

LED..O..M Series Diffused On-Axis Lights



Datasheet

Uniform lighting for machine vision applications



- Diffused on-axis illumination provides uniform lighting for specular surfaces
- Five light colors
- Two sizes available
- Continuous or strobed operation selectable via sensor software
- Glass dust-covered models available (model numbers ending in -D)
- Bracket options available

Models

| Without Dust Cover | With Dust Cover ¹ | Color | Aperture Size | Cable ² | Connections | Ambient Light Filter Kit |
|--------------------|------------------------------|----------------------|---------------|-------------------------------|--|--------------------------|
| LEDRO50M | LEDRO50M-D | Visible Red (630 nm) | 50 mm | 0.6 m (2 ft) attached pigtail | 8 mm male Pico-style (for direct connection to PresencePLUS P4 sensor) | FLTR |
| LEDIO50M | LEDIO50M-D | Infrared (880 nm) | | | | FLTI |
| LEDBO50M | LEDBO50M-D | Blue (470 nm) | | | | FLTB |
| LEDWO50M | LEDWO50M-D | White (5500 K) | | | | — |
| LEDGO50M | LEDGO50M-D | Green (530 nm) | | | | FLTG |
| LEDRO100M | LEDRO100M-D | Visible Red (630 nm) | 100 mm | | | FLTR |
| LEDIO100M | LEDIO100M-D | Infrared (880 nm) | | | | FLTI |
| LEDBO100M | LEDBO100M-D | Blue (470 nm) | | | | FLTB |
| LEDWO100M | LEDWO100M-D | White (5500 K) | | | | — |
| LEDGO100M | LEDGO100M-D | Green (530 nm) | | | | FLTG |

Features

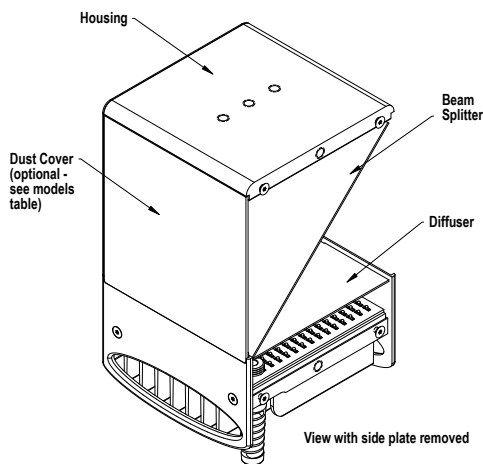


Figure 1. View With Side Plate Removed

¹ Optical glass anti-reflective coating, both sides.

² Extension cables with flying leads are available for connecting to models other than PresencePLUS P4.



Wiring

| On-Axis Light Wire | PresencePLUS Pro Controller Terminal Block | External Power Supply (Strobed) | External Power Supply (Continuous) |
|--------------------|--|---------------------------------|------------------------------------|
| Brown | Pin 1, +V (24 V dc \pm 10%) | +V | +V |
| Blue | Pin 2, -V (dc common) | -V | -V |
| Black | Pin 4 (strobe) | +5 V dc to 24 V dc OFF | -V |
| | | -V ON | |

Specifications

Light Source

Visible red LED, 630 nm ; Infrared, 880 nm ; Visible blue, 470 nm; White, 5500 K, or Green

Supply Voltage and Current

24 V dc \pm 10% 500 mA maximum, 125 mA maximum for 50 mm models.
Direct connect to PresencePLUS P4 sensor operating at 24 V dc only
Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

Construction

Housing: aluminum with black anodizing
Beam Splitter: optical glass with optical coatings on both sides
Diffuser: high-precision cast acrylic
Dust Cover: optical glass with broadband anti-reflective coating (425 nm to 675 nm) (some models)

Useful Life

When operated within specifications, output will decrease less than 20% after 10,000 hours and less than 30% after 20,000 hours (based on continuous operation).



Note: Actual useful life of strobed lights depends on duty cycle.

Operating Conditions

Temperature: 0 °C to +50 °C (+32 °F to +122 °F)

Humidity: 90% at +50 °C maximum relative humidity (non-condensing)

Cleaning Instructions

Handle the sensor with care during installation and operation. Sensor windows soiled by fingerprints, dust, water, oil, etc. may create stray light that may degrade the peak performance of the sensor. Blow the window clear using filtered, compressed air, then clean as necessary using a lens cloth and lens cleaner or window cleaner. Do not use any other chemicals for cleaning.

Installation

Before installing an on-axis light, it is recommended that the listed ambient light filter be installed behind the camera lens. The filter improves image quality by reducing unwanted ambient light.

