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

<table>
<thead>
<tr>
<th>Without Dust Cover</th>
<th>With Dust Cover**</th>
<th>Color</th>
<th>Aperture Size</th>
<th>Cable*</th>
<th>Connections</th>
<th>Ambient Light Filter Kit</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDRO50M</td>
<td>LEDRO50M-D</td>
<td>Visible Red (630 nm)</td>
<td>50 mm</td>
<td>0.6 m (2') attached pigtail</td>
<td>8 mm male Pico-style (for direct connection to PresencePLUS P4 sensor)</td>
<td>FLTR</td>
</tr>
<tr>
<td>LEDIO50M</td>
<td>LEDIO50M-D</td>
<td>Infrared (880 nm)</td>
<td></td>
<td></td>
<td></td>
<td>FLTI</td>
</tr>
<tr>
<td>LEDBO50M</td>
<td>LEDBO50M-D</td>
<td>Blue (470 nm)</td>
<td></td>
<td></td>
<td></td>
<td>FLTB</td>
</tr>
<tr>
<td>LEDWO50M</td>
<td>LEDWO50M-D</td>
<td>White (5500K)</td>
<td></td>
<td></td>
<td></td>
<td>—</td>
</tr>
<tr>
<td>LEDGO50M</td>
<td>LEDGO50M-D</td>
<td>Green (530 nm)</td>
<td></td>
<td></td>
<td></td>
<td>FLTG</td>
</tr>
<tr>
<td>LEDRO100M</td>
<td>LEDRO100M-D</td>
<td>Visible Red (630 nm)</td>
<td>100 mm</td>
<td></td>
<td></td>
<td>FLTR</td>
</tr>
<tr>
<td>LEDIO100M</td>
<td>LEDIO100M-D</td>
<td>Infrared (880 nm)</td>
<td></td>
<td></td>
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<td>LEDGO100M-D</td>
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<td></td>
<td></td>
<td>FLTG</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Light Source</strong></td>
<td>Visible red LED (630 nm), Infrared (880 nm), Blue (470 nm), White (5500 K), or Green (530 nm), depending on model</td>
</tr>
<tr>
<td><strong>Supply Voltage and Current</strong></td>
<td>24V dc ± 10% 500 mA max., 125 mA max for 50 mm models. Direct connect to PresencePLUS P4 sensor operating at 24V dc only.</td>
</tr>
</tbody>
</table>
| **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

50 mm Models

Housing
Dust Cover (optional – see models table)
Beam Splitter
Diffuser
View with side plate removed

5.5 mm (0.22”)
4X 1/4-20 UNC
29.9 mm (1.18”)
87.5 mm (3.44”)
147.8 mm (5.82”)

29.9 mm (1.18”)
3X 1/4-20 UNC
29.6 mm (1.17”)
59.3 mm (2.33”)
114.5 mm (4.5”)

38.1 mm (1.50”)
59.8 mm (2.36”)
10.9 mm (0.43”)

29.9 mm (1.18”)
29.9 mm (1.18”)
5.5 mm (0.22”)

4X 1/4-20 UNC
29.6 mm (1.17”)
38.1 mm (1.50”)
59.8 mm (2.36”)

P/N 126059 rev. J
Banner Engineering Corp. - Minneapolis, MN USA - www.bannerengineering.com
Tel: 763.544.3164
100 mm Models

Wiring Table

<table>
<thead>
<tr>
<th>On-Axis Light Wire</th>
<th>PresencePLUS Pro Controller Terminal Block</th>
<th>External Power Supply (Strobed)</th>
<th>External Power Supply (Continuous)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brown</td>
<td>Pin 1, +V (24V dc ±10%)</td>
<td>+V</td>
<td>+V</td>
</tr>
<tr>
<td>Blue</td>
<td>Pin 2, -V (dc common)</td>
<td>-V</td>
<td>-V</td>
</tr>
<tr>
<td>Black</td>
<td>Pin 4 (strobe)</td>
<td>+5 to 24V dc OFF</td>
<td>-V</td>
</tr>
</tbody>
</table>
Quick Disconnect Cables

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKG3M-2</td>
<td>2 m (6.5')</td>
<td>Female Pico-style (8 mm) connector at one end; flying leads at opposite end</td>
</tr>
<tr>
<td>PKG3M-4</td>
<td>4 m (13')</td>
<td></td>
</tr>
<tr>
<td>PKG3M-7</td>
<td>7 m (23')</td>
<td></td>
</tr>
<tr>
<td>PKG3M-9</td>
<td>9 m (30')</td>
<td></td>
</tr>
</tbody>
</table>

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.

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