

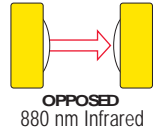
SB12 Series Photoelectric Sensor

Emitter/Receiver Pair with Snap-in Barrel

Features



- Flange-mounted, small 12.7 mm (0.5") diameter tubular opposed mode sensor pair
- Easy-to-mount; no brackets required — simply press sensor into a 12.7 mm (0.5") diameter hole with a panel thickness between 1.5 and 3 mm (0.63" to 0.125")
- Narrow effective beam allows for multiple sensors in close proximity
- LED status indicators for Power ON, Output Overload, Signal Received and Marginal Signal
- 10 to 30V dc supply voltage with single NPN or PNP output, depending on model
- Light Operate (LO) or Dark Operate (DO), depending on model



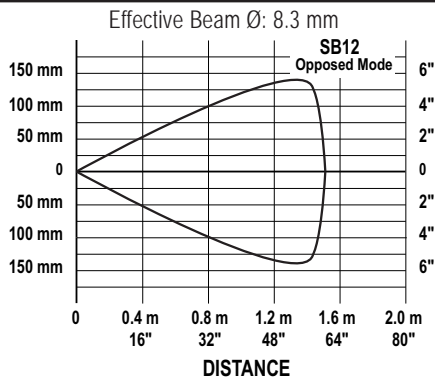
Models

Model*	Range	Supply Voltage	Output Type
SB12E1	1.5 m (59")	10 to 30V dc	—
SB12ANR			NPN/LO
SB12RNR			NPN/DO
SB12APR			PNP/LO
SB12RPR			PNP/DO

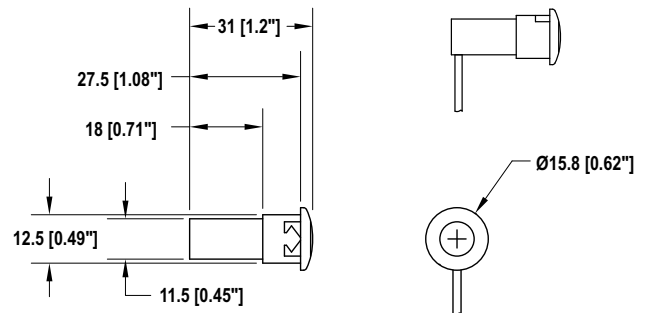
* Only standard 2 m (6.5') cable models are listed.

QD Models: For 3-Pin 150 mm (6") pigtail with threaded Pico-style M8 connector, add suffix "Q3" to the model number (e.g. SB12E1Q3).

Beam Pattern



Dimensions



⚠ WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death.

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

SB12 Series Photoelectric Sensor

Overview

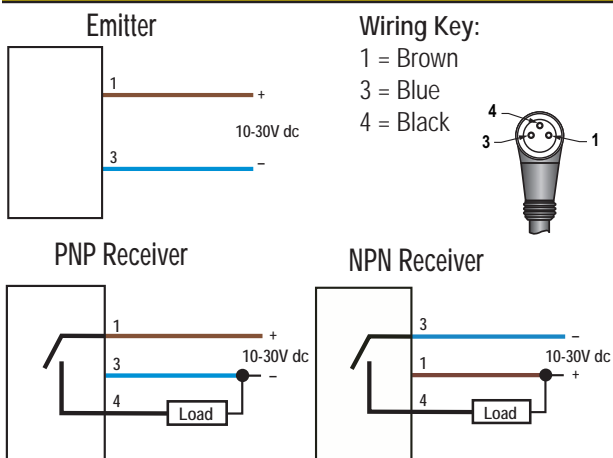
The SB12 Emitter/Receiver pair is a cost effective sensor for large volume OEM applications. The unique snap-in mounting system works with any material with a thickness of 1.5 mm to 3 mm (0.63" to 0.125"). Simply drill a hole with a diameter of 12.6 to 12.8 mm (0.496" to 0.504"). Insert the cable and sensor into the hole and press the sensor into place.

