E67 Long Range Perfect Prox Series Sensors

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Product Description

The E67 Long Range Perfect Prox Series from Eaton's Electrical Sector, the highest performing long-range sensor you can buy with background rejection, is ideal for your most difficult sensing applications.

The E67 Long Range Perfect Prox Series reliably detects targets in range regardless of variations in color, reflectance, contrast or surface shape while ignoring objects just slightly outside the target range.

The standard E67 sensor is conveniently pre-set with a six-foot range. Ranges of three to eight feet are available pre-set from the factory.

Features

- Perfect Prox technology provides exceptional background rejection and application problem solving
- Extended sensing ranges (up to eight feet) available
- No user adjustments required
- Dual indicators communicate both output and power status from an easy-to-see location at the top of the sensor housing
- Models available with both AC and DC operation in a single unit—up to 132 volts AC and DC
- AC/DC models offer isolated contact output for wiring flexibility
- DC-only sensors offer both NPN and PNP outputs
- Two mounting options for maximum flexibility
- Fully sealed package

⚠ 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.

Standards and Certifications

- RoHS Compliant

RoHS COMPLIANT

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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E67 Long Range

Four-Wire Sensors

Operating Voltage	Sensing Range ①②	Optimum Range ③	Cutoff Range ④	Field of View	Sensing Beam	Connection Type	Light Operate Catalog Number	Dark Operate Catalog Number
18–30 Vdc	79 in (200 cm)	12 to 60 in (30 to 150 cm)	91 in (230 cm)	6 in (15 cm) diameter at 79 in (200 cm)	Infrared beam	4-pin micro DC connector	**E67-LRDP200-HLD** ⠿	**E67-LRDP200-HDD** ⠿
	⑤	⑤	⑤	⑤	Infrared beam	4-pin micro DC connector	**E67-LRDPXXX-HLD** ⠿	**E67-LRDPXXX-HDD** ⠿
20–132 Vac 20–132 Vdc	79 in (200 cm)	12 to 60 in (30 to 150 cm)	91 in (230 cm)	6 in (15 cm) diameter at 79 in (200 cm)	Infrared beam	4-pin, micro AC connector	**E67-LRDP200-KLD** ⠿	**E67-LRDP200-KDD** ⠿
	⑤	⑤	⑤	⑤	Infrared beam	4-pin micro AC connector	**E67-LRDPXXX-KLD** ⠿	**E67-LRDPXXX-KDD** ⠿

Compatible Connector Cables

Micro-Style, Straight Female

Standard Cables—Micro ⑥

Voltage Style	Number of Pins	Gauge	Length	Pin Configuration/ Wire Colors (Face View Female Shown)	PVC Jacket Catalog Number	PUR Jacket Catalog Number	IRR PUR Jacket Catalog Number
Micro-Style, Straight Female							
AC	4-pin, 4-wire	22 AWG	6 ft (2 m)	 1-Red/Black 2-Red/White 3-Red 4-Green	**CSAS4F4CY2202**	**CSAS4F4RY2202**	**CSAS4F4IO2202**
DC	4-pin, 4-wire	22 AWG	6 ft (2 m)	 1-Brown 2-White 3-Blue 4-Black	**CSDS4A4CY2202**	**CSDS4A4RY2202**	**CSDS4A4IO2202**

Accessories

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Description	Reference
Mounting brackets	See **Tab 8**, **section 8.2**
Connector cables	See **Tab 10**, **section 10.1**

Notes

⠿ See listing of compatible connector cables on this page.

① Ranges based on an 18 in white card.

② Also consider the cutoff range when selecting a sensing range. Guaranteed cutoff will be approximately 12 in (30 cm) beyond the sensing range. If a background is present within this zone, adjustments to the application or the sensing range will need to be made.

③ Sensor will detect a 90% reflectance card at this range.

④ Sensor will ignore a 90% reflectance card at this range.

⑤ Custom ranges available:
Sensor Options (Built-to-order, contact Eaton's Sensor Applications Department at 1-800–426-9184 for delivery lead times). The sensing range of this device can be set at the factory to between 60 cm and 240 cm in 10 cm increments. To order, substitute the range (in centimeters) in the model number in place of the standard **200** centimeters. For example, for a device that detects out to 4 ft (4 ft x 12 in/ft x 2.54 centimeters/in), that equates to 121.92 cm. Rounding up (or down, depending on your needs) to the nearest 10 cm yields a sensing range of 130 cm. Therefore, for a light-operate AC/DC device, you would order E67-LRDP**130**-KLD.

