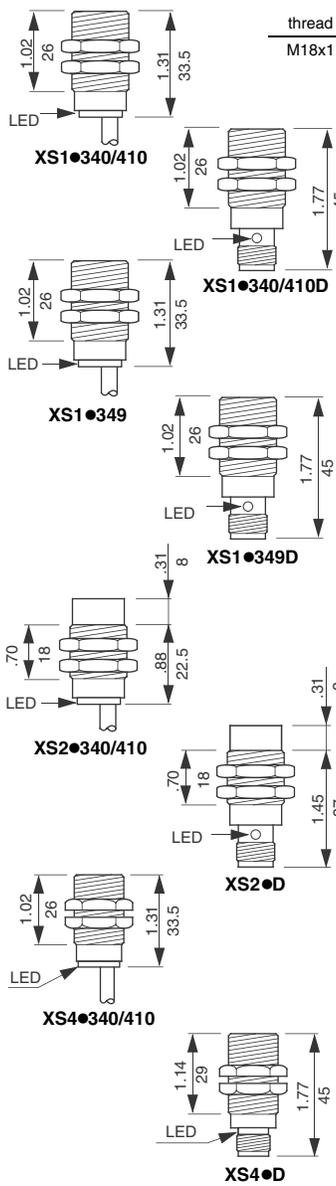


Proximity Sensors

XS Tubular, Inductive Sensors

18 mm Diameter, DC; Economy Short Length



Features

- 360° LED indicators
- Extended range models
- Complementary N.O. + N.C. models
- Rugged metal or plastic cases
- Patented plastic mounting bracket
- Connector options
- Extensive protective circuitry
- Works with unregulated DC supply powered by 24 V secondary transformer
- Metal locknuts or plastic mounting nuts included
- Normally closed (N.C.) output available on versions marked*
- UL Listed, CSA Certified and CE Mark

Nominal Sensing Distance	Circuit Type	Voltage Range	Output Mode	Operating Frequency	Indicator LED ①	Mating Connector Style (see p. 518)	Catalog Number
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Nickel plated brass case

Shielded, 2 m (6.6') cable

5 mm	PNP	10-38 V	N.O. ★	2000 Hz	A	-	XS1N18PA340
5 mm	NPN	10-38 V	N.O. ★	2000 Hz	A	-	XS1N18NA340
5 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS1N18PC410
5 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS1N18NC410

Shielded, connector - micro style DC

5 mm	PNP	10-38 V	N.O.	2000 Hz	B	11,12,13,15,16	XS1N18PA340D
5 mm	NPN	10-38 V	N.O.	2000 Hz	B	11,12,14,15,16	XS1N18NA340D
5 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	B	11,12,13,15,16	XS1N18PC410D
5 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	B	11,12,14,15,16	XS1N18NC410D

Shielded, EXTENDED RANGE, 2 m (6.6') cable

10 mm	PNP	10-38 V	N.O. ★	1000 Hz	A	-	XS1N18PA349
10 mm	NPN	10-38 V	N.O. ★	1000 Hz	A	-	XS1N18NA349

Shielded, EXTENDED RANGE, connector - micro style

10 mm	PNP	10-38 V	N.O. ★	1000 Hz	B	11,12,13,15,16	XS1N18PA349D
10 mm	NPN	10-38 V	N.O. ★	1000 Hz	B	11,12,14,15,16	XS1N18NA349D

Non-shielded, 2 m (6.6') cable

8 mm	PNP	10-38 V	N.O.	2000 Hz	A	-	XS2N18PA340
8 mm	NPN	10-38 V	N.O.	2000 Hz	A	-	XS2N18NA340
8 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS2N18PC410
8 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS2N18NC410

Non-shielded, connector - micro style

8 mm	PNP	10-38 V	N.O.	2000 Hz	B	11,12,13,15,16	XS2N18PA340D
8 mm	NPN	10-38 V	N.O.	2000 Hz	B	11,12,14,15,16	XS2N18NA340D
8 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	B	11,12,13,15,16	XS2N18PC410D
8 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	B	11,12,14,15,16	XS2N18NC410D

Plastic case

Non-shielded, 2 m (6.6') cable

8 mm	PNP	10-38 V	N.O. ★	2000 Hz	A	-	XS4P18PA340
8 mm	NPN	10-38 V	N.O. ★	2000 Hz	A	-	XS4P18NA340
8 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS4P18PC410
8 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	A	-	XS4P18NC410

Non-shielded, connector - micro style

8 mm	PNP	10-38 V	N.O. ★	2000 Hz	A	11,12,13,15,16	XS4P18PA340D
8 mm	NPN	10-38 V	N.O. ★	2000 Hz	A	11,12,14,15,16	XS4P18NA340D
8 mm	PNP	10-38 V	N.O. + N.C.	2000 Hz	A	11,12,13,15,16	XS4P18PC410D
8 mm	NPN	10-38 V	N.O. + N.C.	2000 Hz	A	11,12,14,15,16	XS4P18NC410D

★ To order a normally closed (N.C.) version change the **A** to **B**, example: XS1N18PA340 to XS1N18PB340.

① See next page under specifications for LED function.

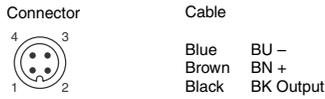
◆ See dimension X below.