Specifications

Specifications are subject to change without notice

Sensing Beam	880 nm Invisible IR beam
Sensing Range	1.5 m (59")
Supply Voltage	10 to 30 V dc; less than 15 mA 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: < 0.2V @ 10 mA; < 0.6V @ 100 mA;
Output Protection Circuitry	Protected against output short circuit, continuous overload and transient over voltages
Output Response Time	2.5 ms ON, 1.75 ms OFF
Repeatability	350 μ s
Switching Frequency	235 Hz
Indicators	Green Power LED (emitter and receiver): ON indicates power on; Flashing indicates output short circuited (receiver only) Amber Output LED (receiver only): ON indicates light sensed; Flashing indicates marginal excess gain (1.0 to 1.5x excess gain)
Construction	Housing: ABS Lens: Polycarbonate; epoxy encapsulant PVC-jacketed cable
Environmental rating	IP65
Connections	2 m (6.5') cable or 150 mm (6") pigtail with M8 threaded connection
Operating Conditions	Temperature: -20° to +50° C (-4° to 122° F)
Certifications	CE

Hookups



Quick-Disconnect Cordsets

Standard Models			
Style	Model	Length	Dimensions
3-Pin Pico-style Straight	PKG3M-2	2 m	
	PKG3M-4	4 m	
	PKG3M-7	7 m	
	PKG3M-9	9 m	
	PKG3M-10	10 m	
3-Pin Pico-style Right-Angle	PKW3M-2	2 m	
	PKW3M-9	9 m	

BANNER[®]
more sensors, more solutions

WARRANTY: Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.

P/N 144248 rev. C

Clearwater Tech - Phone: 800.894.0412 - Fax: 208.368.0415 - Web: www.clrwr.com - Email: info@clrwr.com

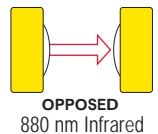
SB12T Series Photoelectric Sensor

Emitter/Receiver Pair with Threaded Barrel

Features



- Flange-mounted, small 12 mm (0.47") diameter tubular opposed mode sensor pair
- Easy-to-mount; no brackets required — panel mount sensors in pre-drilled hole and tighten single retaining nut, resulting in reduced installation costs
- Narrow effective beam allows for multiple sensors in close proximity
- LED status indicators for Power ON, Output Overload, Signal Received and Marginal Signal
- 10 to 30V dc supply voltage with single NPN or PNP output, depending on model
- Light Operate (LO) or Dark Operate (DO), depending on model



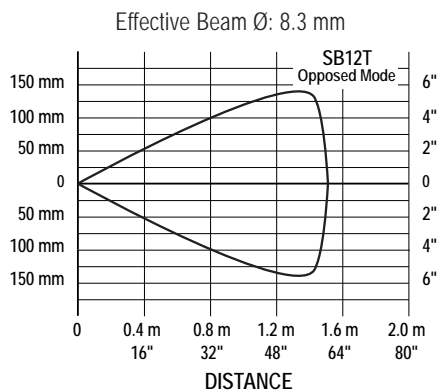
Models

Model*	Range	Supply Voltage	Output Type
SB12TE1	1.5 m (59")	10 to 30V dc	—
SB12TANR			NPN/LO
SB12TRNR			NPN/DO
SB12TAPR			PNP/LO
SB12TRPR			PNP/DO

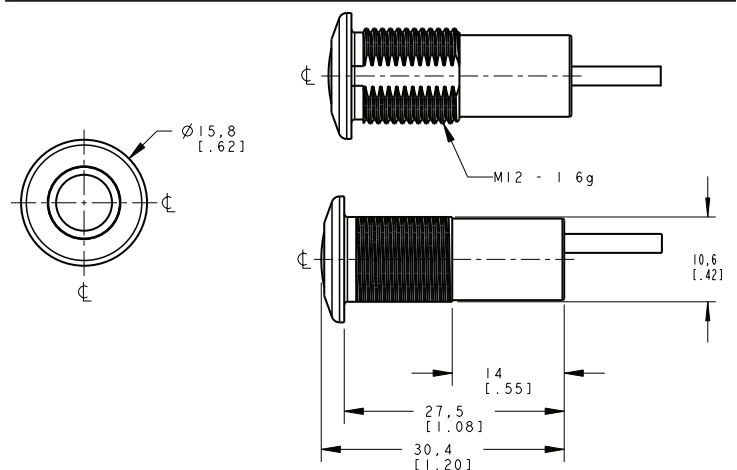
* Only standard 2 m (6.5') cable models are listed.

