

**E51 Limit Switch Style,
 Factory Sealed 6P+
 Inductive Proximity Sensors**

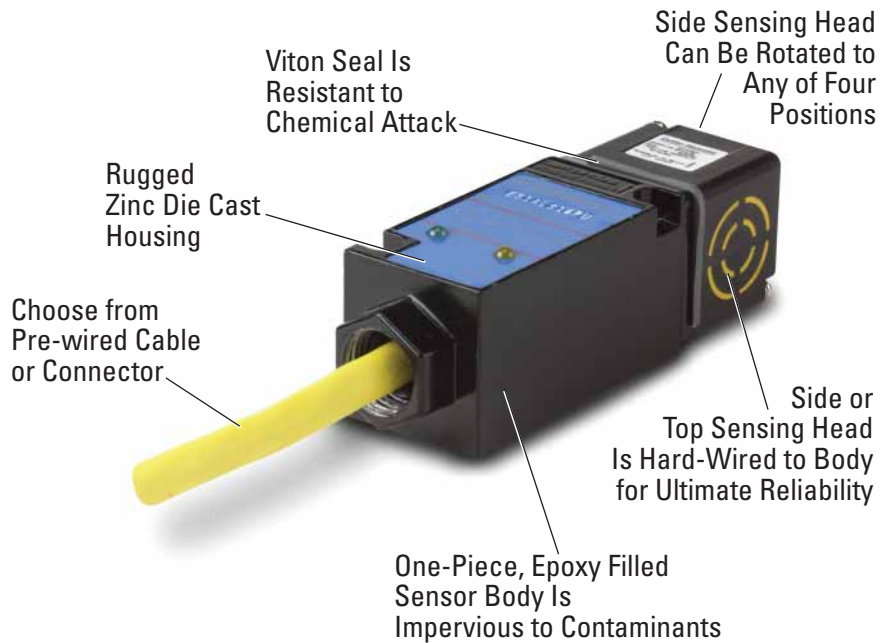
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Cutler-Hammer® E51 6P+ Inductive Proximity Sensors from Eaton's electrical business are fully sealed, pre-wired and designed specifically to ensure reliability under the most adverse of environmental conditions. They have been proven to withstand the 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.

 **Unless otherwise noted, the products contained in this document are not designed or intended for use in human safety applications.**

Unitized 6P+ Sensors Are Built for Reliable Operation and Long Life in Hostile Environments








Product 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

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**.

Model Selection — Unitized Sensors — Factory Sealed 6P+

Assembled Sensor with 8 Foot Cable ②		2-Wire Sensors			4-Wire Sensors			
		Operating Voltage	20 – 264V AC/DC		120V AC	10 – 30V DC		
		Output	N.O.	N.C.	N.O. and N.C. Complementary	N.O. and N.C. Complementary		
					PNP	NPN		
Sensor Heads ①	Sensing Range	Shielding	Frequency ③	Catalog Number — Assembled Sensors (Head Hard Wired to Sensor Body)				
	0.51 inches (13 mm)	Shielded	Standard	E51ALT16PU	E51BLT16PU	E51CLT16PU	E51PLT16PU	E51NLT16PU
			Alternate	E51ALT26PU	E51BLT26PU	E51CLT26PU	E51PLT26PU	E51NLT26PU
	0.94 inches (24 mm)	Unshielded	Standard	E51ALT56PU	E51BLT56PU	E51CLT56PU	E51PLT56PU	E51NLT56PU
			Alternate	E51ALT66PU	E51BLT66PU	E51CLT66PU	E51PLT66PU	E51NLT66PU
	0.51 inches (13 mm)	Shielded	Standard	E51ALS16PU	E51BLS16PU	E51CLS16PU	E51PLS16PU	E51NLS16PU
			Alternate	E51ALS26PU	E51BLS26PU	E51CLS26PU	E51PLS26PU	E51NLS26PU
	0.94 inches (24 mm)	Unshielded	Standard	E51ALS56PU	E51BLS56PU	E51CLS56PU	E51PLS56PU	E51NLS56PU
			Alternate	E51ALS66PU	E51BLS66PU	E51CLS66PU	E51PLS66PU	E51NLS66PU

① 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.

