

## Premium+ Short Barrel Inductive Proximity Sensors

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The new Premium+ Short Barrel Inductive Proximity Sensors feature the same sensing ranges as our standard length sensors, but in a body with a substantially shorter length. This allows the sensors to be used in applications where mounting space is limited.

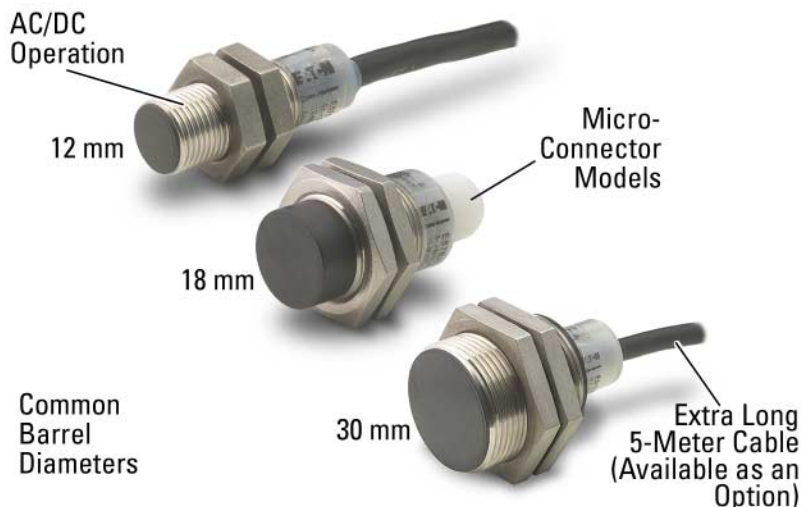
Our robust Premium+ design has been added to the short barrel line. This means these sensors have been upgraded to include rugged stainless steel barrels, polycarbonate end bells, shock-resistant front cap and potting compound. Plus, the short barrel line now includes a choice of AC, AC/DC and DC-only, 12, 18 and 30 mm sensors. Cable models feature an optional extra long 5-meter cable as standard. Every sensor is designed with 360° LED.

### Approvals

- UL Listed
- CSA Certified
- CE Pending

Contact factory for current transition to Series G1 Premium+ models.

## These Sensors Feature a Short Barrel Length to Fit into Tight Locations



### Product Features

- Manufactured to take physical and environmental abuse
- Premium+ are designed with stainless steel barrel and impact-absorbing new potting compound for robust, high temperature, high pressure washdown, as well as intense shock and vibration applications
- Premium+ are unmatched high noise immunity eliminates problems associated with electrical noise (all models > 20V/meter)
- Premium+ 360° output status indicator is visible from any angle and in any light condition
- Resettable short circuit protection in AC/DC and DC models
- Reverse polarity protection in 3-wire DC versions
- Small size to fit in tight spaces
- Choice of cable for low cost wiring, or micro-connector for quick installation or replacement
- Cable models include an extra long 5-meter cable as standard

For Customer Service in the U.S. call **1-800-356-1243**,  
in Canada call **1-800-268-3578**.  
For Application Assistance in the U.S. and Canada  
call **1-800-426-9184**.

**Model Selection — Short Barrel Length Proximity Sensors<sup>①</sup>**

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type <sup>②③</sup>	Catalog Number	
					N.O. Output	N.C. Output
<b>2-Wire Sensors</b>						
 12 mm Diameter	20 – 135V AC	2 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL12A4 E57SAL12A4SA	E57SBL12A4 E57SBL12A4SA
		4 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL12A4E E57SAL12A4EA	E57SBL12A4E E57SBL12A4EA
	20 – 250V AC/DC 45/65 Hz	2 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL12A2 E57SAL12A2SA	E57SBL12A2 E57SBL12A2SA
		4 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL12A2E E57SAL12A2EA	E57SBL12A2E E57SBL12A2EA
 18 mm Diameter	20 – 135V AC	5 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL18A4 E57SAL18A4SA	E57SBL18A4 E57SBL18A4SA
		8 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL18A4E E57SAL18A4EA	E57SBL18A4E E57SBL18A4EA
	20 – 250V AC/DC 45/65 Hz	5 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL18A2 E57SAL18A2SA	E57SBL18A2 E57SBL18A2SA
		8 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL18A2E E57SAL18A2EA	E57SBL18A2E E57SBL18A2EA
 30 mm Diameter	20 – 135V AC	10 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL30A4 E57SAL30A4SA	E57SBL30A4 E57SBL30A4SA
		15 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL30A4E E57SAL30A4EA	E57SBL30A4E E57SBL30A4EA
	20 – 250V AC/DC 45/65 Hz	10 mm	Shielded	2-meter Cable 3-pin Micro AC Connector	E57SAL30A2 E57SAL30A2SA	E57SBL30A2 E57SBL30A2SA
		15 mm	Unshielded	2-meter Cable 3-pin Micro AC Connector	E57SAL30A2E E57SAL30A2EA	E57SBL30A2E E57SBL30A2EA
<b>3-Wire Sensors</b>						
 12 mm Diameter	6 – 48V DC	2 mm	Shielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL12T110 E57SAL12T110SD	E57SBL12T110 E57SBL12T110SD
			Shielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL12T111 E57SAL12T111SD	E57SBL12T111 E57SBL12T111SD
		4 mm	Unshielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL12T110E E57SAL12T110ED	E57SBL12T110E E57SBL12T110ED
			Unshielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL12T111E E57SAL12T111ED	E57SBL12T111E E57SBL12T111ED
 18 mm Diameter	6 – 48V DC	5 mm	Shielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL18T110 E57SAL18T110SD	E57SBL18T110 E57SBL18T110SD
			Shielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL18T111 E57SAL18T111SD	E57SBL18T111 E57SBL18T111SD
		8 mm	Unshielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL18T110E E57SAL18T110ED	E57SBL18T110E E57SBL18T110ED
			Unshielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL18T111E E57SAL18T111ED	E57SBL18T111E E57SBL18T111ED
 30 mm Diameter	6 – 48V DC	10 mm	Shielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL30T110 E57SAL30T110SD	E57SBL30T110 E57SBL30T110SD
			Shielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL30T111 E57SAL30T111SD	E57SBL30T111 E57SBL30T111SD
		15 mm	Unshielded (NPN)	2-meter Cable 4-pin Micro DC Connector	E57SAL30T110E E57SAL30T110ED	E57SBL30T110E E57SBL30T110ED
			Unshielded (PNP)	2-meter Cable 4-pin Micro DC Connector	E57SAL30T111E E57SAL30T111ED	E57SBL30T111E E57SBL30T111ED

