Datasheet

For use with PresencePLUS and other vision systems

To view or download the latest technical information about this product, including specifications, dimensions, accessories, and wiring, see www.bannerengineering.com.

- Low-cost, washdown spot light for vision systems
- Continuous or strobed operation, depending on wiring
- Selectable Active High or Active Low strobe option, depending on wiring
- Optically isolated strobe signal
- Three lens options, depending on model, to vary spot size
- Illuminates a large area with an even pattern of light and no shadows
- 12 V DC to 30 V DC operation
- Cabled and quick-disconnect models available
- 50 mm diameter with flat profiles and 30 mm mounting base
- Rugged sealed housing rated to IP69K per DIN 40050-9

Models

<table>
<thead>
<tr>
<th>Model</th>
<th>LED Color</th>
<th>Lumens / mWatts</th>
<th>Lux / mW/cm² 0.5 m</th>
<th>Lux / mW/cm² 1 m</th>
<th>Lens Angle</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEDWS50L5-XQ</td>
<td>White, 5000-8300 K</td>
<td>295 lm</td>
<td>13780 lx</td>
<td>3445 lx</td>
<td>±5°</td>
<td>5 pin Euro integral QD connector (use with 5-wire mating cordset)</td>
</tr>
<tr>
<td>LEDRS50L5-XQ</td>
<td>Red, 620-630 nm</td>
<td>110 lm</td>
<td>8000 lx</td>
<td>2000 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDBS50L5-XQ</td>
<td>Blue, 465-485 nm</td>
<td>85 lm</td>
<td>4880 lx</td>
<td>1220 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDGS50L5-XQ</td>
<td>Green, 520-535 nm</td>
<td>210 lm</td>
<td>13000 lx</td>
<td>3250 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDIS50L5-XQ</td>
<td>Infrared, 850 nm</td>
<td>760 mW</td>
<td>4.40 mW/cm²</td>
<td>1.10 mW/cm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDUV395S50L5-XQ</td>
<td>Ultraviolet, 395 nm</td>
<td>480 mW</td>
<td>2.10 mW/cm²</td>
<td>.525 mW/cm²</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDWS50L11-XQ</td>
<td>White, 5000-8300 K</td>
<td>285 lm</td>
<td>5460 lx</td>
<td>1365 lx</td>
<td>±11°</td>
<td></td>
</tr>
<tr>
<td>LEDRS50L11-XQ</td>
<td>Red, 620-630 nm</td>
<td>105 lm</td>
<td>2500 lx</td>
<td>625 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDBS50L11-XQ</td>
<td>Blue, 465-485 nm</td>
<td>80 lm</td>
<td>1540 lx</td>
<td>385 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDGS50L11-XQ</td>
<td>Green, 520-535 nm</td>
<td>200 lm</td>
<td>3900 lx</td>
<td>975 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDUV395S50L11-XQ</td>
<td>Ultraviolet, 395 nm</td>
<td>420 mW</td>
<td>.780 mW/cm²</td>
<td>.195 mW/cm²</td>
<td>±14°</td>
<td>5-pin Euro integral QD connector (use with 5-wire mating cordset)</td>
</tr>
<tr>
<td>LEDIS50L14-XQ</td>
<td>Infrared, 850 nm</td>
<td>665 mW</td>
<td>1.16 mW/cm²</td>
<td>.290 mW/cm²</td>
<td>±20°</td>
<td></td>
</tr>
<tr>
<td>LEDWS50L20-XQ</td>
<td>White, 5000-8300 K</td>
<td>270 lm</td>
<td>2000 lx</td>
<td>500 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDRS50L20-XQ</td>
<td>Red, 620-630 nm</td>
<td>100 lm</td>
<td>1040 lx</td>
<td>260 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDBS50L20-XQ</td>
<td>Blue, 465-485 nm</td>
<td>75 lm</td>
<td>700 lx</td>
<td>175 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDGS50L20-XQ</td>
<td>Green, 520-535 nm</td>
<td>190 lm</td>
<td>1700 lx</td>
<td>425 lx</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEDUV395S50L20-XQ</td>
<td>Ultraviolet, 395 nm</td>
<td>390 mW</td>
<td>.420 mW/cm²</td>
<td>.105 mW/cm²</td>
<td>±20°</td>
<td>5-pin Euro integral QD connector (use with 5-wire mating cordset)</td>
</tr>
</tbody>
</table>

The following caution applies to blue LED models:

⚠️ CAUTION: Risk Group 2: Possibly hazardous optical radiation emitted from this product.
Do not stare at the operating lamp. May be harmful to the eyes. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.
- IEC 62471

The following caution applies to ultraviolet models:

Integral QD models only are listed. For integral 2 m (6.5 ft) PVC cable, omit suffix XQ from model number (example, LEDRS50L5). A model with a QD requires a mating cordset (see 5-Pin Euro-Style Cordsets on p. 3).
CAUTION:
Risk Group 2: UV Emitted from this product.
Eye or skin irritation may result from exposure. Use appropriate shielding and eye protection. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.
- IEC 62471

The following caution applies to LEDIS50L5-xx infrared models:

CAUTION:
Risk Group 1: IR Emitted from this product.
Use appropriate shielding or eye protection. Risk Group 1 (RG 1) products are safe for most use applications, except for very prolonged exposures where direct ocular exposures may be expected.
- IEC 62471

