B1PAL5 (3)
XS1M18NB370C	XS618B1NBL01C (4)				
XS1M18NB370D	XS518BLNBM12				
XS1M18NB370L1	XS518BLNBL5	XS2N18NA340	XS118B3NAL2	XS3P18NA370	XS518BLNAL2 (3)
XS1M18NB370L2	XS518BLNBL10	XS2N18NA340D	XS118B3NAM12	XS3P18NA370L1	XS518BLNAL5 (3)
XS1M18PA370	XS518BLPAL2	XS2N18NA340L1	XS118B3NAL5	XS3P18PA370	XS518BLPAL2 (3)
XS1M18PA370A	XS618B1PAL01U78 (4)	XS2N18NA340L2	XS118B3NAL10	XS3P18PA370L1	XS518BLPAL5 (3)
XS1M18PA370B	XS618B1PAL01B (4)	XS2N18NB340	XS118B3NBL2	XS3P18PA370L2	XS518BLPAL10 (3)
XS1M18PA370C	XS618B1PAL01C (4)	XS2N18NB340D	XS118B3NBM12		
XS1M18PA370D	XS518BLPAM12	XS2N18PA340	XS118B3PAL2		
XS1M18PA370G	XS618B1PAL01G (4)	XS2N18PA340D	XS118B3PAM12	XS4	
XS1M18PA370DTQ	XS518BLPAM12TQ	XS2N18PA340L1	XS118B3PAL5	XS4P18NA370B	XS4P18NA370L01B (4)
XS1M18PA370G	XS618B1PAL01G (4)	XS2N18PA340L2	XS118B3PAL10	XS4P18NB370B	XS4P18NB370L01B (4)
XS1M18PA370L1	XS518BLPAL5	XS2N18PB340	XS118B3PBL2	XS4P18PA370B	XS4P18PA370L01B (4)
XS1M18PA370L2	XS518BLPAL10	XS2N18PB340D	XS118B3PBM12	XS4P18PB370B	XS4P18PB370L01B (4)

⁽¹⁾ For the new sensor an integral M12 connector replaces the remote M12 connector on a 0.80 m flying lead.
(3) For the new OsiSense XS sensor, the metal case replaces the plastic case.
(4) For the new sensor, connectors A, B, C and G on 0.1 m flying lead replace integral connectors A, B, C and G.



Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sens
Cylindrical type, DO	C (continued)	XS1M30PA370D	XS530BLPAM12	XS2M30NB370L2	XS630B1NBL10
Diameter 30 mm		XS1M30PA370G	XS630B1PAL01G (4)	XS2M30PA370	XS630B1PAL2
XS1		XS1M30PA370L1	XS530BLPAL5	XS2M30PA370A	XS630B1PAL01U78 (4)
XS1D30NA140	XS130BLNAL2	XS1M30PA370L2	XS530BLPAL10	XS2M30PA370B	XS630B1PAL01B (4)
XS1D30NA140D	XS130BLNAM12	XS1M30PB370	XS530BLPBL2	XS2M30PA370C	XS630B1PAL01C (4)
XS1D30PA140	XS130BLPAL2	XS1M30PB370B	XS630B1PBL01B (4)	XS2M30PA370D	XS630B1PAM12
XS1D30PA140D	XS130BLPAM12	XS1M30PB370C	XS630B1PBL01C (4)	XS2M30PA370G	XS630B1PAL01G (4)
XS1D30PA140L1	XS130BLPAL5	XS1M30PB370D	XS530BLPBM12	XS2M30PA370L1	XS630B1PAL5
XS2D30NA140	XS230BLNAL2	XS1M30PB370G	XS630B1PBL01G (4)	XS2M30PA370L2	XS630B1PAL10
XS2D30NA140D	XS230BLNAM12	XS1M30PB370L1	XS530BLPBL5	XS2M30PB370	XS630B1PBL2
XS2D30PA140	XS230BLPAL2	XS1M30PB370L2	XS530BLPBL10	XS2M30PB370B	XS630B1PBL01B (4)
XS2D30PA140D	XS230BLPAM12			XS2M30PB370C	XS630B1PBL01C (4)
				XS2M30PB370D	XS630B1PBM12
		XS1N30NA340	XS530B1NAL2	XS2M30PB370G	XS630B1PBL01G (4)
XS1M30DA210	XS530B1DAL2	XS1N30NA340D	XS530B1NAM12	XS2M30PB370L1	XS630B1PBL5
XS1M30DA210B	XS530B1DAL01B (4)	XS1N30NA340L1	XS530B1NAL5	XS2M30PB370L2	XS630B1PBL10
XS1M30DA210C	XS530B1DAL01C (4)	XS1N30NA340L2	XS530B1NAL10		
XS1M30DA210D	XS530B1DAM12	XS1N30NB340	XS530B1NBL2		
XS1M30DA210G	XS530B1DAL01G (4)	XS1N30NB340D	XS530B1NBM12	XS3	
XS1M30DA210L1	XS530B1DAL5	XS1N30PA340	XS530B1PAL2	XS3P30NA340	XS530B1NAL2 (3)
XS1M30DA210L2	XS530B1DAL10	XS1N30PA340D	XS530B1PAM12	XS3P30NA340D	XS530B1NAM12 (3)
XS1M30DA210LD	XS530B1DAL08M12	XS1N30PA340L1	XS530B1PAL5	XS3P30NA340L1	XS530B1NAL5 (3)
XS1M30DB210	XS530B1DBL2	XS1N30PA340L2	XS530B1PAL10	XS3P30PA340	XS530B1PAL2 (3)
XS1M30DB210B	XS530B1DBL01B (4)	XS1N30PB340	XS530B1PBL2	XS3P30PA340D	XS530B1PAM12 (3)
XS1M30DB210D	XS530B1DBM12	XS1N30PB340D	XS530B1PBM12	XS3P30PA340L1	XS530B1PAL5 (3)
XS1M30DB210LD	XS530B1DBM12 (1)			XS3P30PA340L2	XS530B1PAL10 (3)
		XS2			
XS1M30DA214D	XS530B1CAM12	XS2N30NA340	XS130B3NAL2	XS3P30PA370	XS530BLPAL2 (3)
XS1M30DA214LD	XS530B1CAL08M12	XS2N30NA340D	XS130B3NAM12	XS3P30PA370L1	XS530BLPAL5 (3)
		XS2N30NA340L1	XS130B3NAL5	XS3P30PA370L2	XS530BLPAL10 (3)
		XS2N30NA340L2	XS130B3NAL10	XS3P30NA370	XS530BLNAL2 (3)
XS1M30PA349D	XS630B1PAM12 (5)	XS2N30NB340	XS130B3NBL2	XS3P30NA370L1	XS530BLNAL5 (3)
		XS2N30NB340D	XS130B3NBM12		
		XS2N30PA340	XS130B3PAL2		
XS1M30NA370	XS530BLNAL2	XS2N30PA340D	XS130B3PAM12	XS4	
XS1M30NA370B	XS630B1NAL01B (4)	XS2N30PA340L1	XS130B3PAL5	XS4P30NA370B	XS4P30NA370L01B (4
XS1M30NA370C	XS630B1NAL01C (4)	XS2N30PA340L2	XS130B3PAL10	XS4P30NB370B	XS4P30NB370L01B (4
XS1M30NA370D	XS530BLNAM12	XS2N30PB340	XS130B3PBL2	XS4P30PA370B	XS4P30PA370L01B (4,
XS1M30NA370L1	XS530BLNAL5	XS2N30PB340D	XS130B3PBM12	XS4P30PB370B	XS4P30PB370L01B (4)
XS1M30NA370L2	XS530BLNAL10				
XS1M30NB370	XS530BLNBL2				
XS1M30NB370B	XS630B1NBL01B (4)	XS2M30NA370	XS630B1NAL2		
XS1M30NB370C	XS630B1NBL01C (4)	XS2M30NA370B	XS630B1NAL01B (4)		
XS1M30NB370D	XS530BLNBM12	XS2M30NA370C	XS630B1NAL01C (4)		
XS1M30NB370L1	XS530BLNBL5	XS2M30NA370D	XS630B1NAM12		
XS1M30NB370L2	XS530BLNBL10	XS2M30NA370L1	XS630B1NAL5		
		XS2M30NA370L2	XS630B1NAL10		
		XS2M30NB370	XS630B1NBL2		
XS1M30PA370	XS530BLPAL2	XS2M30NB370B	XS630B1NBL01B (4)		
XS1M30PA370A	XS630B1PAL01U78 (4)	XS2M30NB370C	XS630B1NBL01C (4)		
XS1M30PA370B	XS630B1PAL01B (4)	XS2M30NB370D	XS630B1NBM12		
XS1M30PA370C	XS630B1PAL01C (4)	XS2M30NB370L1	XS630B1NBL5		

⁽¹⁾ For the new sensor an integral M12 connector replaces the remote M12 connector on a 0.80 m flying lead.
(3) For the new OsiSense XS sensor, the metal case replaces the plastic case.
(4) For the new sensor, connectors A, B, C and G on 0.1 m flying lead replace integral connectors A, B, C and G.
(5) For the new sensor, Sn = 15 mm instead of 20 mm.



Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS sensor
Cylindrical type, A	C or DC	Diameter 18 mm		XS3	
Diameter 12 mm		XS1		XS3P18MA230	XS618B1MAL2 (3)
XS1		XS1M18FA264	XS118BLFAL2	XS3P18MA230K	XS618B1MAU20 (3)
XS1M12FA264	XS112BLFAL2			XS3P18MA230L1	XS618B1MAL5 (3)
XS1M12FA264L2	XS112BLFAL10			XS3P18MA230L2	XS618B1MAL10 (3)
		XS1M18MA230	XS518B1MAL2	XS3P18MB230	XS618B1MBL2 (3)
		XS1M18MA230A	XS618B1MAL01U78 (4)	XS3P18MB230A	XS618B1MBU20 (3)
XS1M12MA230	XS512B1MAL2	XS1M18MA230B	XS618B1MAL01B (4)	XS3P18MB230K	XS618B1MBU20 (3)
XS1M12MA230K	XS512B1MAU20	XS1M18MA230C	XS618B1MAL01C (4)	XS3P18MB230L1	XS618B1MBL5 (3)
XS1M12MA230L1	XS512B1MAL5	XS1M18MA230G	XS618B1MAL01G (4)		
XS1M12MA230L2	XS512B1MAL10	XS1M18MA230K	XS518B1MAU20		
XS1M12MB230	XS512B1MBL2	XS1M18MA230L1	XS518B1MAL5	XS4	
XS1M12MB230K	XS512B1MBU20	XS1M18MA230L2	XS518B1MAL10	XS4P18MA230B	XS4P18MA230L01B (4)
XS1M12MB230L1	XS512B1MBL5	XS1M18MB230	XS518B1MBL2	XS4P18MA230C	XS4P18MA230L01C (4)
XS1M12MB230L2	XS512B1MBL10	XS1M18MB230A	XS618B1MBL01U78 (4)	XS4P18MA230G	XS4P18MA230L01G (4)
		XS1M18MB230B	XS618B1MBL01B (4)	XS4P18MB230B	XS4P18MB230L01B (4)
		XS1M18MB230C	XS618B1MBL01C (4)	XS4P18MB230C	XS4P18MB230L01C (4)
XS1M12MA239	XS612B1MAL2	XS1M18MB230G	XS618B1MBL01G (4)		
XS1M12MA239K	XS612B1MAU20	XS1M18MB230K	XS518B1MBU20		
		XS1M18MB230L1	XS518B1MBL5		
		XS1M18MB230L2	XS518B1MBL10		
XS2					
XS2M12MA230	XS612B1MAL2				
XS2M12MA230K	XS612B1MAU20	XS1M18MA239	XS618B1MAL2 (5)		
XS2M12MA230L1	XS612B1MAL5	XS1M18MA239A	XS1M18MA239L01A (4)		
XS2M12MA230L2	XS612B1MAL10	XS1M18MA239K	XS618B1MAU20 (5)		
XS2M12MB230	XS612B1MBL2				
XS2M12MB230K	XS612B1MBU20				
XS2M12MB230L1	XS612B1MBL5	XS2			
XS2M12MB230L2	XS612B1MBL10	XS2M18MA230	XS618B1MAL2		
		XS2M18MA230A	XS618B1MAL01U78 (4)		
		XS2M18MA230B	XS618B1MAL01B (4)		
XS3		XS2M18MA230C	XS618B1MAL01C (4)		
XS3P12MA230	XS612B1MAL2 (3)	XS2M18MA230G	XS618B1MAL01G (4)		
XS3P12MA230K	XS612B1MAU20 (3)	XS2M18MA230K	XS618B1MAU20		
XS3P12MA230L1	XS612B1MAL5 (3)	XS2M18MA230L1	XS618B1MAL5		
XS3P12MA230L2	XS612B1MAL10 (3)	XS2M18MA230L2	XS618B1MAL10		
XS3P12MB230	XS612B1MBL2 (3)	XS2M18MB230	XS618B1MBL2		
XS3P12MB230K	XS612B1MBU20 (3)	XS2M18MB230A	XS618B1MBL01U78 (4)		
XS3P12MB230L1	XS612B1MBL5 (3)	XS2M18MB230B	XS618B1MBL01B (4)		
		XS2M18MB230C	XS618B1MBL01C (4)		
		XS2M18MB230G	XS618B1MBL01G (4)		
		XS2M18MB230K	XS618B1MBU20		
		XS2M18MB230L1	XS618B1MBL5		
		XS2M18MB230L2	XS618B1MBL10		



⁽³⁾ For the new OsiSense XS sensor, the metal case replaces the plastic case.
(4) For the new sensor, connectors A, B, C and G on 0.1 m flying lead replace integral connectors A, B, C and G.
(5) For the new sensor, Sn = 8 mm instead of 10 mm.

Inductive proximity sensors

Old sensor	New OsiSense XS sensor	Old sensor	New OsiSense XS se
Cylindrical type, AC		XS3	
or DC (continued)		XS3P30MA230	XS630B1MAL2 (3)
Diameter 30 mm		XS3P30MA230K	XS630B1MAU20 (3)
XS1		XS3P30MA230L1	XS630B1MAL5 (3)
XS1M30FA264	XS130BLFAL2	XS3P30MA230L2	XS630B1MAL10 (3)
		XS3P30MB230	XS630B1MBL2 (3)
		XS3P30MB230K	XS630B1MBU20 (3)
XS1M30MA230	XS530B1MAL2	XS3P30MB230L1	XS630B1MBL5 (3)
XS1M30MA230A	XS630B1MAL01U78 (4)		
XS1M30MA230B	XS630B1MAL01B (4)		
XS1M30MA230C	XS630B1MAL01C (4)	XS4	
XS1M30MA230G	XS630B1MAL01G (4)	XS4P30MA230B	XS4P30MA230L01B (
XS1M30MA230K	XS530B1MAU20	XS4P30MA230C	XS4P30MA230L01C (
XS1M30MA230L1	XS530B1MAL5	XS4P30MA230G	XS4P30MA230L01G
XS1M30MA230L2	XS530B1MAL10	XS4P30MB230B	XS4P30MB230L01B (
XS1M30MB230	XS530B1MBL2	XS4P30MB230C	XS4P30MB230L01C (
XS1M30MB230A	XS630B1MBL01U78 (4)	XO II OOMBEOOO	X041 00111B2002010 (
XS1M30MB230B	XS630B1MBL01B (4)		
XS1M30MB230C	XS630B1MBL01C (4)		
XS1M30MB230G	XS630B1MBL01G (4)		
XS1M30MB230K	XS530B1MBU20		
XS1M30MB230L1	XS530B1MBL5		
XS1M30MB230L1 XS1M30MB230L2	XS530B1MBL10		
ASTINISOINIBESULE	A3330B TWIDE TO		
XS1M30MA239	XS630B1MAL2 (5)		
XS1M30MA239A	XS1M30MA239L01A (4)		
XS2			
XS2 XS2M30MA230	XS630B1MAL2		
XS2M30MA230			
XS2M30MA230 XS2M30MA230A	XS630B1MAL01U78 (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B	XS630B1MAL01U78 (4) XS630B1MAL01B (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAU20		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAU20 XS630B1MAL5		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAU20 XS630B1MAL5 XS630B1MAL10		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL20 XS630B1MAL5 XS630B1MAL10 XS630B1MBL2		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230 XS2M30MB230	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL020 XS630B1MAL5 XS630B1MAL10 XS630B1MBL2 XS630B1MBL01U78 (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230 XS2M30MB230A XS2M30MB230B	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL020 XS630B1MAL5 XS630B1MAL10 XS630B1MBL0 XS630B1MBL01U78 (4) XS630B1MBL01B (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230A XS2M30MB230A XS2M30MB230B XS2M30MB230C	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL020 XS630B1MAL5 XS630B1MAL10 XS630B1MBL01 XS630B1MBL01U78 (4) XS630B1MBL01B (4) XS630B1MBL01C (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230L1 XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230 XS2M30MB230A XS2M30MB230B XS2M30MB230B XS2M30MB230G	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL020 XS630B1MAL5 XS630B1MAL10 XS630B1MBL01 XS630B1MBL01U78 (4) XS630B1MBL01B (4) XS630B1MBL01C (4) XS630B1MBL01G (4)		
XS2M30MA230 XS2M30MA230A XS2M30MA230B XS2M30MA230C XS2M30MA230G XS2M30MA230K XS2M30MA230L1 XS2M30MA230L2 XS2M30MB230A XS2M30MB230A XS2M30MB230B XS2M30MB230C	XS630B1MAL01U78 (4) XS630B1MAL01B (4) XS630B1MAL01C (4) XS630B1MAL01G (4) XS630B1MAL020 XS630B1MAL5 XS630B1MAL10 XS630B1MBL01 XS630B1MBL01U78 (4) XS630B1MBL01B (4) XS630B1MBL01C (4)		

⁽³⁾ For the new OsiSense XS sensor, the metal case replaces the plastic case.

