

Miniature Short Body Sensors



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Miniature Short Body Sensors

Product Description

These unique Inductive Proximity Sensors by Eaton's electrical sector are designed to be used in extremely small spaces. A wide variety of models are available with housing diameters from 8 mm all the way down to 4 mm, allowing you to choose the one that best fits your application. The sensors are three-wire devices that operate from 10 to 30 Vdc. Both shielded and unshielded versions are available.

Application Description

Typical Applications

- Automation equipment
- Robotics
- Machine tool
- Counting
- Sorting

Features

- Small 4, 5, 6.5 and 8 mm diameters for use in applications with limited space for mounting sensors
- Stainless steel housings
- All models include an LED indicator to show output status
- Short circuit and reverse polarity protection
- Rated NEMA 4, 4X, 6, 6P, 12 and 13 (IP67) for high resistance to environmental factors

Standards and Certifications

- CE



⚠ DANGER

THIS SENSOR IS NOT A SAFETY DEVICE AND IS NOT INTENDED TO BE USED AS A SAFETY DEVICE. This sensor is designed only to detect and read certain data in an electronic manner and perform no use apart from that, specifically no safety-related use. This sensor product does not include self-checking redundant circuitry, and the failure of this sensor product could cause either an energized or de-energized output condition, which could result in death, serious bodily injury, or property damage.

For the most current information on this product, visit our Web site: www.eaton.com





For Customer Service in the U.S. call 1-877-ETN CARE (386-2273), in Canada call 1-800-268-3578.
For Application Assistance in the U.S. and Canada call 1-800-426-9184.

Product Selection

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Three-Wire Sensors

	Operating Voltage	Sensing Range (Sn)	Shielding	Connection Type	NO Output Catalog Number	NC Output Catalog Number	
4 mm 	4 mm Diameter (Unthreaded)						
	10–30 Vdc	0.8 mm	Shielded (NPN)	2-meter cable	E57EAL4T110SP	—	
				3-pin nano-connector	E57EAL4T110SN ☹	—	
			Shielded (PNP)	2-meter cable	E57EAL4T111SP	—	
				3-pin nano-connector	E57EAL4T111SN ☹	—	
	5 mm Diameter						
	5 mm 	10–30 Vdc	0.8 mm	Shielded (NPN)	2-meter cable	E57EAL5T110SP	—
					3-pin nano-connector	E57EAL5T110SN ☹	—
				Shielded (PNP)	2-meter cable	E57EAL5T111SP	—
					3-pin nano-connector	E57EAL5T111SN ☹	—
6.5 mm Diameter (Unthreaded)							
6.5 mm 	10–30 Vdc	1 mm	Shielded (NPN)	2-meter cable	E57EAL6T110SP	—	
				3-pin nano-connector	E57EAL6T110SN ☹	—	
				4-pin micro DC connector	E57EAL6T110SD ☹	—	
			Shielded (PNP)	2-meter cable	E57EAL6T111SP	—	
				3-pin nano-connector	E57EAL6T111SN ☹	—	
				4-pin micro DC connector	E57EAL6T111SD ☹	—	
		2 mm	Unshielded (NPN)	2-meter cable	E57EAL6T110EP	—	
				3-pin nano-connector	E57EAL6T110EN ☹	—	
				2-meter cable	E57EAL6T111EP	—	
				3-pin nano-connector	E57EAL6T111EN ☹	—	
8 mm Diameter							
8 mm 	10–30 Vdc	1 mm	Shielded (NPN)	2-meter cable	E57EAL8T110SP	E57EAL8T110SP	
				3-pin nano-connector	E57EAL8T110SN ☹	E57EAL8T110SN ☹	
				4-pin micro DC connector	E57EAL8T110SD ☹	E57EAL8T110SD ☹	
			Shielded (PNP)	2-meter cable	E57EAL8T111SP	E57EAL8T111SP	
				3-pin nano-connector	E57EAL8T111SN ☹	E57EAL8T111SN ☹	
				4-pin micro DC connector	E57EAL8T111SD ☹	E57EAL8T111SD ☹	
		2 mm	Unshielded (NPN)	2-meter cable	E57EAL8T110EP	E57EAL8T110EP	
				3-pin nano-connector	E57EAL8T110EN ☹	E57EAL8T110EN ☹	
				4-pin micro DC connector	E57EAL8T110ED ☹	E57EAL8T110ED ☹	
			Unshielded (PNP)	2-meter cable	E57EAL8T111EP	E57EAL8T111EP	
				3-pin nano-connector	E57EAL8T111EN ☹	E57EAL8T111EN ☹	
				4-pin micro DC connector	E57EAL8T111ED ☹	E57EAL8T111ED ☹	

Note

☹☹ See listing of compatible connector cables on **Page V8-T3-63**.

