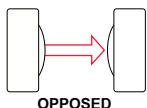
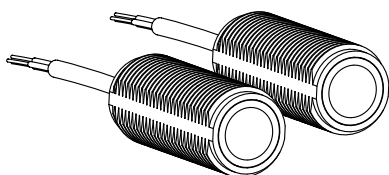


S12-2 Emitter/Receiver Pair Photoelectric Sensor



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	

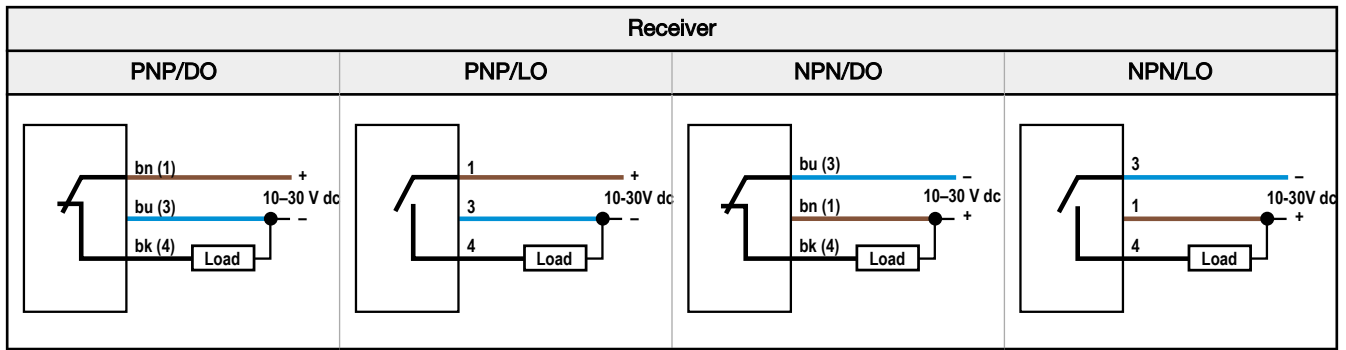
The standard 2 m (6.5 ft) cable models are listed. To order the 3-pin 150 mm (6 inch) pigtail with threaded Pico-style M8 connector models, replace the suffix "-2M" with "-Q3" on the model number. For example, S12-2NAEL-Q3.

Wiring Diagrams

Emitter	Emitter with Beam Inhibit (Cabled)	Emitter with Beam Inhibit (QD with Pigtail)	
<p>1 — + 10-30V dc 3 — -</p>	<p>1 — + 10-30V dc 3 — - 2 — 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 μ 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

IEC IP67

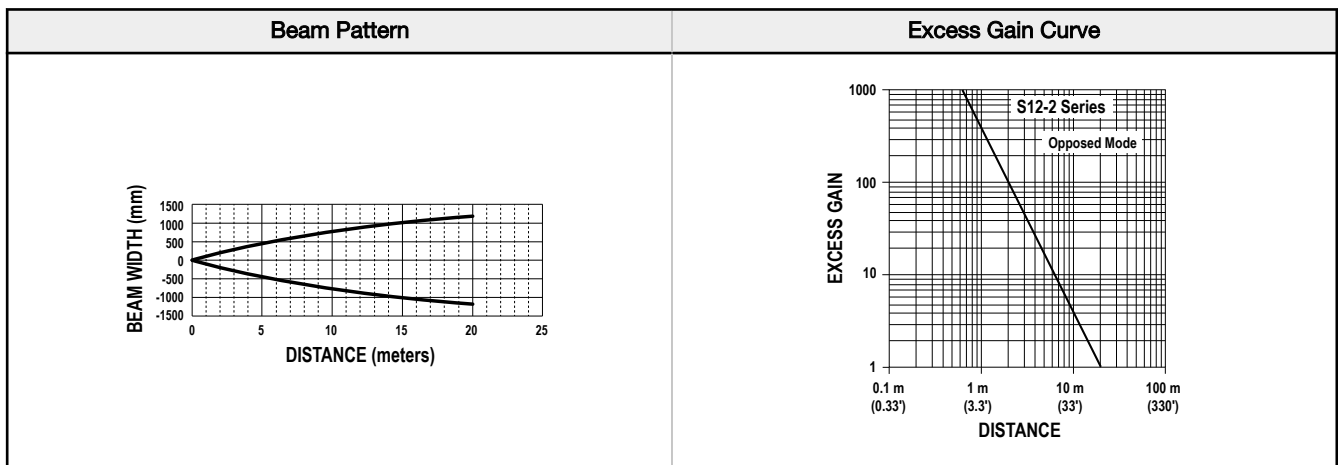
Connections

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

Operating Conditions

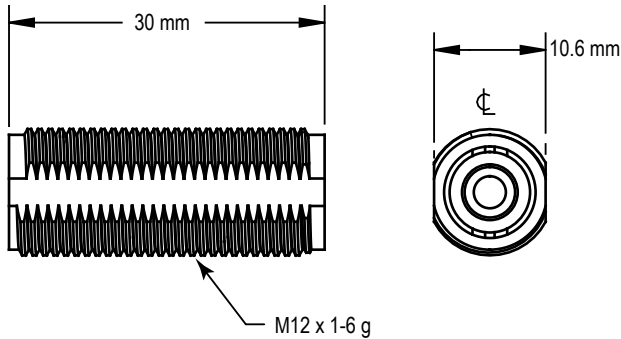
Temperature: -25 °C to +50 °C (-13 °F to +122 °F)

Certifications



Dimensions

All measurements are listed in millimeters, unless noted otherwise.



Accessories

3-Pin Threaded M8/Pico-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
PKG3M-2	2.035 m (6.68 ft)	Straight		<p>1 = Brown 3 = Blue 4 = Black</p>
PKG3M-5	5.035 m (16.51 ft)			
PKG3M-7	7.035 m (23.08 ft)			
PKG3M-9	9.035 m (29.64 ft)			
PKG3M-10	10.035 m (32.92 ft)			
PKW3M-2	2 m (6.56 ft)	Right-Angle		
PKW3M-5	5 m (16.40 ft)			
PKW3M-9	9 m (29.53 ft)			

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