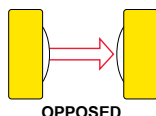
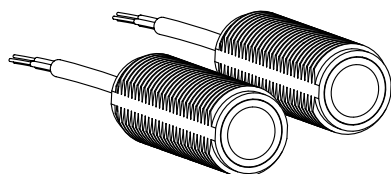


# S12-2 Emitter/Receiver Pair Photoelectric Sensor



## Datasheet



880 nm Infrared

- Small 12 mm (0.47 inch) diameter tubular opposed mode sensor pair
- Fully threaded barrel allows easy mounting to bracket or panel with included M12 nuts
- Easy-to-see status LED indicators for Power ON, Output Overload, Signal Received, and Marginal Signal
- Wide beam pattern makes sensor alignment easy at long ranges
- Emitter beam inhibit to verify normal sensor operation before motion
- Robust epoxy encapsulated electronics for reliable use in industrial environments

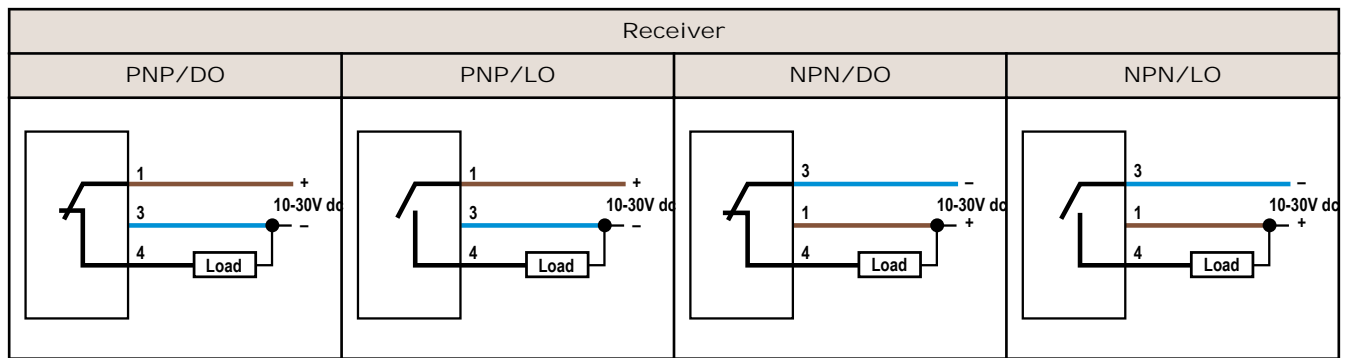
Model	Type	Range	Output Type	Input
S12-2NAEL-2M	Emitter	20 m (65.6 feet)	N/A	N/A
S12-2NAEJ-2M				Beam Inhibit
S12-2ANRL-2M	Receiver		NPN/LO	N/A
S12-2RNRL-2M			NPN/DO	
S12-2APRL-2M			PNP/LO	
S12-2RPRL-2M			PNP/DO	

Standard 2 m (6.5 ft) cable models are listed. To order the 3-pin 150 mm (6 inch) pigtail with threaded Pico-style M8 connector models, replace the suffix "-2M" with "-Q3" on the model number. For example, S12-2NAEL-Q3.

## Wiring Diagrams

Emitter	Emitter with Beam Inhibit (Cabled)	Emitter with Beam Inhibit (QD with Pigtail)	
<p>10-30V dc</p>	<p>10-30V dc</p> <p>Beam Inhibit</p>		<p>1 = Brown 2 = White 3 = Blue 4 = Black</p>

Cabled emitters with beam inhibit use the white wire to error-proof wiring in the cabinet. QD models use the standard pinout and the beam inhibit (pin 4) wire color is determined by the cordset used, but is typically black.



## Specifications

### Sensing Beam

880 nm Invisible Infrared beam

### Sensing Range

20 m (65.6 ft)

### Supply Voltage and Current Consumption

10 to 30 V dc; less than 25 mA (emitters) or 15 mA (receivers) exclusive of load

### Supply Protection Circuitry

Protected against reverse polarity and transient over voltages

### Delay at Power-up

Less than 1 second

### Output Configuration

One solid state output, NPN (sinking) or PNP (sourcing), depending on model

### Output Rating

100 mA

OFF-state leakage current: < 10  $\mu$ A

ON-state saturation voltage: < 0.2 V at 10 mA; < 0.8 V at 100 mA

### Output Protection Circuitry

Protected against output short circuit, continuous overload, and transient over voltages

### Output Response Time

11 ms ON, 7 ms OFF

### Input Configuration (emitter only)

Emitter beam inhibit

### Repeatability

1.5 ms

### Indicators

Green Power LED (emitter and receiver):

- ON indicates power on
- Flashing indicates output short circuited (receiver only)

Red Output LED (receiver only):

- ON indicates light sensed
- Flashing indicates marginal excess gain (1.0 to 1.5x excess gain)

### Construction

Housing: Polycarbonate with epoxy encapsulated electronics

Lens: Polycarbonate

Cable: PVC jacket

### Environmental rating

IP67

### Connections

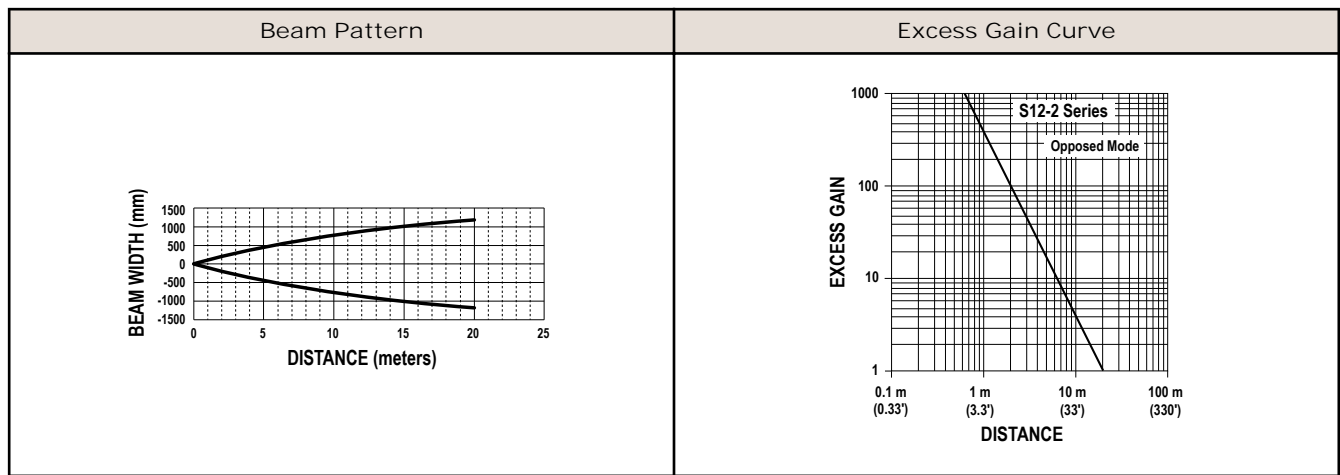
2 m (6.5 ft) cable or 150 mm (6 inch) pigtail with M8 threaded connection

### Operating Conditions

Temperature: -25 °C to +50 °C (-13 °F to +122 °F)

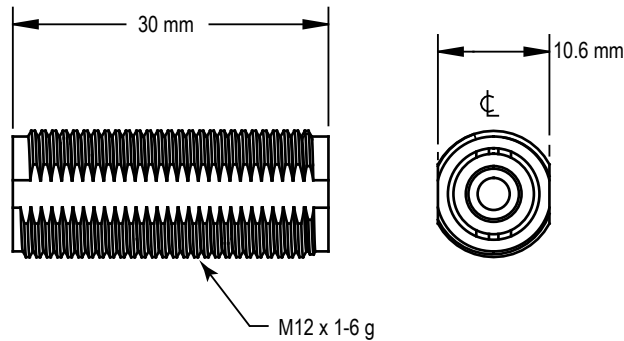
### Certifications





## Dimensions

All measurements are listed in millimeters.



## Accessories

3-Pin Threaded M8/Pico-Style Cordsets				
Model	Length	Style	Dimensions	Pinout
PKG3M-2	2 m (6.56 ft)	Straight		<p>1 = Brown 3 = Blue 4 = Black</p>
PKG3M-5	5 m (16.40 ft)			
PKG3M-7	7 m (22.97 ft)			
PKG3M-9	9 m (29.53 ft)			
PKG3M-10	10 m (32.81 ft)			
PKW3M-2	2 m (6.56 ft)	Right-Angle		
PKW3M-5	5 m (16.40 ft)			
PKW3M-9	9 m (29.53 ft)			

## Banner Engineering Corp Limited Warranty

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