Helping you to find the most efficient solution

The inductive detection function at the best possible price

The ever increasing needs of machine manufacturers relating to functions required for increased range inductive detection have led us to introduce this new offer which fully meets your requirements.

> Easy to install:

Contributes to machine compactness
Wider adjustment range

> Economical:

Increase the profitability of your solution

> Reliable and readily available:

Contributes to machine performance

Contents

Cylindrical inductive proximity sensors

Presentation	p 2 et 3
Selection guide	p 4 et 5
Basic, increased range	p 6 à 8
Basic, plastic, standard range	p 10 et 11
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Make the most of your energy

> Contributes to machine compactness

Easy to install:

Compact product (short), easier integration in the machine

- Increased range (x2), sensing distance easier to adjust,
- All standard diameters (complete range, from Ø 6.5 to Ø 30),
- Overall size to the most demanding dimension standards on the market.

+100%

of the sensing distance for flush mountable models



> Increase the profitability of your solution

Economical:

- “Machine manufacturers” products without loss of Schneider Electric quality
- Sold in lots, easier unpacking and reduced carton disposal
- Packaged to suit industrial ordering quantities



-75%

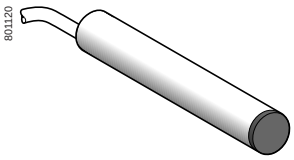
packaging for environmental friendliness and making life easier

Inductive proximity sensors

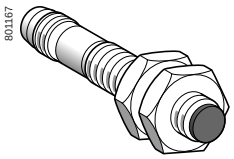
Osiprox® Technology

Basic, cylindrical, flush mountable, increased range

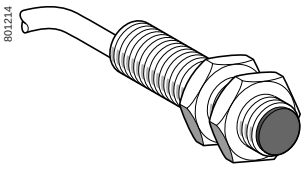
Three-wire d.c. Solid-state output



XS1 06B3●●L2



XS1 08B3●●M8



XS1 12B3●●L2

Sensing distance Sn (mm)	Function	Output	Connection	Sold in minimum lots of	Unit reference	Weight kg
Ø 6.5, plain						
Three-wire ⎓ 12-24 V, flush mountable						
2	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 06B3PAL2**	0.060
			M8 connector	**1**	**XS1 06B3PAM8**	0.030
			M12 connector	**1**	**XS1 06B3PAM12**	0.050
			Pre-cabled (L = 2 m)	**20**	**XS1 06B3PAL2TQ**	0.980
			M8 connector	**20**	**XS1 06B3PAM8TQ**	0.320
		NPN	Pre-cabled (L = 2 m)	**1**	**XS1 06B3NAL2**	0.060
			M8 connector	**1**	**XS1 06B3NAM8**	0.030
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 06B3PBL2**	0.060
			M8 connector	**1**	**XS1 06B3PBM8**	0.030
Ø 8, threaded M8 x 1						
Three-wire ⎓ 12-24 V, flush mountable						
2	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 08B3PAL2**	0.070
			M8 connector	**1**	**XS1 08B3PAM8**	0.030
			M12 connector	**1**	**XS1 08B3PAM12**	0.060
			Pre-cabled (L = 2 m)	**20**	**XS1 08B3PAL2TQ**	1.120
			M8 connector	**20**	**XS1 08B3PAM8TQ**	0.460
			M12 connector	**20**	**XS1 08B3PAM12TQ**	0.940
		NPN	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 08B3NAL2**	0.070
			M8 connector	**1**	**XS1 08B3NAM8**	0.030
			M12 connector	**1**	**XS1 08B3NAM12**	0.060
			Pre-cabled (L = 2 m)	**20**	**XS1 08B3NAL2TQ**	1.120
			M8 connector	**20**	**XS1 08B3NAM8TQ**	0.460
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 08B3PBL2**	0.070
			M8 connector	**1**	**XS1 08B3PBM8**	0.030
			M12 connector	**1**	**XS1 08B3PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 08B3NBL2**	0.070
			M8 connector	**1**	**XS1 08B3NBM8**	0.030
			M12 connector	**1**	**XS1 08B3NBM12**	0.060
Ø 12, threaded M12 x 1						
Three-wire ⎓ 12-24 V, flush mountable						
4	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 12B3PAL2**	0.090
			M12 connector	**1**	**XS1 12B3PAM12**	0.030
			Pre-cabled (L = 2 m)	**20**	**XS1 12B3PAL2TQ**	1.600
			M12 connector	**20**	**XS1 12B3PAM12TQ**	0.470
		NPN	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 12B3NAL2**	0.090
			M12 connector	**1**	**XS1 12B3NAM12**	0.030
			Pre-cabled (L = 2 m)	**20**	**XS1 12B3NAL2TQ**	1.600
			M12 connector	**20**	**XS1 12B3NAM12TQ**	0.470
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 12B3PBL2**	0.090
			M12 connector	**1**	**XS1 12B3PBM12**	0.030
			M12 connector	**20**	**XS1 12B3PBM12TQ**	0.470
		NPN	Pre-cabled (L = 2 m) *(1)*	**1**	**XS1 12B3NBL2**	0.090
			M12 connector	**1**	**XS1 12B3NBM12**	0.030

(1) For a 5 m long cable replace L2 by L5.
*Example: XS1 06B3PAL2 becomes **XS1 06B3PAL5** with a 5 m long cable.*

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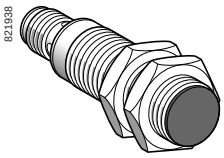
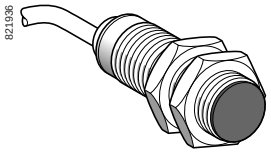
Inductive proximity sensors

Osiprox® Technology

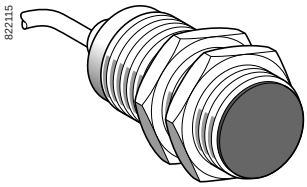
Basic, cylindrical, flush mountable, increased range
Three-wire d.c. Solid-state output



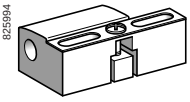
XS1 18B3●●M12



XS1 18B3●●●L2



XS1 30B3●●L2



XSZ B1●●

Sensing distance Sn (mm)	Function	Output	Connection	Sold in minimum lots of	Unit reference	Weight kg
Ø 18, threaded M18 x 1						
Three-wire ⎓ 12-24 V, flush mountable						
8	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS1 18B3PAL2**	0.110
			M12 connector	1	**XS1 18B3PAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS1 18B3PAL2TQ**	2.000
			M12 connector	20	**XS1 18B3PAM12TQ**	1.140
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS1 18B3NAL2**	0.110
			M12 connector	1	**XS1 18B3NAM12**	0.060
			Pre-cabled (L = 2 m)	20	**XS1 18B3NAL2TQ**	2.000
			M12 connector	20	**XS1 18B3NAM12TQ**	1.140
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS1 18B3PBL2**	0.110
			M12 connector	1	**XS1 18B3PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS1 18B3NBL2**	0.110
			M12 connector	1	**XS1 18B3NBM12**	0.060
Ø 30, threaded M30 x 1.5						
Three-wire ⎓ 12-24 V, flush mountable						
15	NO	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS1 30B3PAL2**	0.180
			M12 connector	1	**XS1 30B3PAM12**	0.130
			Pre-cabled (L = 2 m)	20	**XS1 30B3PAL2TQ**	3.360
			M12 connector	20	**XS1 30B3PAM12TQ**	2.000
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS1 30B3NAL2**	0.180
			M12 connector	1	**XS1 30B3NAM12**	0.130
			M12 connector	20	**XS1 30B3NAM12TQ**	2.000
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	1	**XS1 30B3PBL2**	0.180
			M12 connector	1	**XS1 30B3PBM12**	0.130
		NPN	Pre-cabled (L = 2 m) *(1)*	1	**XS1 30B3NBL2**	0.180
			M12 connector	1	**XS1 30B3NBM12**	0.130

Accessories

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø = 6.5 (plain)	**XSZ B165**	0.005
	Ø 8 (M8 x 1)	**XSZ B108**	0.006
	Ø 12 (M12 x 1)	**XSZ B112**	0.006
	Ø 18 (M18 x 1)	**XSZ B118**	0.010
	Ø 30 (M30 x 1.5)	**XSZ B130**	0.020

