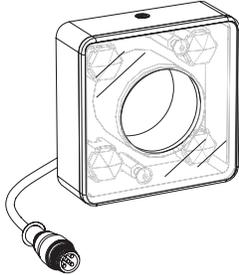


# LED High-Intensity Ring Light



## Datasheet

High-Intensity LED Ring Light for use with PresencePLUS and other Vision Systems



- Compact ring light for PresencePLUS and other Vision Systems
- Four extremely bright LEDs for illumination of targets from 0.15 meters to beyond 2 meters (0.49 feet to 6.56 feet)
- Continuous or strobed operation
- Optically isolated strobe signal
- Fixed or adjustable intensity, depending on model
- Maintenance-free, rugged construction
- Evenly and intensely illuminates a 610 millimeters (24 inches) diameter at 1 meter (3.28 feet)

## Models

| Model <sup>1</sup> | LED Color               | Bracket   | Cable  |
|--------------------|-------------------------|---|--|
| LEDRR70XD5-XQ      | Red, 620 nm to 630 nm   | Optional bracket available (see Mounting Bracket) | 150 mm (6 in) pigtail with threaded 5-pin Euro-style connector <sup>2</sup>  |
| LEDWR70XD5-XQ      | White, 5000 K to 8300 K |   |  |
| LEDBR70XD5-XQ      | Blue, 465 nm to 485 nm  |   |  |
| LEDGR70XD5-XQ      | Green, 520 nm to 535 nm |   |  |
| LEDIR70XD5-XQ      | Infrared, 850 nm        |   |  |
| LEDUV395R70XD5-XQ  | UV, 395 nm              |   |  |
| LEDRR70XD5-XM      | Red, 620 nm to 630 nm   | Built-in P4 bracket (see dimensions)              | 300 mm (12 in) pigtail with threaded 3-pin Pico-style connector <sup>3</sup> |
| LEDWR70XD5-XM      | White, 5000 K to 8300 K |   |  |
| LEDBR70XD5-XM      | Blue, 465 nm to 485 nm  |   |  |
| LEDGR70XD5-XM      | Green, 520 nm to 535 nm |   |  |
| LEDIR70XD5-XM      | Infrared, 850 nm        |   |  |
| LEDUV395R70XD5-XM  | UV, 395 nm              |   |  |

The following caution applies to UV 395 nm models:



### 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

<sup>1</sup> For models with controllable intensity, add "P" to the model number (e.g., LEDRR70XD5-PQ).  
<sup>2</sup> Requires Euro-style cordset.  
<sup>3</sup> Connects directly to the P4 sensor.



## Wiring

| Wire Purpose            | Cable Wire Color <sup>4</sup> | Continuous On Mode | Strobed Mode  | PresencePlus Pro Controller Terminal Block |
|-------------------------|-------------------------------|--------------------|---|--|
| Power Wires             | Brown (1)                     | +24 V dc           | +24 V dc  | Pin 01 <sup>5</sup>                        |
|                         | Blue (3)                      | common             | common  | Pin 02                                     |
| Strobe Polarity Control | Gray (5)                      | open               | Active Low: open  | Open — Active Low                          |
|                         |                               |                    | Active High: connect to common (Blue wire)                            | Pin 02 — Active High                       |
| Strobe Voltage Wires    | White (2)                     | open               | 0 V dc = ON (Active Low)      +5 V dc to 24 V dc = OFF (Active Low)   | Pin 04                                     |
|                         |                               |                    | 0 V dc = OFF (Active High)      +5 V dc to 24 V dc = ON (Active High) |  |
|                         | Black (4)                     | open               | Strobe common   | Pin 02                                     |

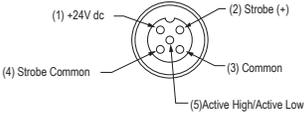


Figure 1. Pinouts for Mating Cordset

## Light Intensity Adjustment

Turn the 270° intensity potentiometer with a small flat-blade screwdriver to adjust the light's intensity.

