

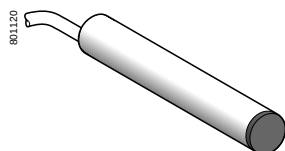
Inductive proximity sensors

Osiprox® Application

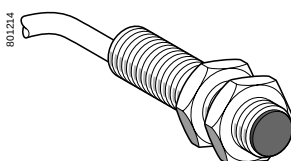
Basic, cylindrical, flush mountable and non flush mountable

Two-wire, a.c. supply

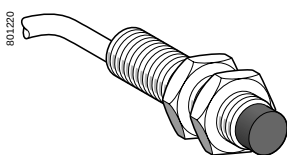
Three-wire, d.c. supply, solid-state output



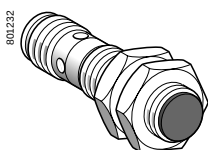
XS1 L06A140



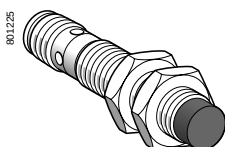
XS1 D08FA140
XS1 M08FA264



XS2 D12FA140



XS1 D18FA140D



XS2 D30FA140D

Ø 6 flush mountable (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
1.5	NO	PNP	Pre-cabled (L = 2 m)	XS1 L06PA140	0.025
		NPN	Pre-cabled (L = 2 m)	XS1 L06NA140	0.025

Ø 8 flush mountable (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
1.5	NO	PNP	Pre-cabled (L = 2 m)	XS1 D08PA140	0.035
			M12 connector	XS1 D08PA140D	0.025
		NPN	Pre-cabled (L = 2 m)	XS1 D08NA140	0.035
			M12 connector	XS1 D08NA140D	0.025

Ø 12 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire ≡ flush mountable					
2	NO	PNP	Pre-cabled (L = 2 m)	XS1 D12PA140	0.075
			M12 connector	XS1 D12PA140D	0.025
		NPN	Pre-cabled (L = 2 m)	XS1 D12NA140	0.075
			M12 connector	XS1 D12NA140D	0.025

Three-wire ≡ non flush mountable

4	NO	PNP	Pre-cabled (L = 2 m)	XS2 D12PA140	0.060
			M12 connector	XS2 D12PA140D	0.025
		NPN	Pre-cabled (L = 2 m)	XS2 D12NA140	0.060
			M12 connector	XS2 D12NA140D	0.025

Ø 18 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire ≡ flush mountable					
5	NO	PNP	Pre-cabled (L = 2 m)	XS1 D18PA140	0.120
			M12 connector	XS1 D18PA140D	0.060
		NPN	Pre-cabled (L = 2 m)	XS1 D18NA140	0.120
			M12 connector	XS1 D18NA140D	0.060

Three-wire ≡ non flush mountable

8	NO	PNP	Pre-cabled (L = 2 m)	XS2 D18PA140	0.120
			M12 connector	XS2 D18PA140D	0.060
		NPN	Pre-cabled (L = 2 m)	XS2 D18NA140	0.120
			M12 connector	XS2 D18NA140D	0.060

Ø 30 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
Three-wire ≡ flush mountable					
10	NO	PNP	Pre-cabled (L = 2 m)	XS1 D30PA140	0.205
			M12 connector	XS1 D30PA140D	0.100
		NPN	Pre-cabled (L = 2 m)	XS1 D30NA140	0.205
			M12 connector	XS1 D30NA140D	0.100

Three-wire ≡ non flush mountable

15	NO	PNP	Pre-cabled (L = 2 m)	XS2 D30PA140	0.205
			M12 connector	XS2 D30PA140D	0.100
		NPN	Pre-cabled (L = 2 m)	XS2 D30NA140	0.205
			M12 connector	XS2 D30NA140D	0.100

(1) For accessories, see page 37317/2.