(1) For a 5 m long cable replace L2 by L5.
*Example: XS1 18B3PAL2 becomes **XS1 18B3PAL5** with a 5 m long cable.*

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Inductive proximity sensors

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Three-wire d.c. Solid-state output

Characteristics

Sensor type			XS1 ●●B3●●M8	XS1 ●●B3●●M12	XS1 ●●B3●●L2
Product certifications			UL, CSA, CE		
Connection	Connector		M8	M12	–
	Pre-cabled		–	–	Length 2 m
Operating zone	Ø 6.5 and Ø 8	**mm**	**0…1.6**		
	Ø 12	**mm**	**0…3.2**		
	Ø 18	**mm**	**0…6.4**		
	Ø 30	**mm**	**0…12**		
Differential travel		**%**	1...15 of effective sensing distance (Sr)		
Degree of protection	Conforming to IEC 60529		IP 65 and IP 67		
Storage temperature		**°C**	- 40…+ 85		
Operating temperature		**°C**	- 25…+ 70		
Materials	Case		Nickel plated brass		
	Cable		–		PvR 3 x 0.34 mm² except Ø 6.5 and 8: 3 x 0.11 mm²
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 55 Hz)		
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms		
Output state indication			Yellow LED, 4 viewing ports at 90°		Yellow LED, annular
Rated supply voltage		**V**	⎓ 12…24 with protection against reverse polarity		
Voltage limits (including ripple)		**V**	⎓ 10…36		
Switching capacity		**mA**	≤ 200 with overload and short-circuit protection		
Voltage drop, closed state		**V**	≤ 2		
Current consumption, no-load		**mA**	≤ 10		
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	**Hz**	2500		
	Ø 18	**Hz**	1000		
	Ø 30	**Hz**	500		
Delays	First-up	**ms**	≤ 10		
	Response	**ms**	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30		
	Recovery	**ms**	≤ 0.2 for Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30		

Wiring schemes

Connector

M8



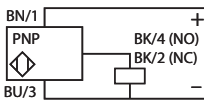
M12



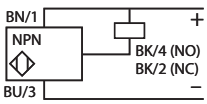
Pre-cabled

BU: Blue
BN: Brown
BK: Black

NPN



PNP



For M8 connector, NO and NC outputs on terminal 4

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References: pages 6 and 7

Dimensions: page 9

Inductive proximity sensors

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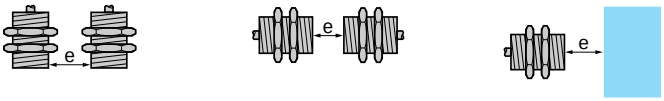
Basic, cylindrical, flush mountable, increased range

Three-wire d.c. Solid-state output

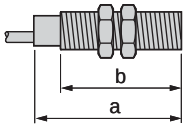
Setting-up

Minimum mounting distances (mm)



Sensors		Side by side	Face to face	Facing a metal object
Ø 6.5 flush mountable	**XS1 06 B3**	e ⩾ 4	e ⩾ 24	e ⩾ 6
Ø 8 flush mountable	**XS1 08 B3**	e ⩾ 4	e ⩾ 24	e ⩾ 6
Ø 12 flush mountable	**XS1 12 B3**	e ⩾ 8	e ⩾ 50	e ⩾ 12
Ø 18 flush mountable	**XS1 18 B3**	e ⩾ 16	e ⩾ 100	e ⩾ 25
Ø 30 flush mountable	**XS1 30 B3**	e ⩾ 30	e ⩾ 180	e ⩾ 45

Dimensions



Sensors		Flush mountable in metal					
		Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
		a	b	a	b	a	b
Ø 6.5	**XS1 06 B3**	33	30	42	34	45	24
Ø 8	**XS1 08 B3**	33	25	42	26	45	23
Ø 12	**XS1 12 B3**	35	25	–	–	50	29
Ø 18	**XS1 18 B3**	38	28	–	–	50.3	28
Ø 30	**XS1 30 B3**	42.3	32	–	–	54.5	32