1. Apply power to the light and turn the potentiometer all the way clockwise for maximum intensity.
2. If the object to be sensed is too bright at maximum intensity, turn the potentiometer counterclockwise, a little at a time, testing with the target object, until the correct brightness is achieved.

## Specifications

### Light Source

Four high-intensity LEDs; see models table for wavelengths

### Illumination

610 mm (24 in) diameter usable light pattern at 1 m

### Strobe

Optically isolated

### Supply Voltage and Current

**Operating Voltage:** 24 V dc  $\pm$ 10%

**Strobe Voltage:** 5 V dc to 24 V dc @ 15 mA maximum

**Current Draw at Full Intensity:** 350 mA maximum

Built-in constant current regulator for LEDs

Potentiometer controls variable intensity for "P" models

### Construction

**Enclosure rating:** IP50

**Housing:** aluminum, black anodized

**Window:** acrylic, clear with frosted diffusing surface on inside

**Bracket:** aluminum, black anodized. Attaches ring light directly to PresencePLUS P4 with 2 included M4x14 screws

### Useful Life

When operated within specifications, output will decrease less than 30% after 50,000 hours for visible and IR models, 20,000 hours for UV models

### Operating Conditions

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

**Humidity:** 90% maximum relative humidity (non-condensing)

### Certifications



### Light Characteristics

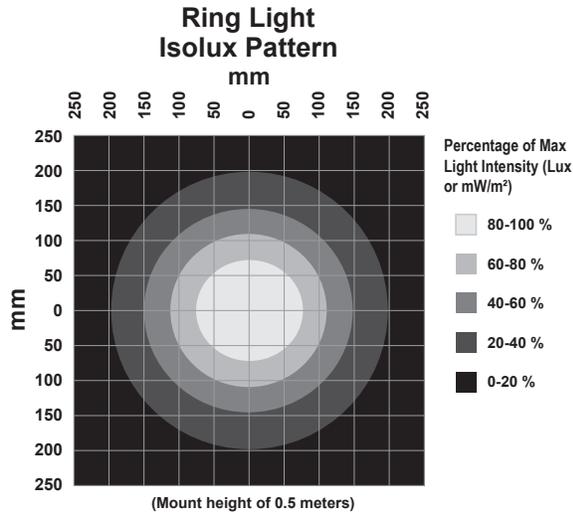
Values shown are typical at 25°C.

|         | Lumens     |       |     |      | mWatts |       |
|---------|------------|-------|-----|------|--------|-------|
|         | Cool White | Green | Red | Blue | IR     | UV395 |
| LEDxR70 | 390        | 340   | 240 | 130  | 945    | 475   |

<sup>4</sup> For Banner-supplied wire.

<sup>5</sup> When connecting the light to a PresencePLUS Pro controller terminal block, the controller supply must be 24 V dc  $\pm$  10%.