Inductive proximity sensors

Osiprox® Application

Basic, cylindrical, flush mountable and non flush mountable

Two-wire, a.c. supply

Three-wire, d.c. supply, solid-state output

Characteristics

Sensor type	XS1 D●●●●●●D, XS2 D●●●●●●D		XS1 D●●●●●●, XS2 D●●●●●●	
Product certifications	UL, CSA, CE			
Connection	M12 connector		Pre-cabled L: 2 m	
Operating zone (1)	Ø 6 and Ø 8	mm	0...1.2	
	Ø 12	mm	0...3.2 (products non flush mountable in metal)	
	Ø 12	mm	0...1.6 (products flush mountable in metal)	
	Ø 18	mm	0...6.4 (products non flush mountable in metal)	
	Ø 18	mm	0...4 (products flush mountable in metal)	
	Ø 30	mm	0...12 (products non flush mountable in metal)	
	Ø 30	mm	0...8 (products flush mountable in metal)	
Differential travel			1...15 of real sensing distance (Sr)	
Degree of protection	Conforming to IEC 60529		IP 66	
Storage temperature range	°C		- 40...+ 85	
Operating temperature range	°C		- 25...+ 70	
Materials			Case: nickel plated brass, cable: PVC 3 x 0.34 mm ² --- and 2 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			LED, 4 viewing ports at 90°	rear LED
Rated supply voltage	3-wire	V	--- 12...24 with protection against reverse polarity	
	2-wire	V	~ 24...240	
Voltage limits (including ripple)	3-wire	V	--- 10...30	
	2-wire	V	~ 20...264	
Current consumption, no-load	3-wire	mA	≤ 10	
Switching capacity	3-wire	mA	≤ 100 (≤ 50 for XS1 L06 and XS1 D08) with overload and short-circuit protection	
	2-wire	mA	5...300 (5...200 for XS1 M12) (2)	
Voltage drop, closed state	3-wire	V	≤ 3	
	2-wire	V	≤ 4.5 (≤ 7 for XS1 M12)	
Maximum switching frequency	2-wire	Hz	25	
	Ø 6 and Ø 8	Hz	3000	
	Ø 12	Hz	2000 XS1, 2000 XS2	
	Ø 18	Hz	1000 XS1, 250 XS2	
	Ø 30	Hz	200 XS1, 60 XS2	
Delays	First-up	ms	≤ 5 (≤ 10 XS1 D30 and XS2 D30)	
	2-wire	ms	≤ 40 ms	
	Response	ms	≤ 0.5 for XS1 L06, XS1 D08, XS1 D12, ≤ 1 for XS2 D12, XS1 D18, XS2 D18, ≤ 2 for XS1 D30, XS2 D30	
	2-wire	ms	≤ 10	
	Recovery	ms	≤ 0.5 for XS1 D12, ≤ 1 for XS1 L06, XS1 D08, ≤ 2 for XS2 D12, XS1 D18, XS2 D18, ≤ 6 for XS1 D30, XS2 D30	
	2-wire	ms	≤ 15	

(1) Detection curves, see page 31170/2.

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

Wiring scheme

Connector	Pre-cabled	2-wire ~	PNP	NPN
M12 See connection on page 30210/3.	BU: Blue BN: Brown BK: Black			

Setting-up (minimum mounting distances (mm))

Sensor	Side by side	Face to face	Facing a metal object	Mounted in a metal support
XS1 L06, XS1 D08	e ≥ 3	e ≥ 18	e ≥ 4.5	d ≥ 8 h ≥ 0
XS1 D12, XS1 M12	e ≥ 4	e ≥ 24	e ≥ 6	d ≥ 12 h ≥ 0
XS2 D12	e ≥ 16	e ≥ 48	e ≥ 12	d ≥ 36 h ≥ 8
XS1 D18, XS1 M18	e ≥ 10	e ≥ 60	e ≥ 15	d ≥ 18 h ≥ 0
XS2 D18	e ≥ 16	e ≥ 96	e ≥ 24	d ≥ 54 h ≥ 16
XS1 D30, XS1 M30	e ≥ 20	e ≥ 120	e ≥ 30	d ≥ 30 h ≥ 0
XS2 D30	e ≥ 60	e ≥ 180	e ≥ 45	d ≥ 90 h ≥ 30

Dimensions

Sensor		Flush mountable in metal				Non flush mountable in metal				
		Pre-cabled		Connector		Pre-cabled		Connector		c
		a	b	a	b	a	b	a	b	
XS1 L06	Ø 6	42	—	—	—	—	—	—	—	—
XS1 D08	Ø 8	42	40.6	61.5	39.6	—	—	—	—	—
XS1 D12, XS2 D12	Ø 12	42.2	40	53	39.6	42	35.2	53	34.6	5
XS1 D18, XS2 D18, XS1 M18	Ø 18	52.2	49.6	64	49.7	52.2	41.6	64	41.7	8
XS1 D30, XS2 D30, XS1 M30	Ø 30	52.2	49.6	64	49.7	52.2	36.6	64	36.7	13
XS1 M12, XS1 M18, XS1 M30	—	59	57.5	—	—	—	—	—	—	—