(4) For the new sensor, connectors A, B, C and G on 0.1 m flying lead replace integral connectors A, B, C and G.

(5) For the new sensor, Sn = 15 mm instead of 20 mm.

Protective treatment of equipment according to climatic environment

Depending on the climatic and environmental conditions in which the equipment is placed, Telemecanique Sensors can offer specially adapted products to meet your requirements.

In order to make the correct choice of protective finish, two points should be remembered:

- the prevailing climate of the country is never the only criterion,
- only the atmosphere in the immediate vicinity of the equipment need be considered.

All climates treatment "TC"

This is the standard treatment for Telemecanique Sensors brand equipment and is suitable for the vast majority of applications. It is the equivalent of treatments described as "Klimafest", "Climateproof".

In particular, it meets the requirements specified in the following publications:

- Publication UTE C 63-100 (method I), successive cycles of humid heat at:
- + 40 °C and 95 % relative humidity.
- DIN 50016 Variations of ambient conditions within a climatic chamber:
- + 23 °C and 83 % relative humidity,
- + 40 °C and 92 % relative humidity.

It also meets the requirements of the following marine classification societies: BV-LR-GL-DNV-RINA.

Characteristics

- Steel components are usually treated with zinc. When they have a mechanical function, they may also be painted.
- Insulating materials are selected for their high electrical, dielectric and mechanical characteristics.
- Metal enclosures have a stoved paint finish, applied over a primary phosphate protective coat, or are galvanised (e.g. some prefabricated busbar trunking components).

Limits for use of "TC" (All climates) treatment

■ "TC" treatment is suitable for the following temperatures and humidity:

	3
Temperature (°C)	Relative humidity (%)
20	95
40	80
50	50

"TC" treatment is therefore suitable for all latitudes and in particular tropical and equatorial regions where the equipment is mounted in normally ventilated industrial premises. Being sheltered from external climatic conditions, temperature variations are small, the risk of condensation is minimised and the risk of dripping water is virtually non-existent.

Extension of use of "TC" (All climates) treatment

In cases where the humidity around the equipment exceeds the conditions described above, or in equatorial regions if the equipment is mounted outdoors, or if it is placed in a very humid location (laundries, sugar refineries, steam rooms, etc.), "TC" treatment can still be used if the following precautions are taken:

- The enclosure in which the equipment is mounted must be protected with a "TH" finish (see next page) and must be well ventilated to avoid condensation and dripping water (e.g. enclosure base plate mounted on spacers).
- Components mounted inside the enclosure must have a "TC" finish.
- If the equipment is to be switched off for long periods, a heater must be provided (0.2 to 0.5 kW per square decimetre of enclosure), that switches on automatically when the equipment is turned off. This heater keeps the inside of the enclosure at a temperature slightly higher than the outside surrounding temperature, thereby avoiding any risk of condensation and dripping water (the heat produced by the equipment itself during normal running is sufficient to provide this temperature difference).
- Special considerations for "Operator dialog" and "Detection" products: for certain pilot devices, the use of "TC" treatment can be extended to outdoor use provided their enclosure is made of light alloys, zinc alloys or plastic material. In this case, it is also essential to ensure that the degree of protection against penetration of liquids and solid objects is suitable for the applications involved.



Protective treatment of equipment according to climatic environment

"TH" treatment for hot and humid environments

This treatment is suitable for hot and humid atmospheres where installations are regularly subject to condensation, dripping water and the risk of fungi.

In addition, plastic insulating components are resistant to attacks from insects such as termites and cockroaches. These properties have often led to this treatment being described as "Tropical Finish", but this does not mean that all equipment installed in tropical and equatorial regions must systematically have undergone "TH" treatment. On the other hand, certain operating conditions in temperate climates may well require the use of "TH" treated equipment (see limitations for use of "TC" treatment).

Special characteristics of "TH" treatment

- All insulating components are made of materials which are either resistant to fungi or treated with a fungicide, and which have increased resistance to creepage (Standards IEC 60112, NF C 26-220, DIN 5348).
- Metal enclosures receive a top-coat of stoved, fungicidal paint, applied over a rust inhibiting undercoat. Components with "TH" treatment may be subject to a surcharge (1). Please consult your Customer Care Centre.

Protective treat	ment selectio	n guide			
Surrounding environment	Duty cycle	Internal heating of	Type of climate	Protective treatment	
		enclosure when not in use		of equip- ment	of enclo- sure
Indoors					
No dripping water or condensation	Unimportant	Not necessary	Unimportant	"TC"	"TC"
Presence of dripping	Frequent	No	Temperate	"TC"	"TH"
water or condensation	switching off for		Equatorial	"TH"	"TH"
	periods of more than 1 day	Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"
Outdoors (sheltere	d)				
No dripping water	Unimportant	Not necessary	Temperate	"TC"	"TC"
or dew			Equatorial	"TH"	"TH"
Exposed outdoors	or near the sea				
Frequent and regular	Frequent	No	Temperate	"TC"	"TH"
presence of dripping	switching off for		Equatorial	"TH"	"TH"
water or dew	periods of more than 1 day	Yes	Unimportant	"TC"	"TH"
	Continuous	Not necessary	Unimportant	"TC"	"TH"

These treatments cover, in particular, the applications defined by methods I and II of guide UTE C 63-100.

Special precautions for electronic equipment

Electronic products always meet the requirements of "TC" treatment. A number of them are "TH" treated as standard.

Some electronic products (for example: programmable controllers, flush mountable controllers CCX and flush mountable operator terminals XBT) require the use of an enclosure providing a degree of protection to at least IP 54, as defined by standards IEC 60664 and NF C 20 040, for use in industrial applications or in environmental conditions requiring "TH" treatment.

These electronic products, including flush mountable products, must have a degree of protection to at least IP 20 (provided either by their own enclosure or by their installation method) for restricted access locations where the degree of pollution does not exceed 2 (a test booth not containing machinery or other dust producing activities, for example).

Special treatments

For particularly harsh industrial environments, Telemecanique Sensors is able to offer special protective treatments. Please consult your Customer Care Centre.

(1) A large number of the Telemecanique Sensors brand products are "TH" treated as standard and are, therefore, not subject to a surcharge.



Product standards and certifications

Standardisation

Conformity to standards

Telemecanique Sensors products satisfy, in the majority of cases, national (for example: BS in Great Britain, NF in France, DIN in Germany), European (for example: CENELEC) or international (IEC) standards. These product standards precisely define the performance of the designated products (such as IEC 60947 for low voltage equipment).

When used correctly, as designated by the manufacturer and in accordance with regulations and correct practices, these products will allow users to build equipment, machine systems or installations that conform to their appropriate standards (for example: IEC 60204-1, relating to electrical equipment used on industrial machines).

Telemecanique Sensors is able to provide proof of conformity of its production to the standards it has chosen to comply with, through its quality assurance system.

On request, and depending on the situation, Telemecanique Sensors can provide the following:

- a declaration of conformity,
- a certificate of conformity (ASEFA/LOVAG),
- a homologation certificate or approval, in the countries where this procedure is required or for particular specifications, such as those existing in the merchant navy.

Code	Certification authority	Country	
	Name	Abbreviation	
ANSI	American National Standards Institute	ANSI	USA
BS	British Standards Institution	BSI	Great Britain
CEI	Comitato Elettrotecnico Italiano	CEI	Italy
DIN/VDE	Verband Deutscher Electrotechniker	VDE	Germany
EN	Comité Européen de Normalisation Electrotechnique	CENELEC	Europe
GOST	Gosudarstvenne Komitet Standartov	GOST	Russia
IEC	International Electrotechnical Commission	IEC	Worldwide
JIS	Japanese Industrial Standards Committee	JISC	Japan
NBN	Institut Belge de Normalisation	IBN	Belgium
NEN	Nederlands Normalisatie Institut	NNI	Netherlands
NF	Union Technique de l'Electricité	UTE	France
SAA	Standards Association of Australia	SAA	Australia
UNE	Asociacion Española de Normalizacion y Certificacion	AENOR	Spain

European EN standards

These are technical specifications established in conjunction with, and with approval of, the relative bodies within the various CENELEC member countries (European Union, European Free Trade Association and many central and eastern European countries having «member» or «affiliated» status). Prepared in accordance with the principle of consensus, the European standards are the result of a weighted majority vote. Such adopted standards are then integrated into the national collection of standards, and contradictory national standards are withdrawn. European standards incorporated within the French collection of standards carry the prefix NF EN. At the 'Union Technique de l'Electricité' (*Technical Union of Electricity*) (UTE), the French version of a corresponding European standard carries a dual number: European reference (NF EN ...) and classification index (C ...).
Therefore, the standard NF EN 60947-4-1 relating to motor contactors and starters, effectively

Therefore, the standard NF EN 60947-4-1 relating to motor contactors and starters, effectively constitutes the French version of the European standard EN 60947-4-1 and carries the UTE classification C 63-110.

