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

Uniform Lighting for Machine Vision Applications

Features

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

Models

Model		Color	Aperture Size	Cable*	Connections	Ambient Light Filter Kit
Without Dust Cover	**With Dust Cover****					
LEDRO50M	**LEDRO50M-D**	Visible Red (630 nm)	50 mm	0.6 m (2') attached pigtail	8 mm male Pico-style (for direct connection to *Presence*PLUS P4 sensor)	FLTR
LEDIO50M	**LEDIO50M-D**	Infrared (880 nm)				FLTI
LEDBO50M	**LEDBO50M-D**	Blue (470 nm)				FLTB
LEDWO50M	**LEDWO50M-D**	White (5500K)				—
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 (5500K)				—
LEDGO100M	**LEDGO100M-D**	Green (530 nm)				FLTG

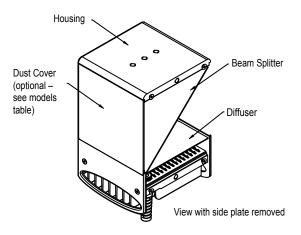* Extension cables with flying leads are available for connecting to models other than *Presence*PLUS P4.
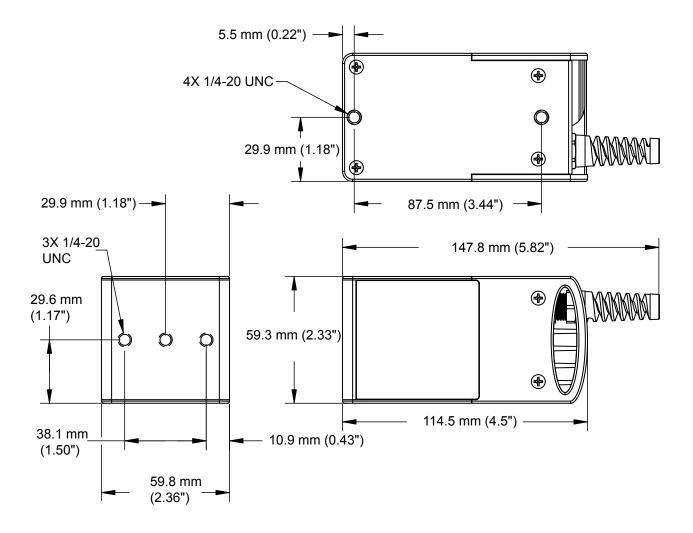
** Optical glass anti-reflective coating, both sides

0 126059 5

Specifications

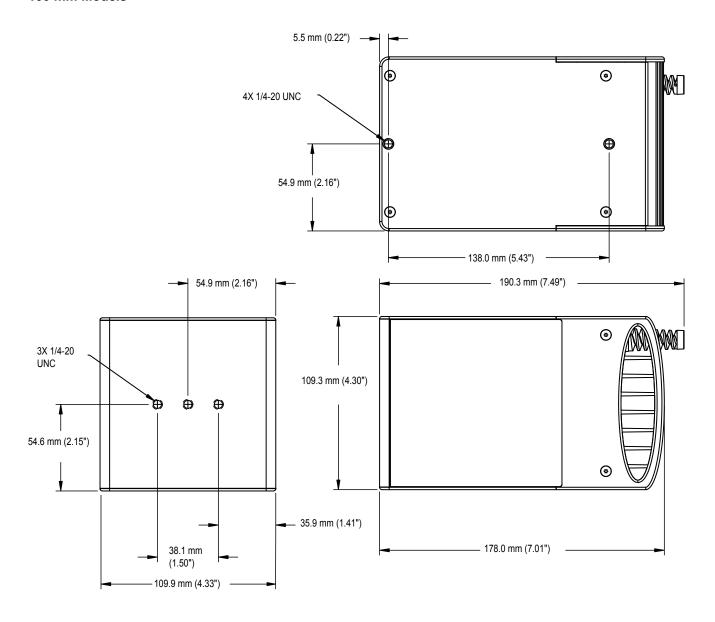| Feature	Description
Light Source	Visible red LED (630 nm), Infrared (880 nm), Blue (470 nm), White (5500 K), or Green (530 nm), depending on model
Supply Voltage and Current	24V dc ± 10% 500 mA max., 125 mA max for 50 mm models. Direct connect to *PresencePLUS P4* sensor operating at 24V dc only.
Construction	**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 – 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° to +50° C (+32° to +122° F) **Maximum Relative Humidity:** 90% at 50° C (non-condensing)
Cleaning Instructions	Regularly remove any dust, dirt, or fingerprints from the light source: 1. Blow off dust using anti-static compressed air. 2. If necessary, use a lens cloth and lens cleaner or window cleaner to wipe off remaining debris. Do not use any other chemicals for cleaning.
Installation Note	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

Dimensions

Housing

Beam Splitter

Dust Cover
(optional –
see models
table)

Diffuser

View with side plate removed

50 mm Models

5.5 mm (0.22")

4X 1/4-20 UNC

29.9 mm (1.18")

87.5 mm (3.44")

29.9 mm (1.18")

3X 1/4-20
UNC

29.6 mm
(1.17")

147.8 mm (5.82")

59.3 mm (2.33")

38.1 mm
(1.50")

10.9 mm (0.43")

114.5 mm (4.5")

59.8 mm
(2.36")

100 mm Models

Wiring Table

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

Quick Disconnect Cables

Model	Length	Connection
PKG3M-2	2 m (6.5')	Female Pico-style (8 mm) connector at one end; flying leads at opposite end
PKG3M-4	4 m (13')	
PKG3M-7	7 m (23')	
PKG3M-9	9 m (30')	

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	
SMBP-POAL100	• 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	

SMBP-POAL50	• 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

Refer to your current Banner Sensors catalog for more mounting bracket options. Bracket dimensions can be found at www.bannerengineering.com.

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period.This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp.