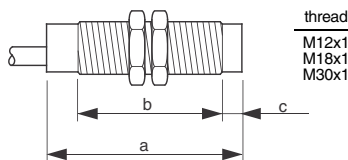


# Proximity Sensors XS Inductive Sensors Analog Output, DC



**Dimensions:**

- a = overall length (mm)
- b = threaded section (mm)
- c = for non-shielded sensors (mm)



**Tubular Style dimensions (mm)**

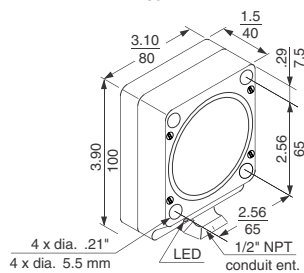
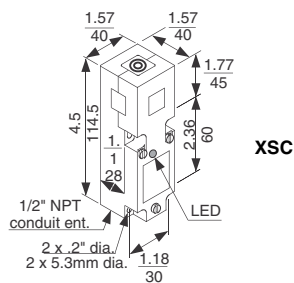
		a	b	c
12 mm	Metal	1.9" (50)	1.6" (42)	0
	Plastic	1.9" (50)	1.6" (42)	0
18 mm	Metal	1.9" (50)	1.6" (42)	0
	Plastic	1.6" (40.6)	1.0" (26)	8
30 mm	Metal	1.9" (50)	1.6" (42)	0
	Plastic	2.07" (52.6)	1.2" (32)	0.5" (13)

**Features:**

- DC output current is directly proportional to the target distance
- Three body styles: tubular, limit switch style (with 5 position turret head), block style
- Both metal and plastic enclosures available
- Two types of output:  
3 wire: 0 - 10 mA, 0 - 16 mA  
2 wire: 4 - 20 mA, 4 - 14 mA

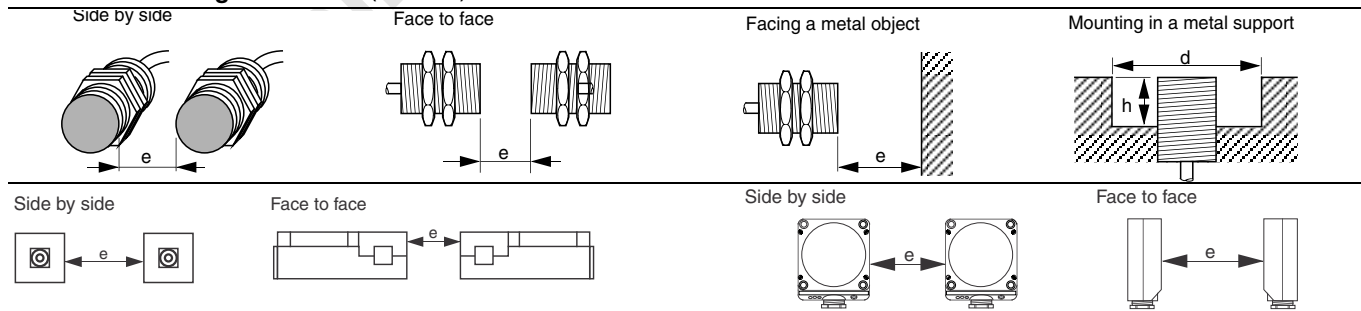
Nominal Sensing Distance	Enclosure Style	Enclosure Material	Voltage Range Max.	Circuit Type	Output Current	Operating Frequency Max.	Catalog Number
<b>12 mm Diameter - 2 meter cable</b>							
0.2 - 2 mm	Shielded	Metal	24 Vdc	2 wire	4 - 20 mA	1500 Hz	XS1M12AB120
				3 wire	0 - 16 mA		
0.4 - 4 mm	Non-Shielded	Plastic	24 Vdc	2 wire	4 - 20 mA	1500 Hz	XS4P12AB120
				3 wire	0 - 16 mA		
0.4 - 4 mm	Non-Shielded	Plastic	24-48 Vdc	2 wire	4 - 14 mA	1500 Hz	XS4P12AB110
				3 wire	0 - 10 mA		
<b>18 mm Diameter - 2 meter cable</b>							
0.5 - 5 mm	Shielded	Metal	24 Vdc	2 wire	4 - 20 mA	500 Hz	XS1M18AB120
				3 wire	0 - 16 mA		
0.8 - 8 mm	Non-Shielded	Plastic	24 Vdc	2 wire	4 - 20 mA	500 Hz	XS4P18AB120
				3 wire	0 - 16 mA		
0.8 - 8 mm	Non-Shielded	Plastic	24-48 Vdc	2 wire	4 - 14 mA	500 Hz	XS4P18AB110
				3 wire	0 - 10 mA		
<b>30 mm Diameter - 2 meter cable</b>							
1 - 10 mm	Shielded	Metal	24 Vdc	2 wire	4 - 20 mA	300 Hz	XS1M30AB120
				3 wire	0 - 16 mA		
1.5 - 15 mm	Non-Shielded	Plastic	24 Vdc	2 wire	4 - 20 mA	300 Hz	XS4P30AB120
				3 wire	0 - 16 mA		
1.5 - 15 mm	Non-Shielded	Plastic	24-48 Vdc	2 wire	4 - 14 mA	300 Hz	XS4P30AB110
				3 wire	0 - 10 mA		
<b>Limit Switch Style - 2 meter cable</b>							
2 - 20 mm	Non-Shielded	Plastic	24-48 Vdc	2 wire	4 - 14 mA	60 Hz	XSCH207629
				3 wire	0 - 10 mA		
2 - 20 mm	Non-Shielded	Plastic	24 Vdc	2 wire	4 - 20 mA	60 Hz	XSCH203629
				3 wire	0 - 16 mA		
<b>Block Style - 2 meter cable</b>							
6 - 60 mm	Non-Shielded	Plastic	24-48 Vdc	2 wire	4 - 14 mA	50 Hz	XSDH607629
				3 wire	0 - 10 mA		
6 - 60 mm	Non-Shielded	Plastic	24 Vdc	2 wire	4 - 20 mA	50 Hz	XSDH603629
				3 wire	0 - 16 mA		

Proximity Sensors



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

**Minimum Mounting Clearances (mm/inches)**



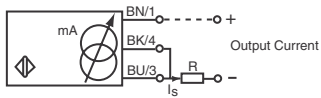
	Side by side	Face to face	Facing a metal object	Mounted in metal	
12 mm Shielded	e: 4 mm (0.16")	e: 24 mm (0.94")	e: 6 mm (0.24")	d: 12 mm (0.47")	h: 0 mm (0")
12 mm Non-shielded, 24 V	e: 16 mm (0.63")	e: 48 mm (1.89")	e: 12 mm (0.47")	d: 36 mm (1.42")	h: 8 mm (0.31")
12 mm Non-shielded, 48 V	e: 16 mm (0.63")	e: 48 mm (1.89")	e: 12 mm (0.47")	d: 36 mm (1.42")	h: 8 mm (0.31")
18 mm Shielded	e: 10 mm (0.39")	e: 60 mm (2.36")	e: 15 mm (0.59")	d: 18 mm (0.71")	h: 0 mm (0")
18 mm Non-shielded, 24 V	e: 32 mm (1.26")	e: 96 mm (3.78")	e: 24 mm (0.94")	d: 54 mm (2.12")	h: 16 mm (0.63")
18 mm Non-shielded, 48 V	e: 32 mm (1.26")	e: 96 mm (3.78")	e: 24 mm (0.94")	d: 54 mm (2.12")	h: 16 mm (0.63")
30 mm Shielded	e: 20 mm (0.79")	e: 120 mm (4.72")	e: 30 mm (1.18")	d: 30 mm (1.18")	h: 0 mm (0")
30 mm Non-shielded, 24 V	e: 60 mm (2.36")	e: 180 mm (7.08")	e: 45 mm (1.77")	d: 90 mm (3.54")	h: 30 mm (1.18")
30 mm Non-shielded, 48 V	e: 60 mm (2.36")	e: 180 mm (7.08")	e: 45 mm (1.77")	d: 90 mm (3.54")	h: 30 mm (1.18")
Limit switch style	e: 80 mm (3.15")	e: 160 mm (6.30")			
Block style	e: 300 mm (11.81")	not recommended			



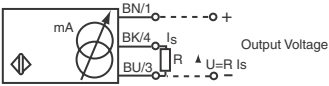
# Proximity Sensors XS Inductive Sensors Analog Output, DC

## Wiring

2-wire



3-wire



Output current	Value of R (R = load impedance)
<b>24 V</b>	0 to 10 mA ≤ 1800 Ω
	0 to 16 mA ≤ 1125 Ω
<b>48 V</b>	0 to 10 mA ≤ 4200 Ω

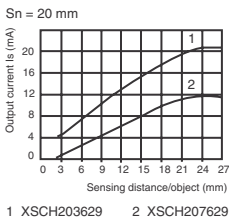
Ensure a minimum of 5 V between the + and sensor output

## Specifications

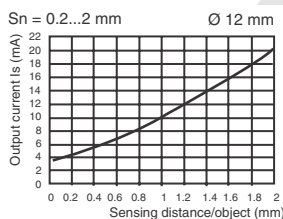
Mechanical			
Temperature range	-13° F to +158° F (-25° C to +70° C)		
Enclosure rating	IEC Type IP67		
Tightening torque (max.)	12mm	6 N•m 4.5 (lb-ft)	2 N•m 1.5 (lb-ft)
	18mm	15 N•m 11.1 (lb-ft)	5 N•m 3.7 (lb-ft)
	30mm	40 N•m 29.5 (lb-ft)	20 N•m 14.7 (lb-ft)
Enclosure material	Metal Plastic		
Wiring	Tubular	22 AWG (0.34 mm <sup>2</sup> ), PvR	
	Limit Switch/Block style	Screw term. 16 AWG(1.5 mm <sup>2</sup> )	
General Characteristics			
Voltage limit (including ripple)	XS1●●●●120, XS4●●●●120: 15 - 38 Vdc XS1●●●110, XS4●●●110: 15 - 58 Vdc XSCH207●●●, XSDH607●●●: 19 - 58 Vdc XSCH203●●●, XSDH603●●●: 19 - 30 Vdc		
Current consumption (no load)	4 mA		
Max. Output current drift with the rated operating temperature	10%		
Power Supply Current (no load)	4 mA		
Repeat Accuracy	+ - 1%		
Linearity error	+ - 4%		
Protective Circuitry	Short circuit protection	yes	
	Overload protection	yes	
	Reverse polarity protection	yes	
Agency Listings	UL (XS1, XS4) E 164869 CCN NRKH (XSC, XSD) E 164353 CCN NKCR	SP LR 44087 Class 3211 03	

## Output Curves 4 to 20 mA, 2 wire connection (cylindrical models)

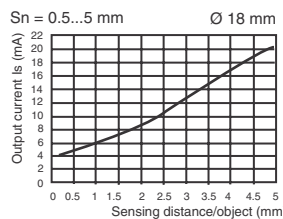
### XSCH20●629



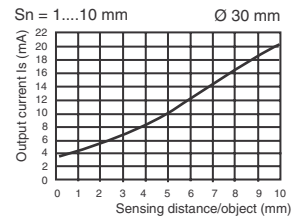
### XS1M12AB120



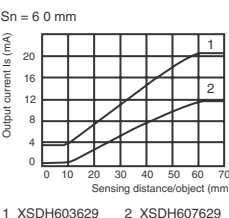
### XS1M18AB120



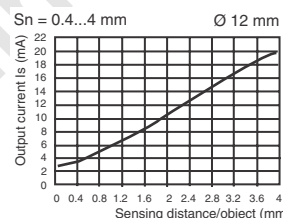
### XS1M30AB120



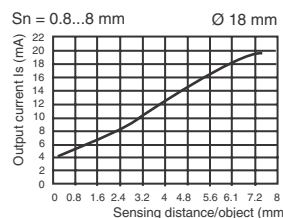
### XSDH20●629



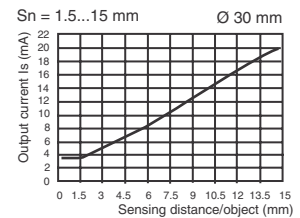
### XS4P12AB120



### XS4P18AB120

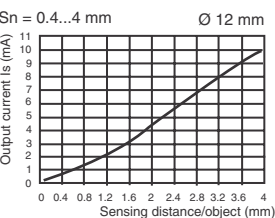


### XS4P30AB120

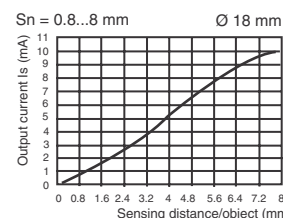


## Output Curves 0 to 10 mA, 3-wire connection, (cylindrical models)

### XS4P12AB110



### XS4M18AB110



### XS4P30AB110