QD Models: For 3-Pin 150 mm (6") pigtail with threaded Pico-style M8 connector, add suffix "Q3" to the model number (e.g. SB12TE1Q3).

Beam Pattern



Dimensions



⚠ WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death.

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

SB12T Series Photoelectric Sensor

Overview

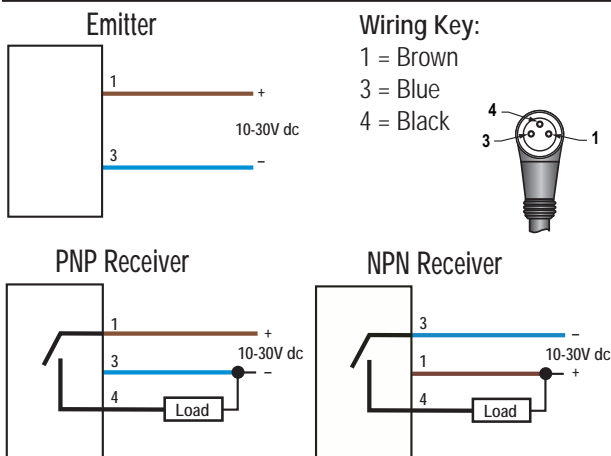
The SB12T Emitter/Receiver pair is a cost effective sensor for large volume OEM applications. The threaded mounting system works with any material with a thickness of 0.5 mm to 10 mm (0.02" to 0.393"). Simply drill or punch a hole with a diameter of 12.2 to 13.2 mm (0.48 to 0.52"). Insert the cable and sensor into the hole and tighten the retaining nut.

Specifications

Specifications are subject to change without notice

Sensing Beam	880 nm Invisible IR beam
Sensing Range	1.5 m (59°)
Supply Voltage	10 to 30 V dc; less than 15 mA 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 µA ON-state saturation voltage: < 0.2V @ 10 mA; < 0.6V @ 100 mA
Output Protection Circuitry	Protected against output short circuit, continuous overload and transient over voltages
Output Response Time	2.5 ms ON, 1.75 ms OFF
Repeatability	350 µs
Switching Frequency	235 Hz
Indicators	Green Power LED (emitter and receiver): ON indicates power on; Flashing indicates output short circuited (receiver only) Amber Output LED (receiver only): ON indicates light sensed; Flashing indicates marginal excess gain (1.0 to 1.5x excess gain)
Construction	Housing: ABS Lens: Polycarbonate; epoxy encapsulant PVC-jacketed cable
Environmental rating	IP65
Connections	2 m (6.5") cable or 150 mm (6") pigtail with M8 threaded connection
Operating Conditions	Temperature: -20° to +50° C (-4° to +122° F)
Certifications	Pending

Hookups



Quick-Disconnect Cordsets

Standard Models			
Style	Model	Length	Dimensions
3-Pin Pico-style Straight	PKG3M-2	2 m	
	PKG3M-4	4 m	
	PKG3M-7	7 m	
	PKG3M-9	9 m	
	PKG3M-10	10 m	
3-Pin Pico-style Right-Angle	PKW3M-2	2 m	
	PKW3M-9	9 m	



WARRANTY: Banner Engineering Corp. warrants its products to be free from defects for one year. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture found to be defective at the time it is returned to the factory during the warranty period. This warranty does not cover damage or liability for the improper application of Banner products. This warranty is in lieu of any other warranty either expressed or implied.