② Switch bases feature 8 feet of SOOW-A cable. Other connection options are available:




Connection Option ④	Instructions	Example
Mini-Connector mounted on 3 foot (900 mm) pigtail cable (3-pin for 2-wire sensors; 5-pin for 4-wire sensors)	Add the letter T before U	E51ALT16PTU
Mini-Connector mounted to switch base (3-pin for 2-wire sensors; 5-pin for 4-wire sensors)	Add the letter C before U	E51ALT16PCU
Cable longer than 8 feet, add required length in 1 foot increments to listed Catalog Number — 20 foot maximum	Add length in feet to end of Catalog Number	E51ALT16PU12 for 12 feet

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

④ See listing of compatible connector cables below.

Fast turn product with typical one business day lead-time to shipment.

Model Selection — Compatible Connector Cables ⑤

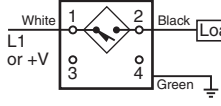
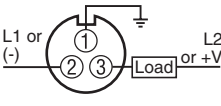
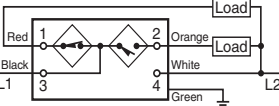
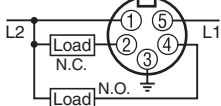
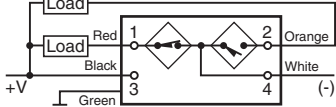
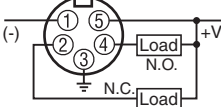
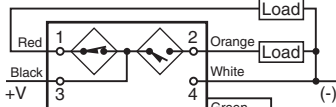
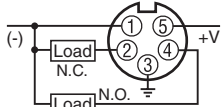
	Voltage Style	Number of Pins	Gauge	Length	Catalog Number	Pin Configuration/Wire Colors (Face View Female Shown)
Standard Cables — Mini Style						
Mini Style Straight Female Current Rating @ 600V 3-pin: 13A 4-pin: 10A 	—	3-pin	16 AWG	6 feet (2m)	CSMS3F3CY1602	 1-Green 2-Black 3-White
	AC/DC	5-pin, 5-wire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

⑤ For a full selection of connector cables, see **PG.05.05.T.E.**

Stocked product, typical order quantities guaranteed in stock.

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

Operating Voltage	Output	Cable Models	Mini-Connector Models (Face View Male Shown)
2-Wire Sensors			
20 – 264V AC or DC 50/60 Hz	N.O. or N.C. (N.O. shown)		
4-Wire Sensors			
120V AC 50/60 Hz	N.O. and N.C.		
10 – 30V DC	N.O. and N.C. NPN		
	N.O. and N.C. PNP		

Model Selection — Accessories

	Description	Catalog Number	Approximate Dimensions in Inches [mm] Except Where Noted
	1 hole, includes mounting hardware, stainless steel	E51KH2	
	2 hole, includes mounting hardware, steel	E51KH4	
	Zinc die cast construction	E50KH3	<p>NOTE: Dimensions in mm [Inches]</p>
	Steel construction	E51KH3	<p>NOTE: Dimensions in mm [Inches]</p>
Connector Cables	A variety of cables, connector blocks and accessories	See PG.05.05.T.E	

■ Stocked product, typical order quantities guaranteed in stock.

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Specifications

Description	Specification
Output Rating (NEMA D150) AC/DC Models AC Models DC Models	0.5A continuous 1A continuous 0.6A continuous
Protection	Latching short circuit protection on 2-wire AC/DC and 3-wire DC models
Switching Rate	AC models: 15 Hz; DC models: 50 Hz
Indicator LEDs	Lights when output is ON. One LED for each output
Alternate Frequency	Standard and alternate frequencies allow side-by-side operation without interference
Enclosure Material	Cast metal
Gasket Material	Zinc die cast
Enclosure Ratings	NEMA 3, 3S, 4, 4X, 6, 6P, 12 and 13 (IP68)
Temperature Range	-13° to 158°F (-25° to 70°C)
Torque Requirements	Switch Body Screws: 25 – 30 in-lb; Sensing Head Screws: 14 – 18 in-lb
OFF-State Leakage	DC Version: 120 µA; 2-wire AC: 1.9 mA maximum; 3-wire AC: 1.1 mA
ON-State Leakage	<2.5V DC

Approximate Dimensions in mm [Inches]