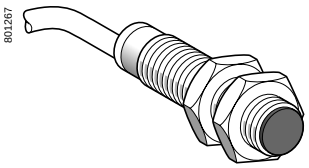
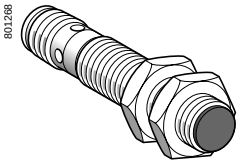
Inductive proximity sensors
Osiprox® Optimum
Cylindrical, flush mountable
Three-wire, d.c. supply, solid-state output



XS5 ●●B1●●L2

Ø 8, threaded M8 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
1.5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 08B1PAL2**	0.035
			M8 connector	**XS5 08B1PAM8**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 08B1NAL2**	0.035
			M8 connector	**XS5 08B1NAM8**	0.025
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 08B1PBL2**	0.035
			M8 connector	**XS5 08B1PBM8**	0.025
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 08B1NBL2**	0.035
			M8 connector	**XS5 08B1NBM8**	0.025



XS5 ●●B1●●M12

Ø 12, threaded M12 x 1

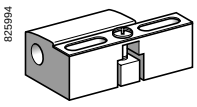
Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
2	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 12B1PAL2**	0.075
			M12 connector	**XS5 12B1PAM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 12B1NAL2**	0.075
			M12 connector	**XS5 12B1NAM12**	0.035
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 12B1PBL2**	0.075
			M12 connector	**XS5 12B1PBM12**	0.035
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 12B1NBL2**	0.075
			M12 connector	**XS5 12B1NBM12**	0.035

Ø 18, threaded M18 x 1

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
5	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 18B1PAL2**	0.120
			M12 connector	**XS5 18B1PAM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 18B1NAL2**	0.120
			M12 connector	**XS5 18B1NAM12**	0.060
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 18B1PBL2**	0.120
			M12 connector	**XS5 18B1PBM12**	0.060
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 18B1NBL2**	0.120
			M12 connector	**XS5 18B1NBM12**	0.060

Ø 30, threaded M30 x 1.5

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
10	NO	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 30B1PAL2**	0.205
			M12 connector	**XS5 30B1PAM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 30B1NAL2**	0.205
			M12 connector	**XS5 30B1NAM12**	0.145
	NC	PNP	Pre-cabled (L = 2 m) *(1)*	**XS5 30B1PBL2**	0.205
			M12 connector	**XS5 30B1PBM12**	0.145
		NPN	Pre-cabled (L = 2 m) *(1)*	**XS5 30B1NBL2**	0.205
			M12 connector	**XS5 30B1NBM12**	0.145



XSZ B1●●

Accessories *(2)*

Description		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 with **L5**, and for a 10 m long cable, replace L2 with **L10**.*
*Example: XS5 08B1PAL2 becomes **XS5 08B1PAL5** with a 5 m long cable.*
(2) For further information, see page 37317/2.

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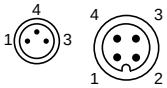
Characteristics

Sensor type			XS5 ●●B1●●M8, XS5 ●●B1●●M12	XS5 ●●B1●●L2
Product certifications			UL, CSA, CE	
Connection	Connector		M8 on Ø 8, M12 on Ø 12, Ø 18 and Ø 30	–
	Pre-cabled		–	Length: 2 m
Operating zone	Ø 8	**mm**	**0…1.2**	
	Ø 12	**mm**	**0…1.6**	
	Ø 18	**mm**	**0…4**	
	Ø 30	**mm**	**0…8**	
Differential travel		**%**	1…15 of real sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 67	IP 68 ⧈ (except Ø 8: IP 67)
Storage temperature range		**°C**	- 40…+ 85	
Operating temperature range		**°C**	- 25…+ 70	
Materials	Case		Nickel plated brass	
	Pre-cabled		–	PvR 3 x 0.34 mm² (except **XS5 08**: 3 x 0.11 mm²)
Vibration resistance	Conforming to IEC 60068-2-6		25 gn, amplitude ± 2 mm (f = 10 to 50 Hz)	
Shock resistance	Conforming to IEC 60068-2-27		50 gn, duration 11 ms	
Output state indication			LED (yellow): 4 viewing ports at 90°	LED (yellow): 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	**XS5 08B1●●●●, XS5 12B1●●●●**	**kHz**	5	
	XS5 18B1●●●●	**kHz**	2	
	XS5 30B1●●●●	**kHz**	1	
Delays	First-up	**ms**	≤ 10	
	Response	**ms**	≤ 0.1 for **XS5 08B1●●●●** and **XS5 12B1●●●●**, ≤ 0.15 for **XS5 18B1●●●●**, ≤ 0.3 for **XS5 30B1●●●●**	
	Recovery	**ms**	≤ 0.1 for **XS5 08B1●●●●** and **XS5 12B1●●●●**, ≤ 0.35 for **XS5 18B1●●●●**, ≤ 0.7 for **XS5 30B1●●●●**	

Wiring scheme

Connector

M8 M12

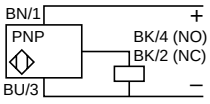


See connection on page 30210/3.

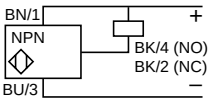
Pre-cabled

BU: Blue
BN: Brown
BK: Black

PNP



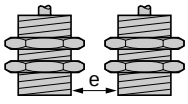
NPN

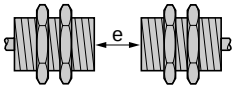


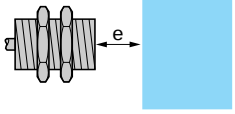
For M8 connector, NO and NC output on terminal 4.

Setting-up

Minimum mounting distances (mm)



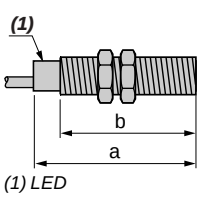




	Side by side	Face to face	Facing a metal object
Ø 8	e ≥ 3	e ≥ 18	e ≥ 4.5
Ø 12	e ≥ 4	e ≥ 24	e ≥ 6
Ø 18	e ≥ 10	e ≥ 60	e ≥ 15
Ø 30	e ≥ 20	e ≥ 120	e ≥ 30

Dimensions

XS5



(1) LED

XS5	Pre-cabled		Connector	
	a	b	a	b
Ø 8	33	25	42	26
Ø 12	33	25	48	29
Ø 18	36.5	28	48.6	28
Ø 30	40.6	32	52.7	32