

### E51 Limit Switch Style, Factory Sealed 6P+ Sensors



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## E51 Limit Switch Style, Factory Sealed 6P+ Sensors

### Product Description

E51 6P+ Inductive Proximity Sensors from Eaton's Electrical Sector are fully sealed, pre-wired and designed specifically to ensure reliability under the most adverse of environmental conditions. They have been proven to withstand the penetrating properties of dirt, dust, grit, extreme temperatures and humidity. The unitized design eliminates plug-in connections that can lead to reliability problems in rugged environments.

### Features

- The one-piece body and sensing head are both epoxy filled to protect internal components from contamination
- The head is hard-wired to the sensor body to ensure trouble-free performance
- Choose from top and side sensing heads
- Side sensing heads can be rotated to any of four positions
- Mounting dimensions allow direct replacement of worn out limit switches
- Rugged zinc die cast construction withstands physical abuse
- Connection options include pre-wired cable, body mounted connector and pigtail connector

### 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](http://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.

# 3.17

## Inductive Proximity Sensors

E51 Limit Switch Style, Factory Sealed 6P+ Sensors

### Product Selection

#### Unitized Sensors

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#### Assembled Sensor with 8 ft Cable ①



#### Sensor Heads ②

#### Top Sensing ②



#### Side Sensing ②



### Factory Sealed 6P+ Assembled Sensors

Sensing Range	Shielding	Frequency ③	Two-Wire Sensors		Four-Wire Sensors		
			Operating voltage	Output	120 Vac	10–30 Vdc	NO and NC complementary
			Assembled Sensor with Head, Sensor Body and Receptacle				
			Catalog Number				
<b>Top Sensing</b>							
0.51 in (13 mm)	Shielded	Standard	<b>E51ALT16PU</b>	<b>E51BLT16PU</b>	<b>E51CLT16PU</b>	<b>E51PLT16PU</b>	<b>E51NLT16PU</b>
		Alternate	<b>E51ALT26PU</b>	<b>E51BLT26PU</b>	<b>E51CLT26PU</b>	<b>E51PLT26PU</b>	<b>E51NLT26PU</b>
0.94 in (24 mm)	Unshielded	Standard	<b>E51ALT56PU</b>	<b>E51BLT56PU</b>	<b>E51CLT56PU</b>	<b>E51PLT56PU</b>	<b>E51NLT56PU</b>
		Alternate	<b>E51ALT66PU</b>	<b>E51BLT66PU</b>	<b>E51CLT66PU</b>	<b>E51PLT66PU</b>	<b>E51NLT66PU</b>
<b>Side Sensing</b>							
0.51 in (13 mm)	Shielded	Standard	<b>E51ALS16PU</b>	<b>E51BLS16PU</b>	<b>E51CLS16PU</b>	<b>E51PLS16PU</b>	<b>E51NLS16PU</b>
		Alternate	<b>E51ALS26PU</b>	<b>E51BLS26PU</b>	<b>E51CLS26PU</b>	<b>E51PLS26PU</b>	<b>E51NLS26PU</b>
0.94 in (24 mm)	Unshielded	Standard	<b>E51ALS56PU</b>	<b>E51BLS56PU</b>	<b>E51CLS56PU</b>	<b>E51PLS56PU</b>	<b>E51NLS56PU</b>
		Alternate	<b>E51ALS66PU</b>	<b>E51BLS66PU</b>	<b>E51CLS66PU</b>	<b>E51PLS66PU</b>	<b>E51NLS66PU</b>

### Compatible Connector Cables

#### Standard Cables ⑥

#### Mini-Style Straight Female



Current Rating at 600 V	Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/Wire Colors (Face View Female Shown)	Catalog Number
<b>Mini-Style, Straight Female</b>						
13 A	—	3-pin	16 AWG	6 ft (2m)	1-Green 2-Black 3-White	<b>CSMS3F3CY1602</b>
10 A	—	4-pin	16 AWG	6 ft (2m)	1-Black 2-Blue 3-Brown 4-White	<b>CSMS4A4CY1602</b>
8 A	AC/DC	5-pin, 5-wire	16 AWG	6 ft (2m)	1-Black 2-Blue 3-Orange 4-Brown 5-White	<b>CSMS5A5CY1602</b>

#### Notes

① Switch bases feature 8 ft of S00W-A cable. Other connection options are available:

Connection Option ④	Instructions	Example
Mini-connector mounted on 3 ft (0.9m) pigtail cable (3-pin for two-wire sensors; 5-pin for four-wire sensors)	Add the letter <b>T</b> before <b>U</b>	<b>E51ALT16PTU</b>
Mini-connector mounted to switch base (3-pin for two-wire sensors; 5-pin for four-wire sensors)	Add the letter <b>C</b> before <b>U</b>	<b>E51ALT16PCU</b>
Cable longer than 8 ft, add required length in 1 ft increments to listed catalog number—20 ft maximum	Add length in feet to end of catalog number	<b>E51ALT16PU12 ⑤</b>

② Sensor head is hard wired to sensor body and cannot be detached. Side sensing head can be unfastened and rotated to any of four positions.

