

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.



This product complies with 21 CFR Sub Chapter J



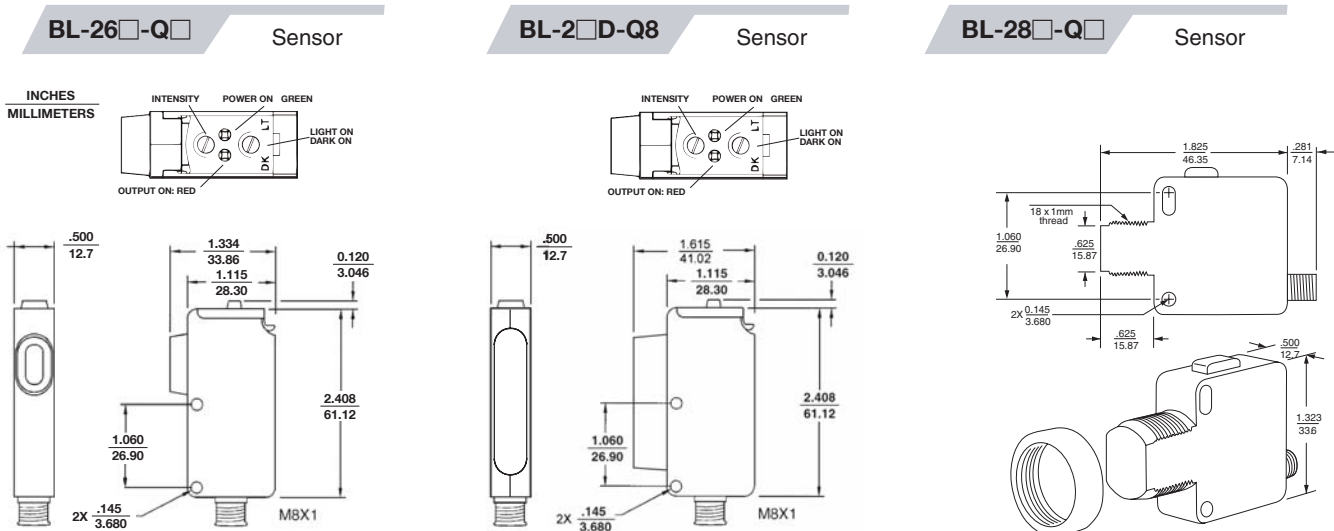
Specifications

| 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 | BL-26D-Q8 | BL-26R-Q8 | BL-28D-Q8 | BL-28R-Q8 | BL-22D-Q8 | BL-23D-Q8 | BL-24D-Q8 |
| | M12 - Pigtail | BL-26D-Q12 | BL-26R-Q12 | BL-28D-Q12 | BL-28R-Q12 | --- | --- | --- |
| 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 | | | |

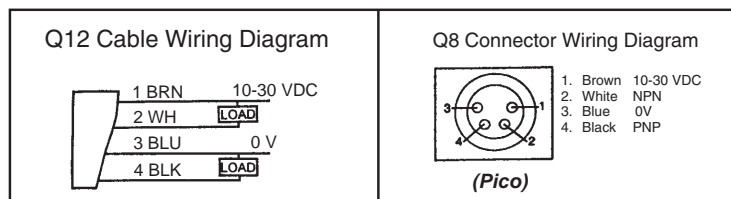
Note: The connecting cable is not included with the sensor, please order separately.

| 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 & Controls

automatictiming.com

800.727.5646



Convergent Beam Sensor

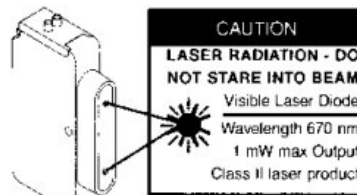
- Small Object Detection (<2mm)
- Input 10-30 VDC, Dual Output (PNP & NPN)
- Background Suppression beyond 4-1/2"
- Light-On and Dark-On Operate (switch selectable)
- Highly Visible Power and Output LEDs
- Maximum Sensing Distance: 4", 6" or 8"
- Designed for NEMA 6/IP67

| | | | | | |
|---|-----------|----|---|---|---------|
| 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. | |



This product complies with 21 CFR Sub Chapter J