

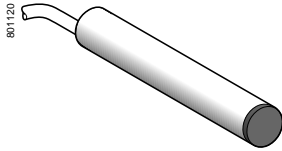
# Inductive proximity sensors

Osiprox® Application

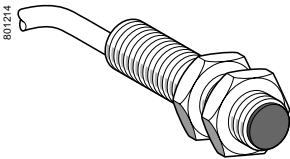
Basic, cylindrical, flush mountable and non flush mountable

Two-wire, a.c. supply

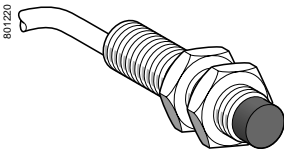
Three-wire, d.c. supply, solid-state output



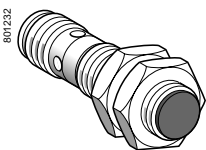
XS1 L06A140



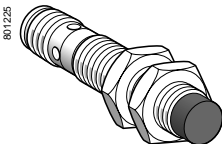
XS1 D08A140  
XS1 M08FA264



XS2 D12A140



XS1 D12A140D



XS2 D18A140

## 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
<b>Three-wire ≡ flush mountable</b>					
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
<b>Two-wire ~ flush mountable</b>					
2	NO		Pre-cabled (L = 2 m)	XS1 M12FA264	0.075

## Ø 12 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
<b>Three-wire ≡ non flush mountable</b>					
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
<b>Three-wire ≡ flush mountable</b>					
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
<b>Two-wire ~ flush mountable</b>					
5	NO		Pre-cabled (L = 2 m)	XS1 M18FA264	0.120

## Ø 18 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
<b>Three-wire ≡ non flush mountable</b>					
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
<b>Three-wire ≡ flush mountable</b>					
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
<b>Two-wire ~ flush mountable</b>					
10	NO		Pre-cabled (L = 2 m)	XS1 M30FA264	0.205

## Ø 30 (1)

Sensing distance (Sn) mm	Function	Output	Connection	Reference	Weight kg
<b>Three-wire ≡ non flush mountable</b>					
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

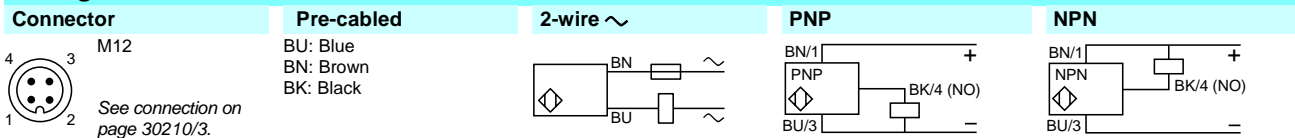
Three-wire, d.c. supply, solid-state output

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 <sup>2</sup> ~ and 2 x 0.34 mm <sup>2</sup> ~ (except Ø 8: 3 x 0.11 mm <sup>2</sup> )		
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	3-wire	ms	≤ 5 (≤ 10 XS1 D30 and XS2 D30)
		2-wire	ms	~ ≤ 40 ms
	Response	3-wire	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	3-wire	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



## 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	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	-	-	-	-	-	-	-