This standard is identical to the British standard BS EN 60947-4-1 or the German standard DIN EN 60947-4-1.

Whenever reasonably practical, European standards reflect the international standards (IEC). With regard to automation system components and distribution equipment, in addition to complying with the requirements of French NF standards, Telemecanique Sensors brand components conform to the standards of all other major industrial countries.

Regulations

European Directives

Opening up of European markets assumes harmonisation of the regulations pertaining to each of the member countries of the European Union.

The purpose of the European Directive is to eliminate obstacles hindering the free circulation of goods within the European Union, and it must be applied in all member countries. Member countries are obliged to transcribe each Directive into their national legislation and to simultaneously withdraw any contradictory regulations. The Directives, in particular those of a technical nature which concern us, only establish the objectives to be achieved, referred to as "essential requirements".

The manufacturer must take all the necessary measures to ensure that his products conform to the requirements of each Directive applicable to his production.

As a general rule, the manufacturer certifies conformity to the essential requirements of the Directive(s) for his product by affixing the CE mark.

The CE mark is affixed to Telemecanique Sensors brand products concerned, in order to comply with French and European regulations.

Significance of the C€ mark

- The C€ mark affixed to a product signifies that the manufacturer certifies that the product conforms to the relevant European Directive(s) which concern it; this condition must be met to allow free distribution and circulation within the countries of the European Union of any product subject to one or more of the E.U. Directives.
- The C€ mark is intended solely for national market control authorities.
- The C€ mark must not be confused with a conformity marking



Product standards and certifications

European Directives (continued)

For electrical equipment, only conformity to standards signifies that the product is suitable for its designated function, and only the guarantee of an established manufacturer can provide a high level of quality assurance.

For Telemecanique Sensors brand products, one or several Directives are likely to be applicable, depending on the product, and in particular:

■ the Low Voltage Directive 2006/95/EC: the C€ mark relating to this Directive has been

- the Low Voltage Directive 2006/95/EC: the CE mark relating to this Directive has been compulsory since 16th January 2007.
- the Electromagnetic Compatibility Directive 89/336/EEC, amended by Directives 92/31/EEC and 93/68/EEC: the C€ mark on products covered by this Directive has been compulsory since 1st January 1996.

ASEFA-LOVAG certification

The function of ASEFA (Association des Stations d'Essais Française d'Appareils électriques - Association of French Testing Stations for Low Voltage Industrial Electrical Equipment) is to carry out tests of conformity to standards and to issue certificates of conformity and test reports. ASEFA laboratories are authorised by the French authorisation committee (COFRAC). ASEFA is now a member of the European agreement group LOVAG (Low Voltage Agreement Group). This means that any certificates issued by LOVAG/ASEFA are recognised by all the authorities which are members of the group and carry the same validity as those issued by any of the member authorities.

Quality labels

When components can be used in domestic and similar applications, it is sometimes recommended that a "Quality label" be obtained, which is a form of certification of conformity.

Code	Quality label	Country
CEBEC	Comité Electrotechnique Belge	Belgium
KEMA-KEUR	Keuring van Electrotechnische Materialen	Netherlands
NF	Union Technique de l'Electricité	France
ÖVE	Österreichischer Verband für Electrotechnik	Austria
SEMKO	Svenska Electriska Materiel Kontrollanatalten	Sweden

Product certifications

In some countries, the certification of certain electrical components is a legal requirement. In this case, a certificate of conformity to the standard is issued by the official test authority. Each certified device must bear the relevant certification symbols when these are mandatory:

Code	Certification authority	Country
CSA	Canadian Standards Association	Canada
UL	Underwriters Laboratories	USA
CCC	China Compulsory Certification	China

Note on certifications issued by the Underwriters Laboratories (UL). There are two levels of approval:

"Recognized" (💫)

The component is fully approved for inclusion in equipment built in a workshop, where the operating limits are known by the equipment manufacturer and where its use within such limits is acceptable by the Underwriters Laboratories.

The component is not approved as a "Product for general use" because its manufacturing characteristics are incomplete or its application possibilities are limited.

A "Recognized" component does not necessarily carry the certification symbol.

"Listed" (UL)

The component conforms to all the requirements of the classification applicable to it and may therefore be used both as a "Product for general use" and as a component in assembled equipment. A "Listed" component must carry the certification symbol.

Marine classification societies

Prior approval (= certification) by certain marine classification societies is generally required for electrical equipment which is intended for use on board merchant vessels.

Code	Classification authority	Country
BV	Bureau Veritas	France
DNV	Det Norske Veritas	Norway
GL	Germanischer Lloyd	Germany
LR	Lloyd's Register	Great Britain
NKK	Nippon Kaiji Kyokaï	Japan
RINA	Registro Italiano Navale	Italy
RRS	Register of Shipping	Russia

Note

For further details on a specific product, please refer to the "Characteristics" pages in this catalogue or consult your Customer Care Centre.



Degrees of protection provided by enclosures IP code

Degrees of protection against the penetration of solid bodies, water and personnel access to live parts

The European standard EN 60529 dated October 1991, IEC publication 529 (2nd edition - November 1989), defines a coding system (IP code) for indicating the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water. This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gasses, fungi or vermin.

Certain equipment is designed to be mounted on an enclosure which will contribute towards achieving the required degree of protection (example : control devices mounted on an enclosure).

Different parts of an equipment can have different degrees of protection (example: enclosure with an opening in the base).

Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors

Additional letter:

Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

IP ••• code

The IP code comprises 2 characteristic numerals (e.g. IP 55) and may include an additional letter when the actual protection of personnel against direct contact with live parts is better than that indicated by the first numeral (e.g. IP 20C). Any characteristic numeral which is unspecified is replaced by an X (e.g. IP XXB).

1st characteristic numeral: 2nd characteristic numeral: corresponds to protection of the equipment against corresponds to protection of the equipment corresponds to protection of penetration of solid objects and protection of personnel against penetration of water with harmful effects. personnel against direct contact against direct contact with live parts. with live parts. Protection of the equipment Protection of personnel Non-protected 0 Non-protected Non-protected With the back of the hand. 1 Ø 50 mm Protected against Protected against Protected against В With the finger. the penetration of direct contact with vertical dripping water, solid objects the back of the (condensation) having a diameter hand (accidental greater than or contacts). equal to 50 mm Ø 12.5 mm Protected against Protected against 2 Protected against 2 With a Ø 2.5 mm tool. the penetration of direct finger dripping water at an solid objects angle of up to 15°. contact. having a diameter greater than or equal to 12.5 mm. 3 Protected against With a Ø 1 mm wire. Ø 2,5 mm Protected against Protected against rain at D the penetration of direct contact with an angle of up to 60°. 0 solid objects a Ø 2.5 mm tool. having a diameter greater than or equal to 2.5 mm. Protected against 4 Protected against Protected against the penetration of direct contact with splashing water in all solid objects a Ø 1 mm wire. directions having a diameter greater than or equal to 1 mm. **Dust protected** Protected against Protected against water (no harmful direct contact with jets in all directions. deposits). a Ø 1 mm wire. Dust tight. Protected against Protected against direct contact with powerful jets of water a Ø 1 mm wire and waves Protected against the 700 effects of temporary immersion. Protected against the effects of prolonged

immersion under specified conditions

Degrees of protection provided by enclosures **IK** code

Degrees of protection against mechanical impact

The European standard EN 50102 dated March 1995 defines a coding system (IK code) for indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.

Standard NF C 15-100 (May 1991 edition), section 512, table 51 A, provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors

Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

IK ● code

The IK code comprises 2 characteristic numerals (e.g. IK 05).

2 characteristic numerals:

corresponding to a value of impact energy.

		h (cm)	Energy (J)
00	Non-protected		
01	0,2 kg	7.5	0.15
02	† h	10	0.2
03		17.5	0.35
04		25	0.5
05		35	0.7
06	0,5 kg	20	1
07	h	40	2
08	1,7 kg	30	5
09	5 kg	20	10
10	h	40	20

^		Y91M20KB240B		YQ4N20ND240D	74	VC/D00MA222		VQ4D20DD270	
A DA FILIA 042 FIL	400	XS1M30KP340D XS1M30KPM40	121	XS1N30NB349D XS1N30NC410	74 62	XS4P08MA230 XS4P08MA230K	66 66	XS4P30PB370 XS7C1A1CAL01M12	66 48
AB1FU10135U	128								
V		XS1M30KPM40LD	121	XS1N30NC410D	62	XS4P08MB230	66	XS7C1A1CAL08M12	48
X		XS1M30MA250	60	XS1N30PA349	74	XS4P08MB230K	66	XS7C1A1DAL01M12	48
XS1L04NA310S	76	XS1M30MA250K	60	XS1N30PA349D	74	XS4P08NA340	66	XS7C1A1DAL2	48
XS1L04NA311	76	XS1M30MB250	60	XS1N30PB349	74	XS4P08NA370	66	XS7C1A1DAM8	48
XS1L04NA311S	76	XS1M30MB250K	60	XS1N30PB349D	74	XS4P08NB340	66	XS7C1A1DBL01M12	4
XS1L04NB310	76	XS1M30PAW01D	117	XS1N30PC410	62	XS4P08NB370	66	XS7C1A1DBL2	48
XS1L04NB310S	76	XS1N05NA310	76	XS1N30PC410D	62	XS4P08PA340	66	XS7C1A1DBM8	48
XS1L04NB311	76	XS1N05NA311	76	XS2L2SANAL2	98	XS4P08PA370	66	XS7C1A1NAL01M12	4
XS1L04NB311S	76	XS1N05NA311S	76	XS2L2SANAM12	98	XS4P08PB340	66	XS7C1A1NAL2	48
XS1L04PA310	76	XS1N05NB310	76	XS2L2SAPAL2	98	XS4P08PB370	66	XS7C1A1NAM8	4
XS1L04PA310S	76	XS1N05NB311	76	XS2L2SAPAM12	98	XS4P12AB110	87	XS7C1A1NBL01M12	4
XS1L04PA311	76	XS1N05NB311S	76	XS2L06NA340	76	XS4P12AB120	87	XS7C1A1NBL2	4
XS1L04PA311S	76	XS1N05PA310	76	XS2L06NA340D	76	XS4P12KP340	64	XS7C1A1NBM8	4
XS1L04PB310	76	XS1N05PA311	76	XS2L06NA340S	76	XS4P12KP340D	64	XS7C1A1PAL01M12	4
XS1L04PB310S	76	XS1N05PA311S	76	XS2L06NB340	76	XS4P12MA230	66	XS7C1A1PAL2	4
XS1L04PB311	76	XS1N05PB310	76	XS2L06NB340D	76	XS4P12MA230K	66	XS7C1A1PAM8	4
XS1L04PB311S	76	XS1N05PB311	76	XS2L06NB340S	76	XS4P12MB230	66	XS7C1A1PBL01M12	4
XS1L06NA349	74	XS1N05PB311S	76	XS2L06PA340	76	XS4P12MB230K	66	XS7C1A1PBL2	4
XS1L06NA349D	74	XS1N08NA349	74	XS2L06PA340D	76	XS4P12NA340	66	XS7C1A1PBM8	4
XS1L06NA349S	74	XS1N08NA349D	74	XS2L06PA340S	76	XS4P12NA370	66	XS7C40DA210	5
XS1L06NB349	74	XS1N08NA349S	74	XS2L06PB340	76	XS4P12NB340	66	XS7C40DP210	5
XS1L06NB349S	74	XS1N08NB349	74	XS2L06PB340D	76	XS4P12NB370	66	XS7C40FP260	5
XS1L06NC410	62	XS1N08NB349D	74	XS2L06PB340S	76	XS4P12PA340	66	XS7C40KPM40	12
XS1L06PA349	74	XS1N08NB349S	74	XS2M08NC410	62	XS4P12PA370	66	XS7C40MP230	5
XS1L06PA349D	74	XS1N08PA349	74	XS2M08NC410D	62	XS4P12PB340	66	XS7C40NC440	5
XS1L06PA349S	74	XS1N08PA349D	74	XS2M08PC410	62	XS4P12PB370	66	XS7C40NC449	5.
XS1L06PB349	74	XS1N08PA349S	74	XS2M08PC410D	62	XS4P18AB110	88	XS7C40PC440	5.
	74	XS1N08PB349	74	XS2M12KP340	64	XS4P18AB120	88	XS7C40PC449	54
XS1L06PB349S		XS1N08PB349D	74	XS2M12KP340D	64	XS4P18KP340	64	XS7D1A1CAM12	48
XS1L06PC410	62	XS1N08PB349S	74	XS2M12KF340D XS2M12MA250	60	XS4P18KP340D	64	XS7D1A1DAL2	48
XS1M08NC410	62		74	XS2M12MA250K	60	XS4P18MA230	66	XS7D1A1DAL2	48
XS1M08NC410D	62	XS1N12NA349							
XS1M08PC410	62	XS1N12NA349D	74 74	XS2M12MB250	60	XS4P18MA230K	66	XS7D1A1DBL2	4
XS1M08PC410D	62	XS1N12NB349		XS2M12PAW01D	117	XS4P18MB230	66	XS7D1A1DBM12	
XS1M12AB120	87	XS1N12NB349D	74	XS2M18KP340	64	XS4P18MB230K	66	XS7D1A1NAL2	4
XS1M12KP340	64	XS1N12NC410	62	XS2M18KP340D	64	XS4P18NA340	66	XS7D1A1NAM12	4
XS1M12KP340D	64	XS1N12NC410D	62	XS2M18MA250	60	XS4P18NA370	66	XS7D1A1NBL2	4
XS1M12MA250	60	XS1N12PA349	74	XS2M18MA250K	60	XS4P18NB340	66	XS7D1A1NBM12	4
XS1M12MA250K	60	XS1N12PA349D	74	XS2M18MB250	60	XS4P18NB370	66	XS7D1A1PAL2	4
XS1M12MB250	60	XS1N12PB349	74	XS2M18MB250K	60	XS4P18PA340	66	XS7D1A1PAM12	4
XS1M12MB250K	60	XS1N12PB349D	74	XS2M30KP340	64	XS4P18PA370	66	XS7D1A1PBL2	4
XS1M12PAW01D	116	XS1N12PC410	62	XS2M30KP340D	64	XS4P18PB340	66	XS7D1A1PBM12	4
XS1M18AB120	88	XS1N12PC410D	62	XS2M30MA250	60	XS4P18PB370	66	XS7D1A3CAM12DIN	11.
XS1M18KP340	64	XS1N18NA349	74	XS2M30MA250K	60	XS4P30AB110	89	XS7E1A1CAL01M12	4
XS1M18KP340D	64	XS1N18NA349D	74	XS2M30MB250	60	XS4P30AB120	89	XS7E1A1CAL08M12	4
XS1M18KPM40	120	XS1N18NB349	74	XS2M30MB250K	60	XS4P30KP340	64	XS7E1A1DAL01M12	4
XS1M18KPM40D	120	XS1N18NB349D	74	XS2N12NC410	62	XS4P30KP340D	64	XS7E1A1DAL2	4
XS1M18MA250	60	XS1N18NC410	62	XS2N12NC410D	62	XS4P30MA230	66	XS7E1A1DAM8	4
XS1M18MA250K	60	XS1N18NC410D	62	XS2N12PC410	62	XS4P30MA230K	66	XS7E1A1DBL01M12	4
XS1M18MB250	60	XS1N18PA349	74	XS2N12PC410D	62	XS4P30MB230	66	XS7E1A1DBL2	4
XS1M18MB250K	60	XS1N18PA349D	74	XS2N18NC410	62	XS4P30MB230K	66	XS7E1A1DBM8	4
XS1M18PAS20	126	XS1N18PB349	74	XS2N18NC410D	62	XS4P30NA340	66	XS7E1A1NAL01M12	4
XS1M18PAS20D	127	XS1N18PB349D	74	XS2N18PC410	62	XS4P30NA370	66	XS7E1A1NAL2	4
		XS1N18PC410	62	XS2N18PC410D	62	XS4P30NB340	66	XS7E1A1NAM8	4
XS1M18PAS40	126	XS1N18PC410D	62	XS2N30NC410	62	XS4P30NB370	66	XS7E1A1NBL01M12	4
XS1M18PAS40D	127	XS1N30NA349		XS2N30NC410D				XS7E1A1NBL01M12	
		AG HIJUNAJ49	74	A321430140410D	62	XS4P30PA340	66	AG/ E IM INDL/	4
XS1M18PAW01D	116		74		60				
	89	XS1N30NA349D XS1N30NB349	74 74	XS2N30PC410 XS2N30PC410D	62 62	XS4P30PA370 XS4P30PB340	66 66	XS7E1A1NBM8 XS7E1A1PAL01M12	4



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XSPETAIPPILE										
XXXPELAIPENDA 46 XSSECAMPEZO 56 XSSETIANDALONIS 46 XSSECAMOCAGO 54 XSSETIANDALONIS 26 XSSECAMOCAGO 54 XSSETIANDALONIS 26 XSSTEALDALONIS 34 XSSECAMOCAGO 54 XSSETIANDALONIS 26 XSSECAMOCAGO 54 XSSETIANDALONIS 34 XSSECAMOCAGO 54 XSSETIANDALONIS 34 XSSECAMOCAGO 54 XSSETIANDALONIS 34 XSSECAMOCAGO 54 XSSETIANDALONIS 34 XSSECAMOCAGO 34 <	XS7E1A1PBL01M12		XS8C40DP210		XS9D111A2L2		XS112B3NAM12TQ		XS130BLPBM12	
XSPT-FIADLEUTIME 46 XSBC-GMC-L49 54 XSBETHRPBLOTIMIZ 65 XST128BPALZ 34 XS209ALPALZ 68 XSST-FIADLEUTIME 46 XSBC-GMC-L49 54 XSBETHIALLEUTIMIZ 67 XST128BPALT 34 XS209BLAALZ 70 XSST-FIADLEUTIME 46 XSBC-GMC-L49 54 XSBETHIALLEUTIMIZ 67 XST128BPALTIME 34 XS209BLAALZ 70 XSST-FIADLEUTIME 46 XSBC-GMC-L49 54 XSBETHIALLEUTIMIZ 67 XST128BPALTIME 34 XS209BLAALZ 70 XSST-FIADLEUTIME 46 XSBC-GMC-L49 54 XSBC-FIADLEUTIMIZ 67 XST128BPALTIME 34 XS209BLAALZ 70 XSST-FIADLEUTIME 46 XSBC-FIADLEUTIMIZ 67 XSST-FIADLEUTIME 47 XS	XS7E1A1PBL2	48	XS8C40FP260	56	XS9D111A2M12	93	XS112B3NBL2	34	XS208ALNAL2	68
XSPT-FAIDBLE	XS7E1A1PBM8	48	XS8C40MP230	56	XS9E11RMBL01U20	85	XS112B3NBM12	34	XS208ALNBL2	68
XSTF1A1DBL0TMB 46 XSBC40PC449 54 XSBC41PC420 55 XSBET1A1L2 97 XS17EADBL71 34 XS20BBLNAM2 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBET1A1L2 97 XS17EBPAN12 34 XS20BBLNAM6 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBET1A1L2 97 XS112BSPBN12 34 XS20BBLNAM6 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBET1A1LC1MB 97 XS112BSPBN12 34 XS20BBLNAM6 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBET1A1LC1MB 97 XS112BSPBN12 34 XS20BBLNAM6 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBET1A1LC1MB 97 XS112BSPBN12 34 XS20BBLNBL 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBFTTA1ALC1MB 93 XS112BSPBN12 70 XS20BBLNBL 77 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBFTTA1ALC1MB 93 XS112BSPBN12 70 XS20BBLNBL 77 XS20BBLNBM12 70 XSFTFA1NAL0TMB 46 XSBD1ATMAL2 80 XSBD1ATMAL2	XS7F1A1DAL01M8	46	XS8C40NC440	54	XS9E11RPBL01M12	85	XS112B3PAL2	34	XS208ALPAL2	68
XXXFTAIADBL2 46 XSBCHAIALDIMM12 30 XS112BARMATTQ 34 XS20BRIAMM2 70 XXXFTAIALDIMM 46 XSBDIAIMALIZ 40 XSSDIAIMALIZ 40 XSSDIAIMALIZ 40 XSSDIAIMALIZ 40 XSSDIAIMALIZ 40 XSSDIAIMALIZ 70 XSSTEAINBLOIMM 40 XSSDIAIMALIZ 70 XSSDIAIMALIZ 70 <t< td=""><td>XS7F1A1DAL2</td><td>46</td><th>XS8C40NC449</th><td>54</td><th>XS9E111A1L01M12</th><td>91</td><th>XS112B3PAL2TQ</th><td>34</td><th>XS208ALPBL2</th><td>68</td></t<>	XS7F1A1DAL2	46	XS8C40NC449	54	XS9E111A1L01M12	91	XS112B3PAL2TQ	34	XS208ALPBL2	68
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XXXFTAINBLOIMB 40 XSSDIAMMALQ 80 XSSFTIAINBLOIMB 97 XSTIEASPBMIZ 34 XS208BLNBLZ 70 XSFTIAINBLOIMB 46 XSBDIAIMBLQ 80 XSSFTIAINBLQ 97 XSTIEASPBMIZTQ 34 XS208BLNBMB 70 XSFTIAIPALOIMB 46 XSBDIAIMBLQ 80 XSSFTIAIPALQ 93 XSTIEABLALQ 70 XS208BLPAME 70 XSFTIAIPALQ 46 XSBDIAINBLQ 80 XS166BSNAMS 34 XSTIEABLANIZ 70 XS208BLPAME 70 XSFTIAIPALQ 46 XSBDIAIPALQ 80 XS166BSNAMS 34 XS112BLBAHQ 70 XS208BLPAME 70 XSTG12MA230 110 XSBDIAIPALQ 80 XS166BSNAMS 34 XS112BLBAHQ 70 XS208BLPBMS 70 XSTG12MA230 100 XSBDIAIPBMIQ 80 XS166BSNAMS 34 XS112BLBAHQ 70 XS208BLPBMS 70 XSTG12MA10S 100 XSBDIAIPBMIQ 80 XS166BSNAMS 34 XS1	XS7F1A1DBL2	46	XS8C40PC449	54	XS9E111A2L01M12	93	XS112B3PAM12TQ	34	XS208BLNAM8	70
XSSTFIAINBLIMB 46 XSSDIAIMBLIZ 80 XSSPFIIAIDLI 97 XSSTEAINBLIZ 34 XSSDBAINBMB 70 XSSTFIAINBLIMBLZ 46 XSSDIAIMBLZ 80 XSSPFIIAIDLIMB 93 XSTIZBIARIZ 70 XSZDBBLINBMB 70 XSFFIAIPBLIMB 46 XSBDIAINALZ 80 XS9FIAIDLIMB 33 XS112BLHABILZ 70 XSZDBBLPAILZ 70 XSZDBBLPBILZ 70 XSZDBBLPBILZ <th< td=""><td>XS7F1A1NAL01M8</td><td>46</td><th>XS8D1A1MAL2</th><td>80</td><th>XS9E111A2L2</th><td>93</td><th>XS112B3PBL2</th><td>34</td><th>XS208BLNAM12</th><td>70</td></th<>	XS7F1A1NAL01M8	46	XS8D1A1MAL2	80	XS9E111A2L2	93	XS112B3PBL2	34	XS208BLNAM12	70
XSSFFIANDLIQ 46 XSSDIAMBUZO 80 XSSFFIANDLIQUE 37 XSSTEALPALOTIMB 47 XSSTEALPALOTIMB 46 XSSDIAMINALIZ 80 XSSFFIANDLIQ 30 XSSTEALPALOTIMA 70 XSZOBBLPAMIZ	XS7F1A1NAL2	46	XS8D1A1MAU20	80	XS9F111A1L01M8	91	XS112B3PBM12	34	XS208BLNBL2	70
XSSTFIAIPALD188 46 XSDIAINAL2 80 XSSPIAIPAL2 37 XS12BLNAL2 70 XS208BLPAM2 70 XSSFFIAIPBLIMB 46 XSSDIAINBMI2 80 XS106BSNAL2 34 XS112BLNBLIZ 70 XS206BLPAMI2 70 XSSFFIAIPBLIMBIA 46 XSSDIAINBMIZ 80 XS106BSNBLZ 34 XS112BLNBMIZ 70 XS206BLPAMIZ 70 XSFFIAIPBLIMBIA 46 XSSDIAIPBLAZ 80 XS106BSNBLZ 34 XS112BLNBMIZ 70 XS206BLPBMIZ 70 XSF712MAID 100 XSSDIAIPBMIZ 80 XS106BSPAMIZ 34 XS112BLPBMIZ 70 XS208BLPBMIZ 70 XSF712MAID 100 XSSBIAIPBMIZ 80 XS106BSPAMIZ 34 XS112BLPBMIZ 70 XS212AANAMIZ 102 XSF714ADLAID 100 XSSBIAIMBLAUT 80 XS106BSPAMIZ 34 XS11BBSMALZ 35 XS212AANAMIZ 102 XSF71ATADAL 100 XSSBIATAMBLOTIMIZ 80 XS106BSPAMIZ 3	XS7F1A1NBL01M8	46	XS8D1A1MBL2	80	XS9F111A1L2	91	XS112B3PBM12TQ	34	XS208BLNBM8	70
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/ /	XS508B1DAM12	29	XS512BSDAL2	28	XS530B1NAM12	24	XS612B2NAL01M12	7
71	XS508B1DBL2	29	XS512BSDAM12	28	XS530B1NBL2	24	XS612B2NBL01M12	7
71	XS508B1DBM12	29	XS512BSDBL2	28	XS530B1NBM12	24	XS612B2PAL01M12	7
71	XS508B1NAL2	24	XS512BSDBM12	28	XS530B1PAL2	24	XS612B2PBL01M12	7
71	XS508B1NAM8	24	XS518B1CAL08M12	29	XS530B1PAM12	24	XS612B3DAL2	3
71	XS508B1NAM12	24	XS518B1CAM12	29	XS530B1PBL2	24	XS612B3DAM12	3
00	XS508B1NBL2	24	XS518B1DAL01B	29	XS530B1PBM12	24	XS612B3DBL2	3
00	XS508B1NBM8	24	XS518B1DAL01C	29	XS530BLNAL2	25	XS612B3DBM12	3
	XS508B1NBM12	24	XS518B1DAL01G	29	XS530BLNAM12	25	XS612B4NAL2	4
98	XS508B1PAL2	24	XS518B1DAL2	29	XS530BLNBL2	25	XS612B4NAM12	4
98	XS508B1PAM8	24	XS518B1DAL2TF	29	XS530BLNBM12	25	XS612B4NBL2	4
98	XS508B1PAM12	24	XS518B1DAM12	29	XS530BLPAL2	25	XS612B4NBM12	4
04	XS508B1PBL2	24	XS518B1DBL01B	29	XS530BLPAM12	25	XS612B4PAL2	4
04	XS508B1PBM8		XS518B1DBL2	29	XS530BLPBL2	25	XS612B4PAM12	4
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			XS518BLNAL2					4
71	XS512B1CAM12	29	XS518BLNAM12	25	XS608B1DBM12	38	XS618B1MBU20	4
	XS512B1DAL2		XS518BLNBL2	25	XS608B1NAL2	36	XS618B1NAL01B	3
	XS512B1DAL08U78	29	XS518BLNBM12	25	XS608B1NAM12	36	XS618B1NAL01C	3
71	XS512B1DAM12	29	XS518BLPAL2	25	XS608B1NBL2	36	XS618B1NAL2	3
71	XS512B1DBL2	29	XS518BLPAM12	25	XS608B1NBM12	36	XS618B1NAM12	3
00	XS512B1DBL08M12	29	XS518BLPBL2	25	XS608B1PAL2	36	XS618B1NBL01B	3
00	XS512B1DBM12	29	XS518BLPBM12	25	XS608B1PAM12	36	XS618B1NBL01C	3
98	XS512B1MAL2	32	XS518BSCAL08M12	28	XS608B1PBL2	36	XS618B1NBL2	3
98	XS512B1MAU20	32	XS518BSCAM12	28	XS608B1PBM12	36	XS618B1NBM12	3
98	XS512B1MBL2	32	XS518BSDAL2	28	XS608B3CAL01M12	38	XS618B1PAL01B	3
98	XS512B1MBU20	32	XS518BSDAM12	28	XS608B3CAL2	38	XS618B1PAL01C	3
24	XS512B1NAL2	24	XS518BSDBL2	28	XS608B3CBL01M12	38	XS618B1PAL01G	3
24	XS512B1NAM12	24	XS518BSDBM12	28	XS608B3CBL2	38	XS618B1PAL2	3
24	XS512B1NBL2	24	XS530B1CAL08M12	29	XS612B1DAL2	38	XS618B1PAM12	3
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24	XS512B1PAM12	24	XS530B1DAL01C	29	XS612B1DBM12	38	XS618B1PBL2	3
24	XS512B1PBL2	24	XS530B1DAL01G	29	XS612B1MAL2	40	XS618B1PBM12	3
24	XS512B1PBM12	24	XS530B1DAL2	29	XS612B1MAU20	40	XS618B2NAL01M12	7
24	XS512BLNAL2	25	XS530B1DAL2TF	29	XS612B1MBL2	40	XS618B2NBL01M12	7
25	XS512BLNAM12			29				7
25	XS512BLNBL2	25		29		36	XS618B2PBL01M12	7
	XS512BLNBM12							3
								3
								3
								3
								4
29	XS512BSCAL08M12	28	XS530B1MBU20	32	XS612B1PBL2	36	XS618B4MAU20	4
	71 71 71 71 71 71 71 71 71 71 71 71 71 7	71 XS508B1DBM12 71 XS508B1NAL2 71 XS508B1NAM8 71 XS508B1NAM12 70 XS508B1NBM8 71 XS508B1NBM8 72 XS508B1NBM8 73 XS508B1NBM8 74 XS508B1PAM8 75 XS508B1PAM12 76 XS508B1PAM12 76 XS508B1PBM8 76 XS508B1PBM8 76 XS508B1PBM12 76 XS508B1NBL2 76 XS508BLNBL2 76 XS508BLPAL2 76 XS508BLPAL2 76 XS508BLPAL2 76 XS508BLPBM12 76 XS508BSCAL01M12 77 XS508BSCAL08M12 77 XS508BSCBL2 77 XS512B1CAM12 77 XS512B1DAL2 77 XS512B1DAL2 78 XS512B1DBL2 79 XS512B1DBL2 70 XS512B1DBL2 71 XS512B1MBL2	71 XS508B1DBM12 29 71 XS508B1NAL2 24 71 XS508B1NAM8 24 71 XS508B1NBM12 24 70 XS508B1NBM8 24 70 XS508B1NBM8 24 70 XS508B1NBM8 24 70 XS508B1PAM8 24 70 XS508B1PAM12 24 70 XS508B1PBM8 24 70 XS508B1PBM8 24 70 XS508B1PBM12 24 70 XS508BLNAL2 25 70 XS508BLNAM12 25 70 XS508BLNBM12 25 70 XS508BLPAL2 25 70 XS508BLPAL2 25 68 XS508BLPAL2 25 68 XS508BLPAL2 25 68 XS508BSCAL01M12 28 71 XS508BSCAL08M12 28 71 XS512B1CAM12 29 71 XS512B1DAL2 29 <	771 XS508B1DBM12 29 XS512BSDBL2 771 XS508B1NAL2 24 XS512BSDBM12 771 XS508B1NAM8 24 XS518B1CAL08M12 771 XS508B1NAM12 24 XS518B1CAL08M12 772 XS508B1NBM12 24 XS518B1DAL01G 773 XS508B1NBM12 24 XS518B1DAL01G 774 XS508B1PBM8 24 XS518B1DAL01G 775 XS508B1PAM8 24 XS518B1DAL12 776 XS508B1PAM8 24 XS518B1DAL12 776 XS508B1PBM8 24 XS518B1DBL01B 772 XS508B1PBM12 24 XS518B1DBL01B 772 XS508B1PBM12 24 XS518B1DBL01B 772 XS508BLNBM12 25 XS518B1DBL01B 772 XS508BLNBM12 25 XS518B1DBL02B 772 XS508BLNBM12 25 XS518B1MBL2B 772 XS508BLPAL2 25 XS518B1MBL2B 773 XS508BLPAL2 25 XS518B1MBL2B	771 XSS08B1DBM12 29 XS512BSDBL2 28 771 XSS08B1NAL2 24 XS512BSDBM12 28 771 XSS08B1NAM8 24 XS518B1CAM12 29 771 XS508B1NBM12 24 XS518B1DAL01B 29 700 XS508B1NBM2 24 XS518B1DAL01C 29 98 XS508B1PAL2 24 XS518B1DAL01G 29 98 XS508B1PAM8 24 XS518B1DAL2 29 98 XS508B1PAM8 24 XS518B1DAL2 29 98 XS508B1PBM8 24 XS518B1DBL2 29 98 XS508B1PBM8 24 XS518B1DBL01B 29 902 XS508B1PBM2 24 XS518B1DBL2 29 902 XS508BLPBM2 24 XS518B1DBL08M12 29 902 XS508BLNBM12 25 XS518B1MBL2 32 902 XS508BLNBM12 25 XS518B1MBL2 32 902 XS508BLNBM12 25 XS518B1	771 XS508B1DBM12 29 XS512BSDBL2 28 XS530B1NBL2 24 XS508B1NAL2 24 XS508B1NAL2 24 XS512BSDBM12 28 XS530B1PAL2 27 XS508B1NAMB 24 XS518B1CAL08M12 29 XS530B1PBL2 24 XS508B1NBL2 24 XS518B1DAL01B 29 XS530B1NBL2 24 XS518B1DAL01B 29 XS530BLNAM12 28 XS508B1NBL2 24 XS518B1DAL01G 29 XS530BLNBM12 24 XS518B1DAL2TF 29 XS530BLNBM12 24 XS518B1DAL2TF 29 XS530BLNBM12 24 XS518B1DAL2TF 29 XS530BLNBM12 24 XS518B1DAL12 29 XS530BLNBM12 24 XS518B1DBL12 29 XS530BLPAL2 20 XS508B1PBM2 24 XS518B1DBL12 29 XS530BLPAL2 20 XS508B1PBM8 24 XS518B1DBL12 29 XS530BLPAM12 22 XS530BLPAM12 29 XS530BLPAM12 24 XS508B1PBM12 29 XS530BSDAL2 20 XS508BLPAM12 25 XS518B1MBL2 29 XS530BSDA	77 XS508B1DBM12 29 XS512BSDBL2 28 XS530B1NBM12 24 77 XS508B1NAMB 24 XS512BSDBM12 29 XS530B1PAL2 24 77 XS508B1NAMB 24 XS518B1CAL08M12 29 XS530B1PBM12 24 70 XS508B1NBM2 24 XS518B1DAL01B 29 XS530B1PBM12 24 98 XS508B1PAL2 24 XS518B1DAL01C 29 XS530BLNBL2 25 98 XS508B1PAL2 24 XS518B1DAL01C 29 XS530BLNBL2 25 98 XS508B1PAL2 24 XS518B1DAL2 29 XS530BLNBL2 25 98 XS508B1PAM6 24 XS518B1DAL2 29 XS530BLPAL2 25 98 XS508B1PBM8 24 XS518B1DAL2 29 XS530BLPAL2 25 90 XS508B1PBM2 24 XS518B1DBM12 29 XS530BLPAL2 25 92 XS508BLPAL2 25 XS518B1BMB12 29 XS530BSDAL2 <td< td=""><td>77 XSS0BHIDBM12 29 XSS12BSDBL2 28 XSS30BHNBM12 24 XSS12BZPALDIMIT2 77 XSS0BBHNAMB 24 XSS10BHCALOBMIT2 29 XSS30BHNBM12 24 XSS12BSLALDIMIT2 77 XSS0BBHNAMI 24 XSS1BBHCALDIDID 29 XSS30BHPBL2 24 XSS12BSDALDID 00 XSS0BBHNBMS 24 XSS1BBHDALOIC 29 XSS30BHNBM2 24 XSS1BBHDALOIC 29 XSS30BLNAL2 25 XSS12BHAL2 98 XSS0BBHPBAB 24 XSS1BBHDALOIC 29 XSS30BLNAMI2 25 XSS12BHAL2 98 XSS0BBHPABB 24 XSS1BBHDALT 29 XSS30BLNAMI2 25 XSS12BHAB 98 XSS0BBHPABB 24 XSS1BBHDALT 29 XSS30BLPAL2 25 XSS12BHAB 90 XSS0BBHPBAB 24 XSS1BBHDBAB 29 XSS30BLPAL2 25 XSS12BHAB 90 XSS0BBHPBAB 24 XSS1BBHDBAB 29 <t>XSS30BLPAB 25 XSS12BHAB</t></td></td<>	77 XSS0BHIDBM12 29 XSS12BSDBL2 28 XSS30BHNBM12 24 XSS12BZPALDIMIT2 77 XSS0BBHNAMB 24 XSS10BHCALOBMIT2 29 XSS30BHNBM12 24 XSS12BSLALDIMIT2 77 XSS0BBHNAMI 24 XSS1BBHCALDIDID 29 XSS30BHPBL2 24 XSS12BSDALDID 00 XSS0BBHNBMS 24 XSS1BBHDALOIC 29 XSS30BHNBM2 24 XSS1BBHDALOIC 29 XSS30BLNAL2 25 XSS12BHAL2 98 XSS0BBHPBAB 24 XSS1BBHDALOIC 29 XSS30BLNAMI2 25 XSS12BHAL2 98 XSS0BBHPABB 24 XSS1BBHDALT 29 XSS30BLNAMI2 25 XSS12BHAB 98 XSS0BBHPABB 24 XSS1BBHDALT 29 XSS30BLPAL2 25 XSS12BHAB 90 XSS0BBHPBAB 24 XSS1BBHDBAB 29 XSS30BLPAL2 25 XSS12BHAB 90 XSS0BBHPBAB 24 XSS1BBHDBAB 29 <t>XSS30BLPAB 25 XSS12BHAB</t>



