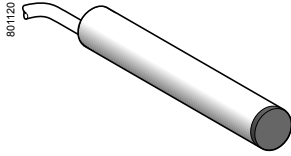


Inductive proximity sensors

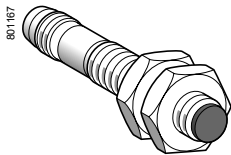
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

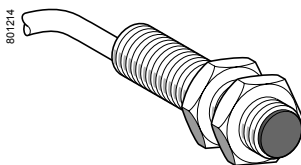
Three-wire DC, solid-state output



XS1 06B3●●L2



XS1 08B3●●M8



XS1 12B3●●L2

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

Sensing distance (Sn) mm	Function	Output	Connection	Sold in lots of	Reference unit	Weight kg
Ø 6.5, plain						
2.5	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
			M12 connector	20	XS1 06B3PAM12TQ	0.320
	NC	PNP	Pre-cabled (L = 2 m) (1)	1	XS1 06B3PBL2	0.060
			M8 connector	1	XS1 06B3PBM8	0.030
			M12 connector	1	XS1 06B3PBM12	0.030
			Pre-cabled (L = 2 m)	20	XS1 06B3PBL2TQ	0.980
			M8 connector	20	XS1 06B3PBM8TQ	0.320
			M12 connector	20	XS1 06B3PBM12TQ	0.320
NPN	PNP	Pre-cabled (L = 2 m) (1)	1	XS1 06B3NBL2	0.060	
		M8 connector	1	XS1 06B3NBM8	0.030	
		M12 connector	1	XS1 06B3NBM12	0.030	
		Pre-cabled (L = 2 m)	20	XS1 06B3NBL2TQ	0.980	
		M8 connector	20	XS1 06B3NBM8TQ	0.320	
		M12 connector	20	XS1 06B3NBM12TQ	0.320	

Ø 8, threaded M8 x 1

2.5	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	PNP	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
					M12 connector	20	XS1 08B3NAM12TQ	0.940
	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		
			Pre-cabled (L = 2 m)	20	XS1 08B3PBL2TQ	1.120		
			M8 connector	20	XS1 08B3PBM8TQ	0.460		
			M12 connector	20	XS1 08B3PBM12TQ	0.940		
	NPN	PNP	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		
			Pre-cabled (L = 2 m)	20	XS1 08B3NBL2TQ	1.120		
			M8 connector	20	XS1 08B3NBM8TQ	0.460		
			M12 connector	20	XS1 08B3NBM12TQ	0.940		

Ø 12, threaded M12 x 1

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	PNP	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
			Pre-cabled (L = 2 m)	20			XS1 12B3PBL2TQ	1.600		
			M12 connector	20			XS1 12B3PBM12TQ	0.470		
	NPN	PNP	Pre-cabled (L = 2 m) (1)	1			XS1 12B3NBL2	0.090		
			M12 connector	1			XS1 12B3NBM12	0.030		
			Pre-cabled (L = 2 m)	20	XS1 12B3NBL2TQ	1.600				
			M12 connector	20	XS1 12B3NBM12TQ	0.470				

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

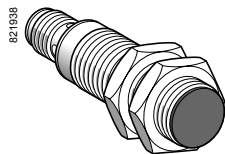
Example: XS1 06B3PAL2 becomes XS1 06B3PAL5 with a 5 m long cable.

Inductive proximity sensors

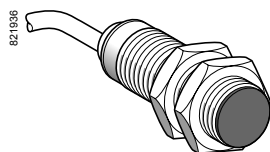
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

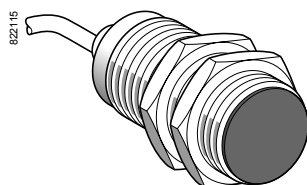
Three-wire DC, solid-state output



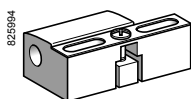
XS1 18B3●●M12



XS1 18B3●●L2



XS1 30B3●●L2



XSZ B1●●

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

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

Accessories (2)

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.

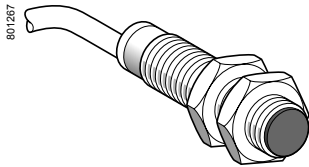
(2) For further information, see page 3/112.

