Test the Best Photoelectric Sensors: E67 Series Long Range Perfect Prox

The E67 Series Long Range Perfect Prox® sensor was designed with one thing in mind: solve the most difficult photoelectric sensing applications. Through the use of patented optics and Perfect Prox technology, the E67 Series can reliably detect targets regardless of material color, texture, reflectance, contrast or surface shape while ignoring objects just slightly outside the target range.

Most photoelectric sensors on the market today can reliably detect light-colored, reflective targets against high contrast, dark-colored backgrounds. But what if your application isn't "ideal?" What if you're tasked with sensing a multitude of different targets, all with their own colors, sizes, texture or reflectivity? This is where most sensors fail. The E67 Series Long Range Perfect Prox, on the other hand, was engineered from the ground up with these difficult applications in mind.

The Highest Performing Sensor in its Class

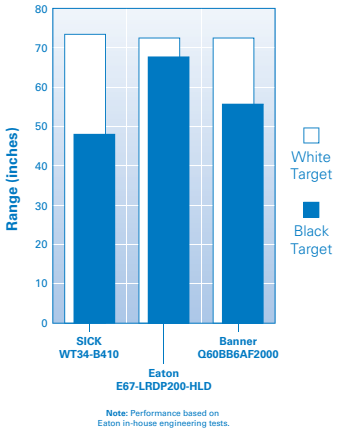
Background rejection sensors are nothing new; they've been on the market for decades. Characterized by an ability to detect objects at a certain distance while ignoring objects beyond that range, background rejection sensors are ideal for applications where mounting a reflector on the opposite side of the sensor might not be ideal.

What differentiates the E67 Series is its ability to detect objects that cause trouble for most other sensors—like flat black targets, highly translucent targets, or off angle targets. The E67 Series can see these targets up to an unprecedented eight feet, while completely ignoring even highly reflective objects just beyond that range.

Accuracy and Repeatability

The E67 Series doesn't just detect tough targets—it does so with unmatched precision. Unlike competitive units, the E67 Series sees different targets at nearly the exact same distance with almost zero variation. See below for a comparison.

Black/White Range Differential



Note: Performance based on Eaton in-house engineering tests.

Highly visible LEDs indicate power and output status. Internal lenses minimize seams for better sealing. The E67 Series is rated NEMA 6P for high-pressure washdown and immersion applications.

Test the Best

Want to learn more about the E57 Series or the rest of Eaton's line of rugged sensors? Visit us online and complete the *Test the Best* form. We're so confident in our sensors, we're willing to let you try one out—absolutely free.

Learn more at:
www.eaton.com/sensors

Powering Business Worldwide

Product Description

The E67 Series Long Range Perfect Prox®, representing the highest performing long-range background rejection sensor Eaton offers, is engineered for the most difficult sensing applications.

The E67 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 preset from the factory.

Features

- Perfect Prox technology provides exceptional background rejection and application problem solving
- Extended sensing ranges available—up to eight feet
- Sensing range can be set at the factory to between 60 and 240 cm (in 10 cm increments)
- No user adjustment required in the field, and a tamper-proof design with fixed sensing range set at the factory
- 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
- Isolated contact output on AC/DC models provide additional wiring flexibility
- Select from NPN or PNP outputs (DC-only models)
- Two mounting options for maximum flexibility
- Fully sealed package

Model Selection Table

E67 Series	Sensing Range ❶❷	Optimum Range ❸	Cutoff Range ❹	Field of View	Connection Type	Catalog Number	
						Light Operate	Dark Operate
18-30 VDC Models							
	79 in. (200 cm)	12-60 in. (30-150 cm)	91 in. (230 cm)	6 in. (5 cm) @ 79 in. (200 cm)	4-Pin Micro DC (Euro QD)	E67-LRDP200-HLD	E67-LRDP200-HDD
	❺	❺	❺	❺	4-Pin Micro DC (Euro QD)	E67-LRDPXXX-HLD	E67-LRDPXXX-HDD
20-132 VAC/DC Models							
	79 in. (200 cm)	12-60 in. (30-150 cm)	91 in. (230 cm)	6 in. (5 cm) @ 79 in. (200 cm)	4-Pin Micro DC (Euro QD)	E67-LRDP200-KLD	E67-LRDP200-KDD
	❺	❺	❺	❺	4-Pin Micro DC (Euro QD)	E67-LRDPXXX-KLD	E67-LRDPXXX-KDD

❶ Ranges based on an 18 in. white card.

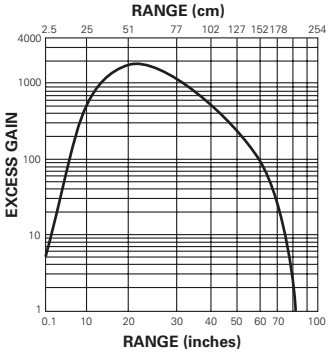
❷ Also consider the cutoff range when selecting a sensing range. Guaranteed cutoff will be approximately 12 in. (30 cm) beyond the sensing range. If a background is present within this zone, adjustments to the application or the sensing range will need to be made.

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

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

❺ Custom ranges are available (built-to-order). Contact Eaton's Sensor Applications Department at 800-426-9184 for delivery lead times and pricing. 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 cm) in the model number in place of the standard 200 cm. For example, for a device that detects out to 4 ft. 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-LRDP130-KLD.

Excess Gain Chart



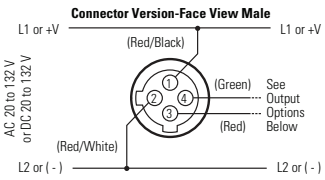
Excess gain is a measurement of how much sensing power a photoelectric sensor has available beyond the power required to detect an object. An excess gain of 1.00 at a given range means there is exactly enough power to detect an object under perfect conditions at that range.

In the real world, there is contamination—dust, humidity and debris—that can settle on the lenses and reduce light transmission. As the level of contamination gets worse, more excess gain will be needed to get past the poor visibility.

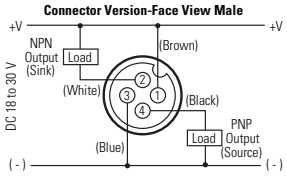
The above gain chart shows a nominal unit with fixed 79 in. sensing range.

Wiring Diagrams

AC/DC Models ❻



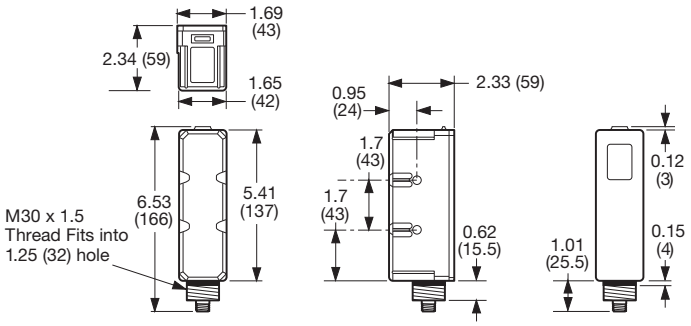
DC Models ❻



❻ For 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.

Dimensions

Approximate dimensions in inches (mm).



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