- 100 mm models: 50 x 50 mm suggested field of view and 25 mm minimum suggested stand off
- 50 mm models: 25 x 25 mm suggested field of view and 25 mm minimum suggested stand off

Certification



Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.

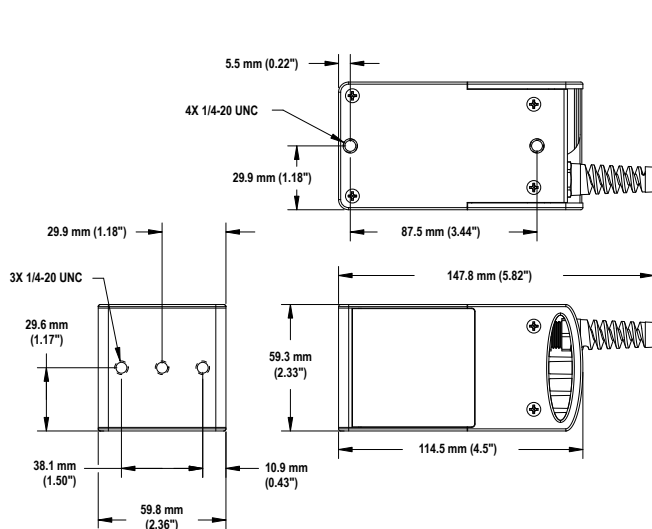


Figure 2. 55 mm Models

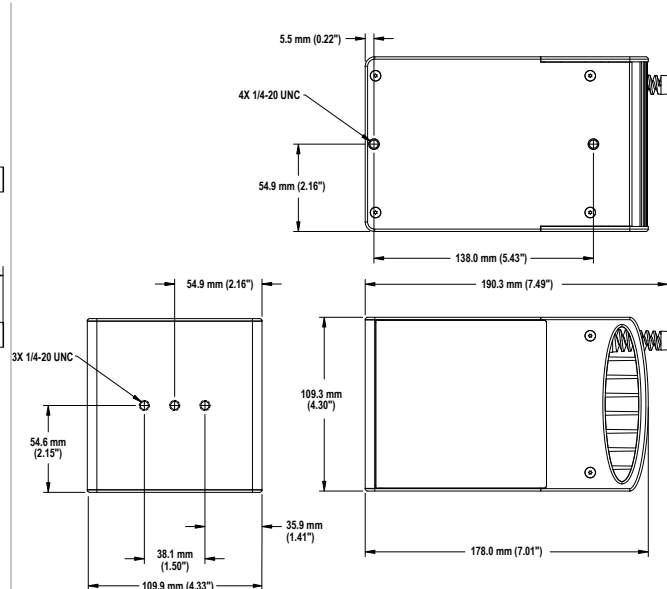
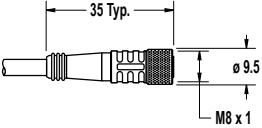



Figure 3. 100 mm Models

Accessories

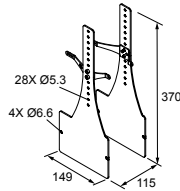
Cordsets

| 3-Pin Threaded M8/Pico-Style Cordsets | | | | |
|---------------------------------------|-----------------|----------|--|---|
| Model | Length | Style | Dimensions | Pinout (Female) |
| 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) | | | |

Mounting Brackets

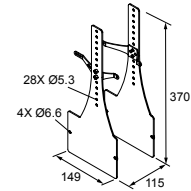
SMBP4OAL100

- For use with right-angle or in-line P4 sensors and 100 mm on-axis light
- Centers lens on light opening
- Black zinc-plated steel
- (4) M5 and (4) ¼-20 socket drive, button-head screws included



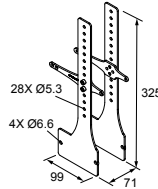
SMBPPOAL100

- For use with Pro sensors and 100 mm on-axis light
- Centers lens on light opening
- Black zinc-plated steel
- (4) M5 and (4) ¼-20 socket drive, button-head screws included



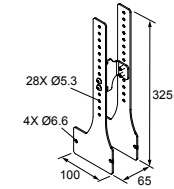
SMBP4OAL50

- For use with right-angle or in-line P4 sensors and 50 mm on-axis light
- Centers lens on light opening
- Black anodized aluminum and zinc-plated steel
- (4) M3 flat head torx, (4) M5 and (4) ¼-20 socket drive, button-head screws included



SMBPPOAL50

- For use with Pro sensors and 50 mm on-axis light
- Centers lens on light opening
- Black zinc-plated steel
- (4) M5 and (4) ¼-20 socket drive, button-head screws included



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