Inductive proximity sensors

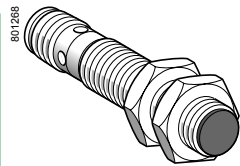
OsiSense XS, general purpose

Cylindrical, increased range, flush mountable

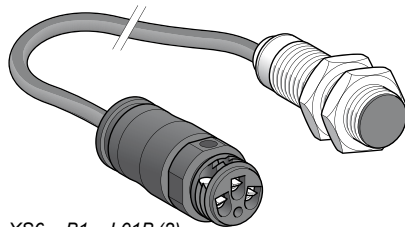
Three-wire DC, solid-state output



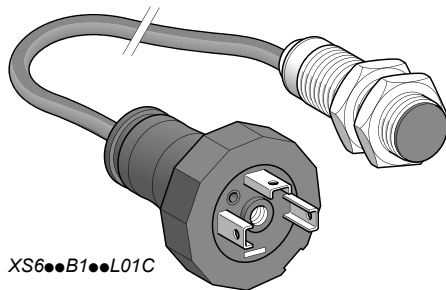
XS6●●B1●●L2



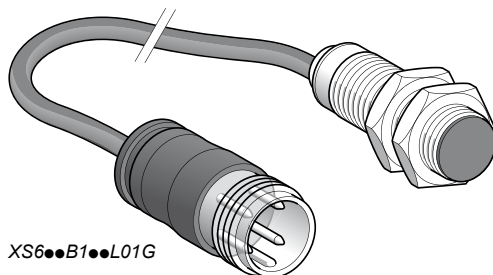
XS6●●B1●●M12



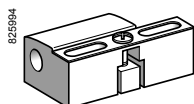
XS6●●B1●●L01B (2)



XS6●●B1●●L01C



XS6●●B1●●L01G



XSZ B●●●

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

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Ø 8, threaded M8 x 1					
2.5	NO	PNP	Pre-cabled (L = 2 m) (1)	XS6 08B1PAL2	0.035
			M12 connector	XS6 08B1PAM12	0.015
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 08B1NAL2	0.035
			M12 connector	XS6 08B1NAM12	0.015
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS6 08B1PBL2	0.035
			M12 connector	XS6 08B1PBM12	0.015
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 08B1NBL2	0.035
			M12 connector	XS6 08B1NBM12	0.015
Ø 12, threaded M12 x 1					
4	NO	PNP	Pre-cabled (L = 2 m) (1)	XS6 12B1PAL2	0.075
			M12 connector	XS6 12B1PAM12	0.020
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 12B1NAL2	0.075
			M12 connector	XS6 12B1NAM12	0.020
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS6 12B1PBL2	0.075
			M12 connector	XS6 12B1PBM12	0.020
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 12B1NBL2	0.075
			M12 connector	XS6 12B1NBM12	0.020
Ø 18, threaded M18 x 1					
8	NO	PNP	Pre-cabled (L = 2 m) (1)	XS6 18B1PAL2	0.100
			M12 connector	XS6 18B1PAM12	0.040
			Remote screw terminal connector	XS6 18B1PAL01B (2)	0.100
			Remote DIN 43650 connector	XS6 18B1PAL01C	0.100
			Remote M18 connector	XS6 18B1PAL01G	0.100
			M12 connector	XS6 18B1NAM12	0.040
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 18B1NAL2	0.100
			M12 connector	XS6 18B1NAM12	0.040
			Remote screw terminal connector	XS6 18B1NAL01B (2)	0.100
			Remote DIN 43650 connector	XS6 18B1NAL01C	0.100
			Remote M18 connector	XS6 18B1NAL01G	0.100
			M12 connector	XS6 18B1NAM12	0.040
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS6 18B1PBL2	0.100
			M12 connector	XS6 18B1PBM12	0.040
			Remote screw terminal connector	XS6 18B1PBL01B (2)	0.100
			Remote DIN 43650 connector	XS6 18B1PBL01C	0.100
			Remote M18 connector	XS6 18B1PBL01G	0.100
			M12 connector	XS6 18B1PBM12	0.040
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 18B1NBL2	0.100
			M12 connector	XS6 18B1NBM12	0.040
			Remote screw terminal connector	XS6 18B1NBL01B (2)	0.100
			Remote DIN 43650 connector	XS6 18B1NBL01C	0.100
			Remote M18 connector	XS6 18B1NBL01G	0.100
			M12 connector	XS6 18B1NBM12	0.040
Ø 30, threaded M30 x 1.5					
15	NO	PNP	Pre-cabled (L = 2 m) (1)	XS6 30B1PAL2	0.205
			M12 connector	XS6 30B1PAM12	0.145
			Remote screw terminal connector	XS6 30B1PAL01B (2)	0.205
			Remote DIN 43650 connector	XS6 30B1PAL01C	0.205
			Remote M18 connector	XS6 30B1PAL01G	0.205
			M12 connector	XS6 30B1NAM12	0.145
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 30B1NAL2	0.205
			M12 connector	XS6 30B1NAM12	0.145
			Remote screw terminal connector	XS6 30B1NAL01B (2)	0.205
			Remote DIN 43650 connector	XS6 30B1NAL01C	0.205
			Remote M18 connector	XS6 30B1NAL01G	0.205
			M12 connector	XS6 30B1NAM12	0.145
	NC	PNP	Pre-cabled (L = 2 m) (1)	XS6 30B1PBL2	0.205
			M12 connector	XS6 30B1PBM12	0.145
			Remote screw terminal connector	XS6 30B1PBL01B (2)	0.205
			Remote DIN 43650 connector	XS6 30B1PBL01C	0.205
			Remote M18 connector	XS6 30B1PBL01G	0.205
			M12 connector	XS6 30B1PBM12	0.145
	NPN	PNP	Pre-cabled (L = 2 m) (1)	XS6 30B1NBL2	0.205
			M12 connector	XS6 30B1NBM12	0.145
			Remote screw terminal connector	XS6 30B1NBL01B (2)	0.205
			Remote DIN 43650 connector	XS6 30B1NBL01C	0.205
			Remote M18 connector	XS6 30B1NBL01G	0.205
			M12 connector	XS6 30B1NBM12	0.145

Accessories (3)

Description	For use with sensors	Reference	Weight kg
Fixing clamps	Ø 8	XSZ B108	0.006
	Ø 12	XSZ B112	0.006
	Ø 18	XSZ B118	0.010
	Ø 30	XSZ B130	0.020

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

Example: XS6 08B1PAL2 becomes XS6 08B1PAL5 with a 5 m long cable.

(2) Protective cable gland included with sensor.


(3) For further information, see page 3/112.

Inductive proximity sensors

OsiSense XS, general purpose

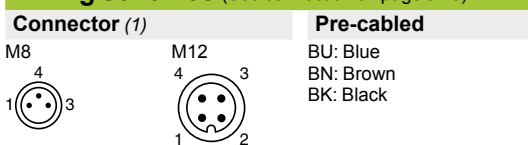
Cylindrical, increased range, flush mountable

Three-wire DC, solid-state output

Characteristics		XS1/XS6●●B●●M8	XS1/XS6●●B●●M12	XS1/XS6●●B●●L2
Sensor type		UL, CSA, CE		
Product certifications		UL, CSA, CE		
Connection	Connector	M8	M12	–
	Pre-cabled	–	–	Length 2 m
	Remote connector	Remote screw terminal (L01B), DIN 43650A (L01C) and M18 (L01G) connectors, on 0.15 m flying lead.		
Operating zone (1)	Ø 6.5 and Ø 8	mm	0...2	
	Ø 12	mm	0...3.2	
	Ø 18	mm	0...6.4	
	Ø 30	mm	0...12	
Differential travel		%	1...15 of effective sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529	IP 65 and IP 67		IP 65 and IP 68, double insulation  except Ø 6.5 and Ø 8: IP 67
	Conforming to DIN 40050	IP 69K for Ø 12, 18 and 30 sensors		
Storage temperature		°C	- 40...+ 85	
Operating temperature		°C	- 25...+ 70	
Materials	Case	Nickel plated brass (except XS6 08: 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 ports at 90°		Yellow LED, annular
Rated supply voltage		V	XS1: ≍ 12...24 with protection against reverse polarity XS6: ≍ 12...48 with protection against reverse polarity	
Voltage limits (including ripple)		V	XS1: ≍ 10...36; XS6: ≍ 10...58	
Switching capacity		mA	≤ 200 with overload and short-circuit protection	
Voltage drop, closed state		V	≤ 2	
Current consumption, no-load		mA	≤ 10	
Maximum switching frequency	Ø 6.5, Ø 8 and Ø 12	Hz	2500	
	Ø 18	Hz	1000	
	Ø 30	Hz	500	
Delays	First-up	ms	≤ 10	
	Response	ms	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.3 for Ø 18, ≤ 0.6 for Ø 30	
	Recovery	ms	≤ 0.2 for Ø 6.5, Ø 8 and Ø 12, ≤ 0.7 for Ø 18, ≤ 1.4 for Ø 30	

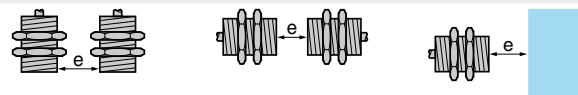
(1) Detection curves, see page 3/116.

Wiring schemes (See connection on page 9/45)



Setting-up

Minimum mounting distances (mm)



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

For M8 connector, NO and NC outputs on terminal 4

(1) For pin arrangement of remote connectors L01B, L01C and L01G, see page 3/29.

Dimensions

Sensors	Pre-cabled (mm)		M8 connector (mm)		M12 connector (mm)	
	a	b	a	b	a	b
Short case model						
Ø 6.5	XS1 06B3	33	–	42	–	45
Ø 8	XS1 08B3	33	25	42	26	45
Ø 12	XS1 12B3	35	25	–	–	50
Ø 18	XS1 18B3	39	28	–	–	50
Ø 30	XS1 30B3	43	32	–	–	55
Long case model						
Ø 8	XS6 08B1	51	42	62	40	
Ø 12	XS6 12B1	53	42	62	42	
Ø 18	XS6 18B1	62	52	74	52	
Ø 30	XS6 30B1	62	52	74	52	

(1) LED