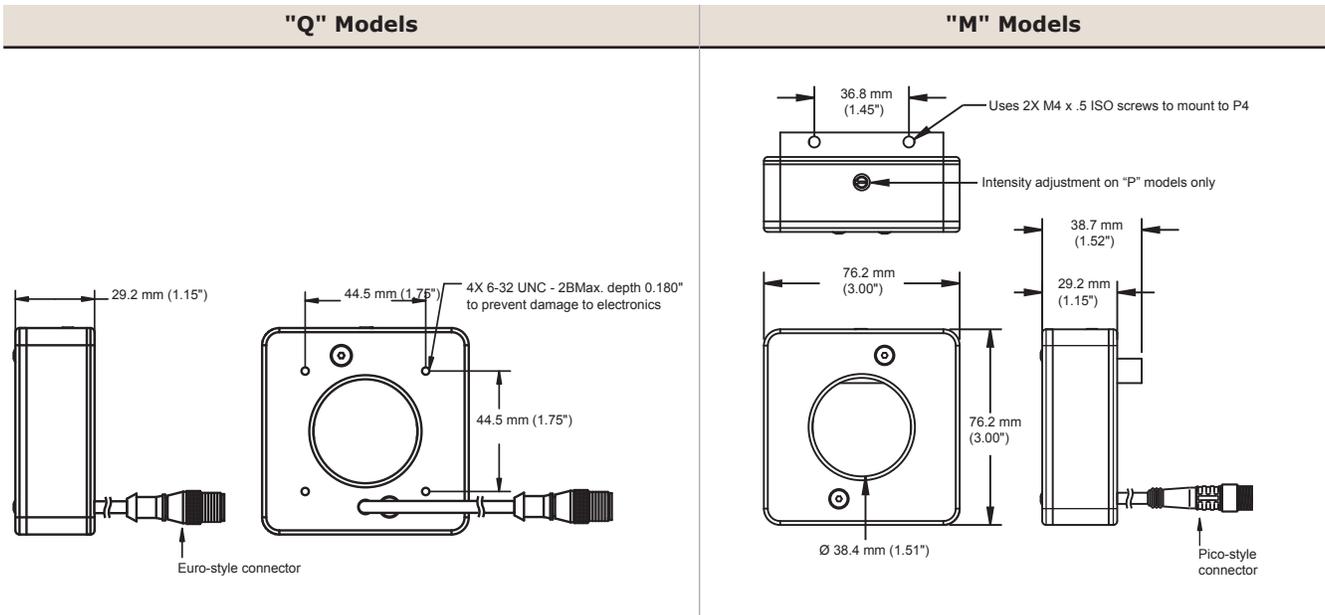
Optical Data



Values shown are typical at 25 °C.

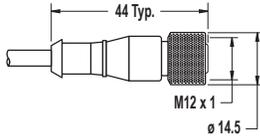
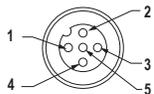
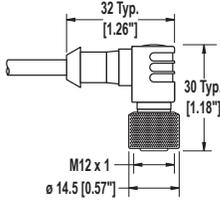
| Distance (m) | Max Center Beam Lux (lux) |        |        |       | Max Center Beam Irradiance (mW/m <sup>2</sup> ) |        | Beam Width (m)          |                           |
|--------------|---------------------------|--------|--------|-------|---|--------|-------------------------|---------------------------|
|              | Cool White                | Green  | Red    | Blue  | IR  | UV395  | Vertical (Spread 29.6°) | Horizontal (Spread 28.4°) |
| 0.25         | 16,620                    | 14,489 | 10,228 | 5,540 | 40,272  | 20,242 | 0.13                    | 0.13                      |
| 0.50         | 5,150                     | 4,490  | 3,169  | 1,717 | 12,479  | 6,272  | 0.26                    | 0.25                      |
| 1.00         | 1,125                     | 981    | 692    | 375   | 2,726   | 1,370  | 0.53                    | 0.51                      |

Dimensions



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

## 5-Pin Euro-Style Cordsets

| 5-Pin Threaded M12/Euro-Style Cordsets—Single Ended |                 |             |  |  |
|---|-----------------|-------------|--|--|
| Model   | Length          | Style       | Dimensions   | Pinout (Female)  |
| <b>MQDC1-501.5</b>                                  | 0.50 m (1.5 ft) | Straight    |  |  <p>1 = Brown<br/>2 = White<br/>3 = Blue<br/>4 = Black<br/>5 = Gray</p> |
| <b>MQDC1-506</b>                                    | 1.83 m (6 ft)   |             |  |  |
| <b>MQDC1-515</b>                                    | 4.57 m (15 ft)  |             |  |  |
| <b>MQDC1-530</b>                                    | 9.14 m (30 ft)  |             |  |  |
| <b>MQDC1-506RA</b>                                  | 1.83 m (6 ft)   | Right-Angle |  |  |
| <b>MQDC1-515RA</b>                                  | 4.57 m (15 ft)  |             |  |  |
| <b>MQDC1-530RA</b>                                  | 9.14 m (30 ft)  |             |  |  |

## Accessory Brackets

### SMBPPRHI

- Black zinc plated cold rolled steel bracket
- Mounts directly to PresencePLUS Pro sensor
- Includes: 2 – 6-32 screws (socket drive, button head) 4 – M3 screws (socket drive, cap head)



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