

## LASER SENSOR

# BL-20 Series

## Convergent, Diffuse and Retro-reflective Laser Sensor



### Retroreflective and Diffuse models

The BL-20 series is offered in both retroreflective and diffuse models. Sensing distance for the diffuse model is 12 inches, convergent models 4, 6, and 8 inches, retroreflective model up to 160 ft.

### Potentiometer adjustment

A single turn potentiometer (General Purpose - Slim Body and Background Suppression) or an eight turn potentiometer (General Purpose - M18) is built-in to make adjustments to the sensitivity.

### Quick connect standard

An 8mm connector is standard with the sensor, there is also an optional 12mm connector (pigtail) offered.



### Small object detection

A small object can reliably be detected at long range due to the narrow projected beam size.

### NPN and PNP outputs

Both NPN and PNP outputs are standard on the unit.

### Selectable output operation

The output operation of the sensor can be selected to operate as either Light-On or Dark-On via a switch.

### Class II laser product

The BL-20 series uses a Class II laser as the light source.



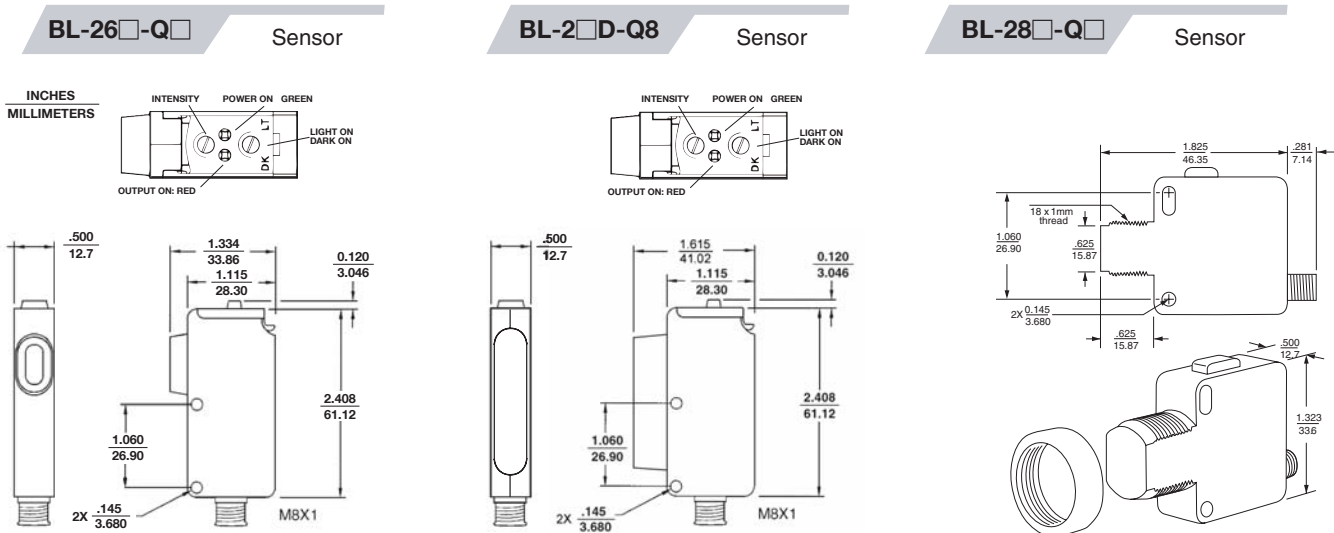
# Specifications

Type		General Purpose - Slim Body		General Purpose - M18 Body		Background Suppression		
		Diffuse/Retro	Polarized Retro	Diffuse/Retro	Polarized Retro	Convergent Beam		
Model Number	M8 - QD	<b>BL-26D-Q8</b>	<b>BL-26R-Q8</b>	<b>BL-28D-Q8</b>	<b>BL-28R-Q8</b>	<b>BL-22D-Q8</b>	<b>BL-23D-Q8</b>	<b>BL-24D-Q8</b>
	M12 - Pigtail	<b>BL-26D-Q12</b>	<b>BL-26R-Q12</b>	<b>BL-28D-Q12</b>	<b>BL-28R-Q12</b>	---	---	---
Sensing Range	Diffuse	305mm (12")	---	305mm (12")	---	60 ~ 100mm (2.4 ~ 4.0")	86 ~ 150mm (3.4 ~ 6.0")	107 ~ 203mm (4.2 ~ 8.0")
	Retro	48.8M (160')	7.3M (24')	48.8M (160')	7.3M (24')	---	---	---
Supply Voltage	10 ~ 30 VDC							
Current Consumption	30 mA							
Sensing Output	NPN and PNP - Open Collector Transistor							
Output Rating	200 mA max.							
Output Operation	Selectable Light-On / Dark-On operation by switch							
Short Circuit Protection	Incorporated							
Response Time	Less than 2 msec.							
Operation Indicator	Power (Green) and Output (Red)							
Sensitivity Adjuster	Single turn intensity control	Eight turn intensity control		Single turn intensity control				
Environmental Protection	NEMA 6							
Ambient Temperature	0 to 40°C							
Emitting Element	Class II laser product							
Emitted Beam	670 nm visible red laser diode							
Housing	ABS housing, acrylic lens, polycarbonate cover							
Ratings	CE							
Accessories Included	Sensor mounting bracket and reflector				Sensor mounting bracket			