① Contact factory for current series transition.

② For connector cables suitable for use with these sensors, see **PG.05.05.T.E.**

③ Cable models are supplied as standard with a 2-meter cable. A 5-meter cable is available by adding **S5** to the Catalog Number. Example: E57SALT110 becomes E57SALT110S5.

**Wiring Diagrams** (Pin numbers are for reference, rely on pin location when wiring)

Operating Voltage	Output	Cable Models	Micro-Connector Models (Face View Male Shown)
<b>2-Wire Sensors</b>			
20 – 250V AC/DC 45/65 Hz	N.O. and N.C. (NPN)		
	N.O. and N.C. (PNP)		
<b>3-Wire Sensors</b>			
20 – 135V AC	N.O. and N.C.		
6 – 48V DC	N.O. (NPN)		
	N.O. (PNP)		
	N.C. (NPN)		
	N.C. (PNP)		

**Specifications**

	2 Wire AC Sensors	2-Wire AC/DC Sensors <sup>①</sup>		3-Wire DC Sensors
		AC Operation	DC Operation	
Operating Voltage	20 – 250V AC	24 – 240V AC ±10%	20 – 240V DC	6 – 48V DC
Maximum Load Current	500 mA @ 25°C; 250 mA @ 70°C	250 mA @ 25°C 200 mA @ 70°C	250 mA @ 25°C 200 mA @ 70°C	500 mA @ 6 – 32V DC 250 mA @ 32 – 48V AC
Switching Frequency	20 Hz	120 Hz	120 Hz	12 mm shielded: 1000; unshielded: 600 18 mm shielded: 250; unshielded: 250 30 mm shielded: 150; unshielded: 100
Leakage Current	1.7 mA maximum @ 70°C	1.7V mA maximum @ 120V AC	≤2.0 mA	100 µA maximum
Voltage Drop	7V maximum	≤4V @ >25 mA	12V @ <10 mA	≤2.5V
Holding Current	5 mA	5 mA minimum	5 mA maximum	≤10 mA
Protection	—	Resettable short circuit; overload protection	Resettable short circuit; overload protection	Auto reset
Switching Hysteresis	2 – 20% of rated sensing distance			
Repeat Accuracy	<3% sensing distance			
Output Indicator LED	360° viewable LED			
Operating Temperature	-13° to 158°F (-25° to 70°C) <sup>②</sup>			
Enclosure Ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)			
Shock	30g sine wave, 11 ms per IEC68-2-76			
Vibration	10 to 55 Hz, 1 mm amplitude			
Housing Material	Stainless steel, Polycarbonate end bells, Ryton® front cap			
Cable	AWM style 2038 (PVC)			

Ryton® is a registered trademark of Phillips Chemical (division of Phillips Petroleum).

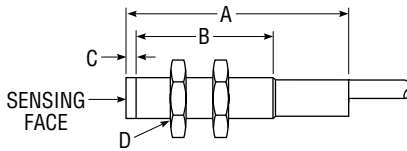
- ① 2-wire AC/DC specifications above are not final product specifications and are subject to change.
- ② Note: 240V AC operation is limited to less than 50°C in 2-wire AC/DC models.