③ Sensor heads feature color coded target symbols: Yellow for standard frequency; Green for alternate frequency.

④ See listing of compatible connector cables above.

⑤ For 12 ft.

⑥ For a full selection of connector cables, see **Tab 10, section 10.1**.

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## E51 Limit Switch Style, Factory Sealed 6P+ Sensors

### Wiring Diagrams

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

#### E51 Limit Switch Style, Factory Sealed 6P+

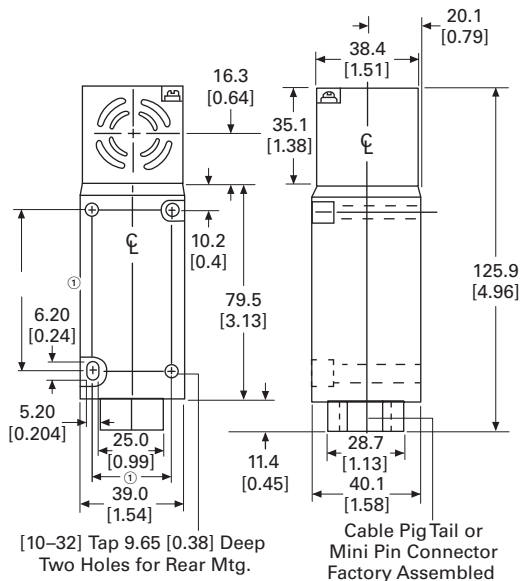
3

Operating Voltage	Output	Cable Models	Mini-Connector Models (Face View Male Shown)
<b>Two-Wire Sensors</b>			
20–264 Vac or Vdc 50/60 Hz	NO or NC (NO shown)		
<b>Four-Wire Sensors</b>			
120 Vac 50/60 Hz	NO and NC		
10–30 Vdc	NO and NC NPN		
	NO and NC PNP		

### Dimensions

Approximate Dimensions in mm [in]

#### E51 Limit Switch Style, Factory Sealed 6P+



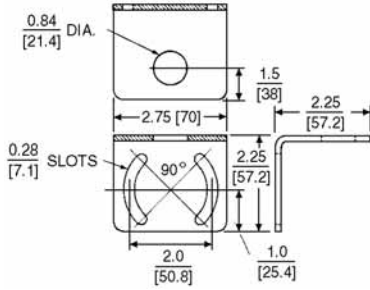
#### Note

① Can accommodate both U.S., 29.4 [1.16] x 59.5 [2.34] and DIN, 30 [1.18] x 60 [2.36], mounting dimensions.

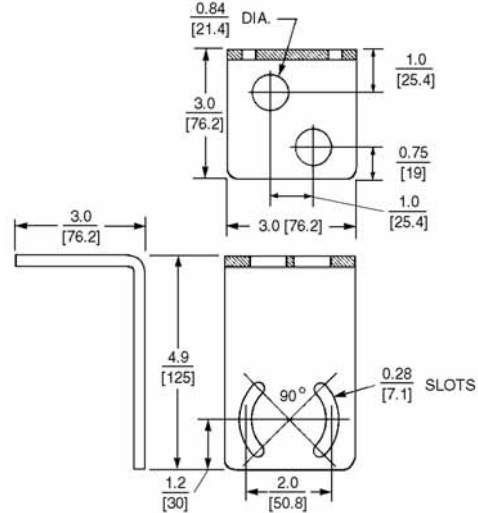
Approximate Dimensions in Inches [mm]

### Accessories

#### Universal Mounting Bracket—One Hole

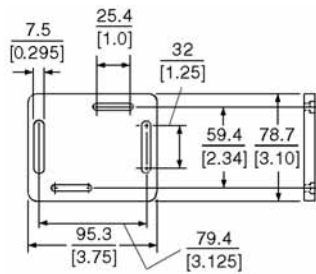


#### Universal Mounting Bracket—Two Holes

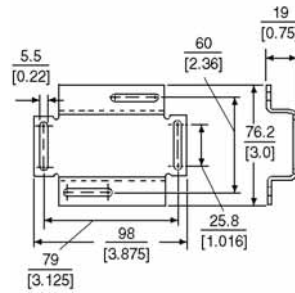


Approximate Dimensions in mm [in]

#### Machine Mounting Bracket



#### Stand-Off Mounting Bracket



### Note

- ① Can accommodate both U.S., 29.4 [1.16] x 59.5 [2.34] and DIN, 30 [1.18] x 60 [2.36], mounting dimensions.