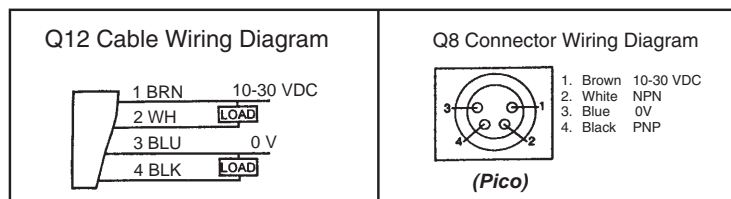
Note: The connecting cable is not included with the sensor, please order separately.

Type	Cable Part Number	Length	Connector
Q8	M8-FS4-PUR-2M	2 Meter	M8 - 4 wire
	M8-FS4-PUR-5M	5 Meter	
Q12	M12-FS4-PUR-2M	2 Meter	M12 - 4 wire
	M12-FS4-PUR-5M	5 Meter	

## DIMENSIONS (Unit: mm)



**CAUTION**  
**LASER RADIATION - DO NOT STARE INTO BEAM**  
 Visible Laser Diode  
 Wavelength 670 nm  
 1 mW max. Output  
 Class II laser product  
 This product complies with 21 CFR Sub Chapter J



## 7706 Series

Automatic Timing &amp; Controls

automatictiming.com

800.727.5646



## Convergent Beam Sensor

- Small Object Detection (<2mm)
- Input 10-30 VDC, Dual Output (PNP & NPN)
- Background Suppression beyond 4-1/2"
- Light-On and Dark-On Operate (switch selectable)
- Highly Visible Power and Output LEDs
- Maximum Sensing Distance: 4", 6" or 8"
- Designed for NEMA 6/IP67

MODEL NUMBER >>>>>>	770	04	N	3	B
Type					
Diffuse 4" Sensing Distance	6AD				
Diffuse 6" Sensing Distance	6AE				
Diffuse 8" Sensing Distance	6AF				
Operation					
Switch Selectable (light-ON/ dark-ON)	04				
Power Requirements					
	10-30 VDC		N		
Beam Type					
Visible Red Laser			3		
Output					
Bi-Polar (NPN & PNP)					B
Features					
Quick Disconnect Standard (PICO M8 4 PIN)					QP
					Special
					K

## ACCESSORIES

7700-025-01-00:	Connector/Cable, 4 Pin m8x1 pico/2 meters
7700-025-01-05:	5 meter cable
7700-025-01-10:	10 meter cable
0000-181-61-01:	1 ft. length, 1" reflective tape, high efficiency, exposed lens not protected by plastic film, adhesive backed.
0000-181-62-01:	1 ft. length, 1" reflective tape, medium efficiency, protected with clear plastic film, adhesive backed.
0000-181-63-01:	1 ft. length, 1" reflective tape, low efficiency, exposed lens, high temp., adhesive backed.
7022-210-04-00:	5/8" diameter Retro-reflector

## SPECIFICATIONS

SUPPLY VOLTAGE	10 to 30 VDC	
SUPPLY CURRENT	30 mA maximum	
OUTPUT CONFIGURATION	One current sourcing (PNP) and one current sinking (NPN) open collector transistor	
OUTPUT MODE	Set by "Light ON" / "Dark ON" switch	
OUTPUT RATING	200 mA maximum each output. NPN output saturation less than 0.2 volts @ 10 mA and less than 0.8 volts at 200 mA. PNP 0.8 volts @ 10mA and less than 1.5 volts @ 200mA	
OUTPUT PROTECTION	Protected against current overload, inductive transients, no false pulse on power-up	
RESPONSE TIME	less than 2 ms, >500 Hz	
INDICATORS	Power	Red
	Output On	Green
ADJUSTMENTS	Single turn intensity control, two position Light operate or Dark operate	
SENSING BEAM	670 nm visible red	
AVERAGE OUTPUT POWER	<150 nW	
SENSING RANGES	4" Version	2.375 in. min. to 4.0 in. max. Typical to 90% white Kodak card
		2.75 in. min. to 3.5 in. max. Typical to 18% gray Kodak card
	6" Version	3.41 in. min. to 6.0 in. max. Typical to 90% white Kodak card
		3.44 in. min to 4.58 in. max. Typical to 18% gray Kodak card
	8" Version:	4.22 in. min. to 8.0 in. max. Typical to 90% white Kodak card
		4.60 in. min. to 5.4 in. max. Typical to 18% gray Kodak card
HOUSING	NEMA 6	
CONNECTOR	4 pin, M8x1, pico style. Pin 1 - power, Pin 2 - NPN output, Pin 3 - common, Pin 4 - PNP output	
OPERATING TEMPERATURE	32° to 104°F (0 to 40°C)	
WEIGHT	<1 oz.	