Dual Dimensions $\frac{\text{inches}}{\text{mm}}$

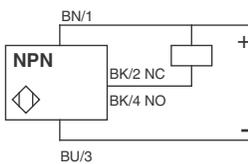
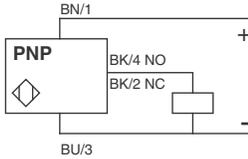
Minimum Mounting Clearances (mm/inches)

Mounting Method	Clearance (mm/inches)
Side by side	e: 10/39
Face to face	e: 60/2.36
Facing a metal object	e: 15/59
Mounting in a metal support	D: 18/71, H: 0/0
Mounted in a metal support	D: 18/71, x: 3.6/14
XS1 Shielded	e: 10/39
XS1 Extended range	e: 20/79
XS2/XS4 Non-shielded	e: 16/63
XS2 Extended range	e: 96/3.78
XS4 Extended range	e: 96/3.78
XS2/XS4 Non-shielded	e: 24/94
XS4 Non-shielded	e: 24/94
Mounting in a metal support	D: 54/2.13, H: 16/63

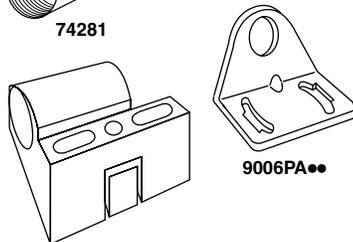
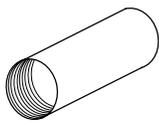
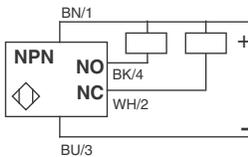
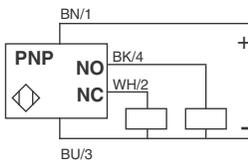
Wiring



Wire color/connector pin
3 wire NO or NC



4 wire NO + NC



Connector Cables (M12 or D suffix)

XSZCD101Y	Micro Conn., 4 pin, 2 m, straight
XSZCD111Y	Micro Conn., 4 pin, 2 m, 90°

For additional cable options and lengths see p. 518
 Accessories page 298, 316

Specifications

Mechanical			
Usable sensing range★	Shielded	Standard Range	0 to 4 mm
		Extended Range	0 to 8 mm
	Non-shielded		0 to 6.4 mm
Standard temperature range	Nickel plated brass		-25° C to +70° C (-13° F to +158° F)
	Plastic		-25° C to +80° C (-13° F to +176° F)
Extended range			-25° C to +50° C (-13° F to +122° F)
Enclosure rating - cable for connector, see p. 518	Nickel plated brass	NEMA Type	3, 4X, 6P, 12, 13
	Plastic	IEC Type	IP67
Enclosure material	Nickel plated brass	NEMA Type	3, 4X, 6P, 12, 13
		IEC Type	IP68
	Plastic	Case	Nickel plated brass
		Sensing face	PBT
Tightening torque (max.)	Nickel plated brass		15 N•m (11 lb-ft)
	Plastic		5 N•m (3.7 lb-ft)
Vibration resistance	(IEC 60068.2.6)		25 G, amplitude +/- 2 mm, f =10-55 Hz
Shock resistance	(IEC 60068.2.27)		50 G duration 11 ms
Standard target size (steel)	Shielded	Standard range	0.7" x 0.7" (18 mm x 18 mm)
		Extended range	1.18" x 1.18" (30 mm x 30 mm)
	Unshielded		0.94" x 0.94" (24 mm x 24 mm)
Differential (% of Sr)			15%
Repeatability (% of Sr)			3%
LED indicator type	A		360° ring LED: Shows output status
	B		One LED visible from 4 quadrants: Shows output status
Cable		3 or 4 wire	22 AWG (0.34 mm ²), PvR
Electrical			
Voltage range – nominal			12 to 24 Vdc
Voltage limit (including ripple)			10 to 38 Vdc
Voltage drop (across switch), closed state			2 V
Maximum load current			200 mA
Current consumption (no load)			10 mA
On delay (max.)			0.15 ms
Off delay (max.)			0.35 ms
Power-up delay (max.)			5 ms
Protective circuitry	Short circuit protection		Yes
	Overload		Yes
	Radio frequency immunity (RFI)		IEC 61000-4-3 Level 3
	Electrostatic; transients; impulse		IEC 61000-4-2 L2; IEC 61000-4-4 L3; 60947.5.2 L3 Extended range: IEC 61000-4-4 L3
	Reverse polarity protection		Yes
Agency Listings	E 164869 CCN NRKH	CR 44087 Class 3211 03	

Options

Description	Suffix
Extended temperature range (cable type and standard sensing distance only)	Down to -40° C (-40° F) TF
Extended cable length	16.4 ft. (5 meter) cable L1
	32.8 ft. (10 meter) cable L2

Accessories

Description	Catalog Number
Plastic mounting nuts	XSZE218
Metal mounting nuts and lock washer	XSZE118
Mounting bracket 90° steel	9006PA18
Mounting bracket, plastic, long length	XSZB118
0.5" NPT conduit adapter length 2" (50.8 mm)	Aluminum 7428
	Stainless 74282

★ Refer to p. 351 for target material correction coefficient Km.

Proximity Sensors