XS618B4MBU20	44	XS908R4PAM12	106	XSZB118	24	XSZE218	128
XS618B4NAL2	42	XS908R4PAM12	107		25 28	XSZE230	128
XS618B4NAM12	42	XS912R1PAM12	106		29	XSZE308	128
XS618B4NBL2	42	XS912R1PAM12	107		32 35	XSZE312	128
XS618B4NBM12	42	XS912R4PAM12	106		36	XSZE318	128
XS618B4PAL2	42	XS912R4PAM12	107		38	XSZE330	128
XS618B4PAM12	42	XS912RWPAM12	114		40 42	XSZF10	128
XS618B4PBL2	42	XS912RWPAM12	115		44	XSZP112	128
XS618B4PBM12	42	XS912S1PAM12	96		60		
XS630B1DAL2	38	XS912S1PAM12	97		62 64	XSZP118	128
XS630B1DAM12	38	XS912S4PAM12	96		68	XSZP130	128
XS630B1DBL2	38	XS912S4PAM12	97		71 74	XSZPE13	128
XS630B1DBM12	38	XS918R1PAM12	106		74 78	XSZPKC2	123
XS630B1MAL01B	40	XS918R1PAM12	107		102	XSZPSC2	123
XS630B1MAL01C	40	XS918R4PAM12	106		104 128	XSZVF03	128
XS630B1MAL01G	40	XS918R4PAM12	107	XSZB130	24	XSZVF04	128
XS630B1MAL2	40	XS918RWPAM12	114	AGED 100	25	XSZVF05	128
XS630B1MAU20	40				28	XTAZ30	128
XS630B1MBL01B	40	XS918RWPAM12	115		29 32	XUZA118	96
XS630B1MBL01C	40	XS918S1PAM12	96		35		98
XS630B1MBL01G	40	XS918S1PAM12	97		36 38		100
XS630B1MBL2	40	XS918S4PAM12	96		40	XUZB32	128
XS630B1MBU20	40	XS918S4PAM12	97		42	XUZB2005	98
XS630B1NAL01B	36	XS930R1PAM12	106		44 60	XUZE04	128
XS630B1NAL01C	36	XS930R1PAM12	107		62	XUZE06	128
XS630B1NAL2	36	XS930R4PAM12	106		64	XUZE08	128
XS630B1NAM12	36	XS930R4PAM12	107		68 71	XZCP1141L2	106
XS630B1NBL01B	36	XS930S1PAM12	96		74		114
XS630B1NBL01C	36	XS930S1PAM12	97		78 102	XZCP1141L5	106
XS630B1NBL2	36	XS930S4PAM12	96		104		114
XS630B1NBM12	36	XS930S4PAM12	97		128	XZCP1141L10	106 114
XS630B1PAL01B	36	XSAV11373	83	XSZB165	24 25	V7CD4044L0	
XS630B1PAL01C	36	XSAV11801	83		28	XZCP1241L2	106 114
XS630B1PAL01G	36	XSAV12373	83		35	XZCP1241L5	106
XS630B1PAL2	36	XSAV12801	83		38 71		114
XS630B1PAM12	36	XSCZ01	128		74	XZCP1241L10	106
XS630B1PBL01B	36	XSZA020	128		128		114
XS630B1PBL01C	36	XSZA034	128	XSZBC00	128	XZCPA1141L2	96
XS630B1PBL01G	36	XSZB104	128	XSZBC10	128		98 102
XS630B1PBL2	36	XSZB105	128	XSZBC90	128	XZCPA1141L5	96
XS630B1PBM12	36	XSZB108	24	XSZBD10	128	ALGI ATTATES	98
XS630B2NAL01M12	78		25	XSZBE00	128		102
XS630B2NBL01M12	78		28 29	XSZBE10	128	XZCPA1141L10	96
XS630B2PAL01M12	78		29 35	XSZBE90	128		98 102
XS630B2PBL01M12	78		36	XSZBF00	128	XZCPA1241L2	96
XS630B3DAL2	38		38 62	XSZBF90	128	ALOI A IL TILL	98
XS630B3DAM12	38		68				102
XS630B3DBL2	38		71 74	XSZBJ00	128	XZCPA1241L5	96
XS630B3DBM12	38		128	XSZBJ90	128		98 102
XS630B4MAL2	44	XSZB112	24	XSZBPM12	78 85	XZCPA1241L10	96
XS630B4MAU20	44	XOZD11Z	25		128	ALGI ATLATETO	98
XS630B4MBL2	44		28	XSZBS12	96		102
XS630B4MBU20	44		29 32		98	XZCPA1865L5	100
XS630B4NAL2	42		35	XSZBS30	96	V70D44007140	104
XS630B4NAM12	42		36 38		98 100	XZCPA1865L10	100 104
XS630B4NBL2	42		40	XSZE105	128	XZCPA1965L5	100
XS630B4NBM12	42		42 60			AEO! A 1800E8	100
XS630B4PAL2	42		60 62	XSZE108	128	XZCPA1965L10	100
XS630B4PAM12	42		64	XSZE112	128		104
XS630B4PBL2	42		68 71	XSZE118	128	XZCRA151140A2	98
XS630B4PBM12	42		74	XSZE130	128		102
XS908R1PAM12	106		78 102	XSZE208	128	XZCRA151140A5	98 102
							111/
XS908R1PAM12	107		128	XSZE212	128		



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