Wiring Table

<table>
<thead>
<tr>
<th>Wire Purpose</th>
<th>Cable Wire Color</th>
<th>Continuous On Mode</th>
<th>Strobed Mode</th>
<th>PresencePlus Pro Controller Terminal Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Wires</td>
<td>Brown (1)</td>
<td>+12-30V dc</td>
<td>+12-30V dc</td>
<td>Pin 01</td>
</tr>
<tr>
<td></td>
<td>Blue (3)</td>
<td>common</td>
<td>common</td>
<td>Pin 02</td>
</tr>
<tr>
<td>Strobe Polarity Control</td>
<td>Gray (5)</td>
<td>open</td>
<td>Active Low: open</td>
<td>Open — Active Low</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Active High: connect to common (Blue wire)</td>
<td>Pin 02 — Active High</td>
</tr>
<tr>
<td>Strobe Voltage Wires</td>
<td>White (2)</td>
<td>open</td>
<td>0V dc = ON (Active Low)</td>
<td>Pin 04</td>
</tr>
<tr>
<td></td>
<td>Black (4)</td>
<td>open</td>
<td>0V dc = OFF (Active High)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0V dc = OFF (Active High)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+5 to 30V dc = OFF (Active Low)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>+5 to 30V dc = ON (Active High)</td>
<td></td>
</tr>
</tbody>
</table>

Wiring Key
1 = +12-30V dc
2 = Strobe (+)
3 = Common
4 = Strobe common
5 = Active high / Active Low

Figure 1. Pinout for Mating Cordset

Specifications

Supply Voltage and Current
- Operating voltage: 12 V DC to 30 V DC
- Strobe voltage: 5 to 30 V dc @ 15 mA max.
- Current draw: 400 mA at 12 V, 160 mA at 30 V

Supply Protection Circuitry
- Protected against reverse polarity and transient voltages

Light Source
- Three high-intensity LEDs; see models table for color temperature or wavelengths

Strobe
- Optically isolated, 40 kHz max strobe frequency
- 5 µs minimum on time

Useful Life
- When operating within specifications, output decreases less than 30% after 50,000 hours for visible and IR models and 20,000 hours for UV models

Construction
- Black anodized aluminum housing
- Acrylic window
- Nickel-plated quick disconnect or PVC-jacketed cable
- Black zinc-plated steel mounting nut

Mounting:
- 30 mm x 1.5 mm thread base mount

Environmental Rating
- IEC IP67
- IP69K per DIN 40050-9

Note: Do not spray the cable with a high-pressure sprayer or cable damage will result.

Connections
- Integral 5-pin M12/Euro-style male quick disconnect or 2 m (6.5 ft) integral PVC cable, depending on model
- 5-pin connecting cordset required for quick disconnect fitting models

Operating Conditions
- -20 °C to +50 °C (4 °F to +122 °F)
- 85% maximum relative humidity (non-condensing)

Storage Temperature:
- -40 °C to +70 °C (-40 °F to +158 °F)

Vibration and Mechanical Shock
- All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch [1.52 mm] double amplitude, 10G maximum acceleration) requirements. Also meets IEC 60947-0-2 (Shock: 30G 11 ms duration, half sine wave) requirements.

Certifications

For Banner-supplied wire.

When connecting the light to a PresencePLUS Pro controller terminal block, the controller supply must be 24V dc ± 10%.
Beam Patterns

<table>
<thead>
<tr>
<th>Percentage of Maximum Light Intensity Per Lens Type at 0.5 Meter (Typical)</th>
<th>Percentage of Maximum Light Intensity Per Lens Type at 1 Meter (Typical)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Graph" /></td>
<td><img src="image2.png" alt="Graph" /></td>
</tr>
</tbody>
</table>

Dimensions

![Dimensional Diagram](image3.png)

Accessories

5-Pin Euro-Style Cordsets

<table>
<thead>
<tr>
<th>5-Pin Threaded M12/Euro-Style Cordsets—Single Ended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>MQDC1-501.5</td>
</tr>
<tr>
<td>MQDC1-506</td>
</tr>
<tr>
<td>MQDC1-515</td>
</tr>
<tr>
<td>MQDC1-530</td>
</tr>
</tbody>
</table>
5-Pin Threaded M12/Euro-Style Cordsets—Single Ended

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Style</th>
<th>Dimensions</th>
<th>Pinout (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MQDC1-506RA</td>
<td>1.83 m (6 ft)</td>
<td>Right-Angle</td>
<td>32 Typ. [1.26&quot;]</td>
<td>ø 14.5 [0.57&quot;]</td>
</tr>
<tr>
<td>MQDC1-515RA</td>
<td>4.57 m (15 ft)</td>
<td>Right-Angle</td>
<td>30 Typ. [1.18&quot;]</td>
<td>ø 14.5 [0.57&quot;]</td>
</tr>
<tr>
<td>MQDC1-530RA</td>
<td>9.14 m (30 ft)</td>
<td>Right-Angle</td>
<td>30 Typ. [1.18&quot;]</td>
<td>ø 14.5 [0.57&quot;]</td>
</tr>
</tbody>
</table>

Mounting Brackets
All measurements are in mm

SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel

Hole center spacing: A to B=40
Hole size: A= ø 6.3, B= 27.1 x 6.3, C= ø 30.5

SMB30FA
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available

Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 30.1

SMB30MM
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1

SMB30SC
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included

Hole center spacing: A= ø 50.8
Hole size: A= ø 7.0, B= ø 30.0

SMBAMS30RA
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. (2.6 mm) cold-rolled steel

Hole center spacing: A=26.0, A to B=13.0
Hole size: A= ø 26.8 x 7.0, B= ø 6.5, C= ø 31.0

SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel

Hole center spacing: A=26.0, A to B=13.0
Hole size: A= ø 26.8 x 7.0, B= ø 6.5, C= ø 31.0

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