**Model Selection — Accessories**

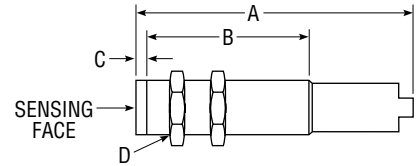
Description	Reference
Mounting Brackets	See <b>PG.05.03.T.E</b>
Replacement Mounting Nuts and Other Accessories	See <b>PG.05.04.T.E</b>
Connector Cables	See <b>PG.05.05.T.E</b>

**Approximate Dimensions in Inches (mm)**

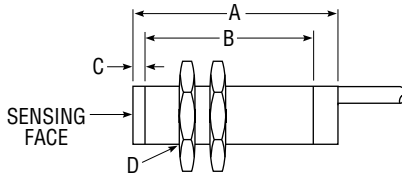
**12 mm  
Cable Models**



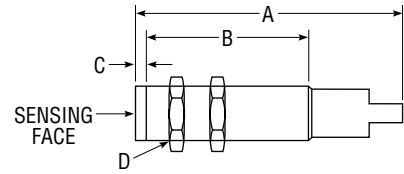
**12 mm Micro-Connector  
Models**



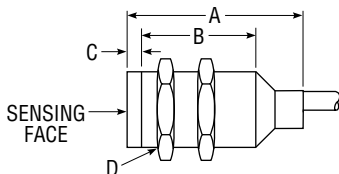
**18 mm  
Cable Models**



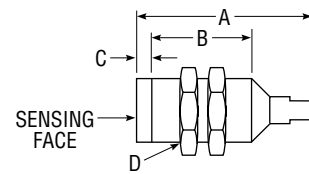
**18 mm Micro-Connector  
Models**



**30 mm  
Cable Models**



**30 mm Micro-Connector  
Models**



Size	Shielding	Dimensions in Inches (mm)			
		Overall Length A	Threaded Length B	C	Thread Size D
<b>2-Wire AC Sensors — Cable Models</b>					
12 mm	Shielded	2.04 (51.7)	1.56 (39.6)	0.02 (0.5)	M12 x 1
	Unshielded	2.04 (51.7)	1.38 (35.1)	0.20 (5)	M12 x 1
18 mm	Shielded	1.39 (35.4)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.39 (35.4)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.58 (40.2)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.77 (44.9)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5
<b>2-Wire AC Sensors — Micro-Connector Models</b>					
12 mm	Shielded	2.27 (57.8)	1.56 (39.6)	0.02 (0.5)	M12 x 1
	Unshielded	2.27 (57.8)	1.38 (35.1)	0.20 (5)	M12 x 1
18 mm	Shielded	1.57 (40.0)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.57 (40.0)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.76 (44.8)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.95 (49.5)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5
<b>2-Wire AC/DC Sensors — Cable Models</b>					
12 mm	Shielded	2.46 (62.4)	1.98 (50.27)	0.02 (0.5)	M12 x 1
	Unshielded	2.46 (62.4)	1.80 (45.77)	0.20 (5)	M12 x 1
18 mm	Shielded	2.05 (52.0)	1.51 (38.4)	0.02 (0.5)	M18 x 1
	Unshielded	2.05 (52.0)	1.26 (31.9)	0.28 (7)	M18 x 1
30 mm	Shielded	2.24 (56.8)	1.49 (37.85)	0.03 (0.8)	M30 x 1.5
	Unshielded	2.24 (56.8)	1.00 (25.35)	0.52 (13.26)	M30 x 1.5
<b>2-Wire AC/DC Sensors — Micro-Connector Models</b>					
12 mm	Shielded	2.69 (68.4)	1.98 (50.27)	0.02 (0.5)	M12 x 1
	Unshielded	2.69 (68.4)	1.80 (45.77)	0.20 (5)	M12 x 1
18 mm	Shielded	2.23 (56.6)	1.51 (38.4)	0.02 (0.5)	M18 x 1
	Unshielded	2.23 (56.6)	1.26 (31.9)	0.28 (7)	M18 x 1
30 mm	Shielded	2.42 (61.3)	1.49 (37.85)	0.03 (0.8)	M30 x 1.5
	Unshielded	2.42 (61.3)	1.00 (25.35)	0.52 (13.26)	M30 x 1.5
<b>3-Wire DC Sensors — Cable Models</b>					
12 mm	Shielded	1.39 (35.2)	0.91 (23.09)	0.02 (0.5)	M12 x 1
	Unshielded	1.39 (35.2)	0.73 (18.59)	0.20 (5)	M12 x 1
18 mm	Shielded	1.39 (35.4)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.39 (35.4)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.58 (40.2)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.77 (44.9)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5
<b>3-Wire DC Sensors — Micro-Connector Models</b>					
12 mm	Shielded	1.64 (41.5)	0.91 (23.09)	0.02 (0.5)	M12 x 1
	Unshielded	1.64 (41.5)	0.73 (18.59)	0.20 (5)	M12 x 1
18 mm	Shielded	1.59 (40.3)	0.86 (21.82)	0.02 (0.5)	M18 x 1
	Unshielded	1.59 (40.3)	0.60 (15.32)	0.28 (7)	M18 x 1
30 mm	Shielded	1.77 (45.0)	0.84 (21.26)	0.03 (0.8)	M30 x 1.5
	Unshielded	1.96 (49.7)	0.53 (13.46)	0.52 (13.26)	M30 x 1.5