Technical Data and Specifications

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Description	Three-Wire DC Only Sensors
Operating voltage	10–30 Vdc
Maximum load current	200 mA
Switching frequency	2 kHz
Leakage current	0.01 mA maximum
Voltage drop	1.5V maximum
Burden current	10 mA maximum
Protection	Transient, power on false pulse suppression, auto-reset short circuit
Switching hysteresis	<15% rated sensing distance
Repeat accuracy	<1% sensing distance
Time delay before availability	<50 ms
Output indicator LED	Lights when output is ON
Operating temperature	–13° to 158°F (–25° to 70°C)
Enclosure ratings	NEMA 4, 4X, 6, 6P, 12 and 13 (IP67)
Housing material	Stainless steel
Cable	PVC high flex, oil/water resistant, 22 AWG

Wiring Diagrams

Pin numbers are for reference, rely on pin location when wiring.

Miniature Short Body Sensors

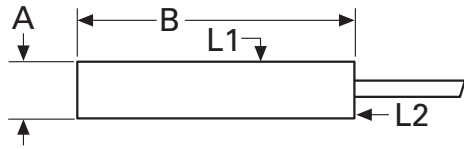
Operating Voltage	Output	Cable Models	Connector Models (Face View Male Shown)	
			Micro	Nano
Three-Wire Sensors				
10–30 Vdc	NO (NPN)			
	NO (PNP)			
	NC (NPN)			
	NC (PNP)			

Dimensions

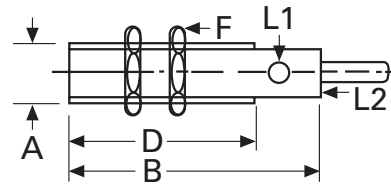
Approximate Dimensions in Inches (mm)

Cable Models

Unthreaded Barrel



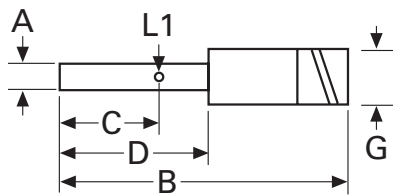
Threaded Barrel



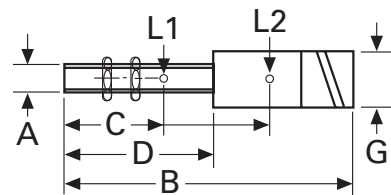
Size A	Barrel Type	Length B	D	Thread Size	Nut Width F	Connector Diameter G	LED Location
Cable Models							
4 mm	Unthreaded	1.0 (25)	—	—	—	—	L1
5 mm	Threaded	1.0 (25)	0.8 (21)	M5 x 0.5	SW8	—	L1
6.5 mm	Unthreaded	1.8 (45)	—	—	—	—	L2
8 mm	Threaded	1.2 (30)	1.2 (30)	M8 x 1	SW13	—	L2

Connector Models

Unthreaded Barrel



Threaded Barrel



Size A	Barrel Type	Length B	C	D	Thread Size	Nut Width F	Connector Diameter G	LED Location
Nano-Connector Models								
4 mm	Unthreaded	1.6 (40)	0.7 (18)	0.8 (21)	—	—	0.31 (8)	L1
5 mm	Threaded	1.6 (40)	0.7 (18)	0.8 (21)	M5 x 0.5	SW8	0.31 (8)	L1
6.5 mm	Unthreaded	2.4 (60)	1.5 (39)	2.0 (50)	—	—	0.31 (8)	L1
8 mm	Threaded	1.8 (45)	1.0 (25)	1.4 (36)	M8 x 1	SW13	0.31 (8)	L1
Micro-Connector Models								
6.5 mm	Unthreaded	2.9 (70)	1.4 (36)	1.5 (39)	—	—	0.47 (12)	L1
8 mm	Threaded	2.0 (50)	1.6 (40)	1.0 (25)	M8 x 1	SW13	0.47 (12)	L2