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

Technical Data and Specifications

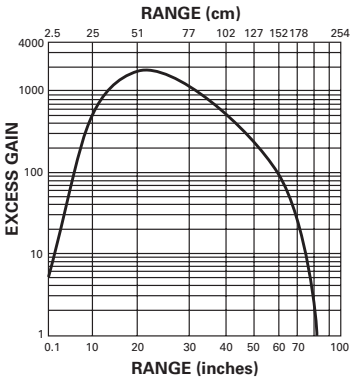
E67 Long Range Perfect Prox Series Sensors

Description	AC/DC Models	DC Only Models
Input voltage	20 to 132 Vac, 50/60 Hz 20 to 132 Vdc	18 to 30 Vdc
Power dissipation	2W maximum	0.5W maximum
Output type	Solid-state relay, 1500 V isolation	NPN and PNP
Voltage switching capacity	400 Vac/dc	30 Vdc
Current switching capacity	75 mA maximum	100 mA maximum
OFF-state leakage	100 µA maximum	50 µA maximum
ON-state characteristics	35 ohms maximum resistance	NPN: 1.5V drop at 100 mA, maximum PNP: 2.5V drop at 100 mA, maximum
Short circuit protection	Thermally current limited at approximately 200 mA ①	Protected against dead shorts only ①②
Response time	50 ms	15 ms
Light/dark operation	Specified by catalog number	Specified by catalog number
Temperature range		
Operating	–31° to 131°F (–35° to 55°C)	–31° to 131°F (–35° to 55°C)
Storage	–40° to 158°F (–40° to 70°C)	–40° to 158°F (–40° to 70°C)

Description	All Models
Material of construction	Enclosure: Lexan® Polycarbonate; back cover: Cycoloy® Polycarbonate/ABS; indicator viewing window: Lexan® Polycarbonate; jam nut and connector: 15% glass-filled nylon 6/6; Threaded inserts: Brass ③
Mounting	Jam-nut: Do not exceed 100 in-lbs mounting torque, minimum panel thickness 0.150 in Side-mounting: Sensor includes 2 sets of #10–32 threaded inserts Tighten to no more than 35 in-lbs Use #10–32 x 0.250 in fasteners with split-type washer for panel thickness between 0.048 in and 0.080 in For other panel thicknesses, choose fastener and washers to ensure minimum thread engagement of 0.120 in and a maximum thread engagement of 0.155 in
Connector models	Micro-connector, 4-pin male
Vibration and shock	Vibrations: 10g over 10 Hz to 2 kHz; shock: 30g for 6 ms 1/2 sine wave pulse
Indicator LED	Red: Lights steady when output is on; green: Lights steady when power is applied to sensor
Sunlight immunity	5000 ft-candles
Enclosure ratings	NEMA 1, 2, 3, 4, 4X, 6, 12 and 13 ④

Excess Gain

Nominal Unit with Fixed 79 in Sensing Range



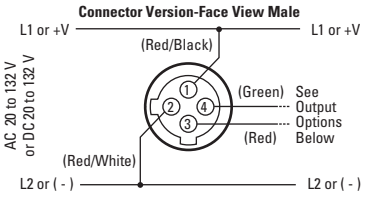
Notes

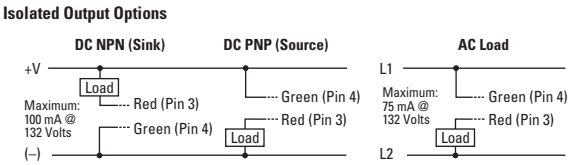
① **IMPORTANT:** Output will reset automatically when short is removed (there is no visual indication of a short circuit condition).
② **CAUTION:** Will not protect against overloads between 100 mA and 250 mA.
③ **IMPORTANT:** Do not expose to concentrated acids, alcohols or ketones.
④ These products conform to NEMA tests as indicated, however, some severe washdown applications can exceed these NEMA test specifications.

Wiring Diagrams

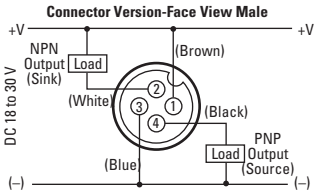
Pin numbers are for reference, rely on pin location when wiring.

AC/DC Models ①②





DC Only Models ①



Dimensions

Approximate dimensions in inches (mm)

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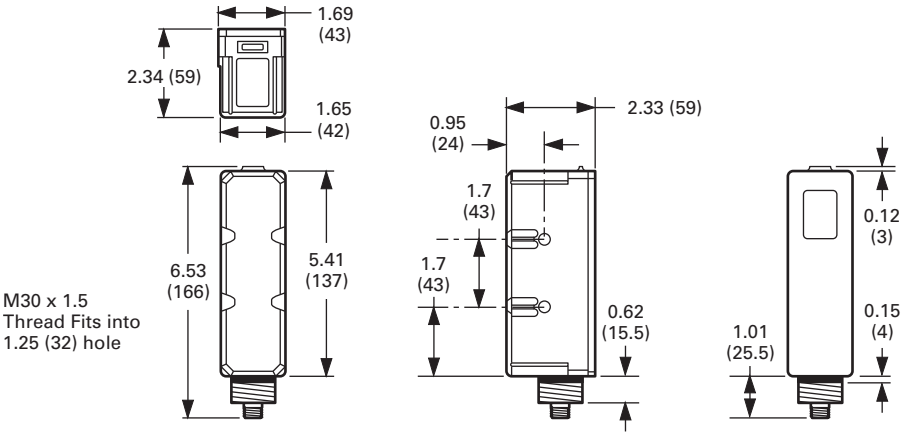

Notes

① Connector versions: The pin numbering and wire colors are typical of several manufacturers, however, variations are possible. In case of discrepancies, rely on function indicated and pin location rather than pin number or wire color.

② Sensor operates on DC voltage, but isolated output can switch AC or DC loads.