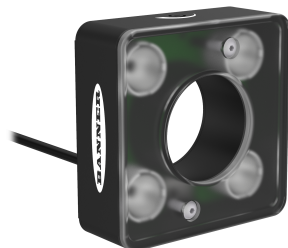


## Features

*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)

**IMPORTANT:** Read the following instructions before operating the light. Please download the complete LED High-Intensity Ring Light technical documentation, available in multiple languages, from [www.bannerengineering.com](http://www.bannerengineering.com) for details on the proper use, applications, Warnings, and installation instructions of this device.

**IMPORTANT:** Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde [www.bannerengineering.com](http://www.bannerengineering.com) toda la documentación técnica de los LED High-Intensity Ring Light, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

**IMPORTANT:** Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des LED High-Intensity Ring Light sur notre site [www.bannerengineering.com](http://www.bannerengineering.com) pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

## 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) PVC-jacketed cable with a 5-pin M12 male quick-disconnect 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              | Built-in P4 bracket (see dimensions)              | 300 mm (12 in) cable with a 3-pin M8 male quick-disconnect connector <sup>(3)</sup>              |
| LEDRR70XD5-XM        | Red, 620 nm to 630 nm   |   |  |
| 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:

<sup>(1)</sup> For models with controllable intensity, add "P" to the model number (e.g., LEDRR70XD5-PQ).

<sup>(2)</sup> Requires an M12 cordset.

<sup>(3)</sup> Connects directly to the P4 sensor.

**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

## Wiring

| Wire Purpose   | Cable Wire Color <sup>(4)</sup> | Continuous On Mode | Strobed Mode  | PresencePlus Pro Controller Terminal Block |
|--|---------------------------------|--------------------|---|--|
| <p style="text-align: center;"><i>Pinouts for Mating Cordset</i></p> |                                 |                    |   |  |
| 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                                     |

## 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 at 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

Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

See the electrical characteristics on the product label.

### 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)

<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  $\pm 10\%$ .

### Certifications



Banner Engineering BV  
Park Lane, Culliganlaan 2F bus 3  
1831 Diegem, BELGIUM



### Required Overcurrent Protection



**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.

Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to [www.bannerengineering.com](http://www.bannerengineering.com).

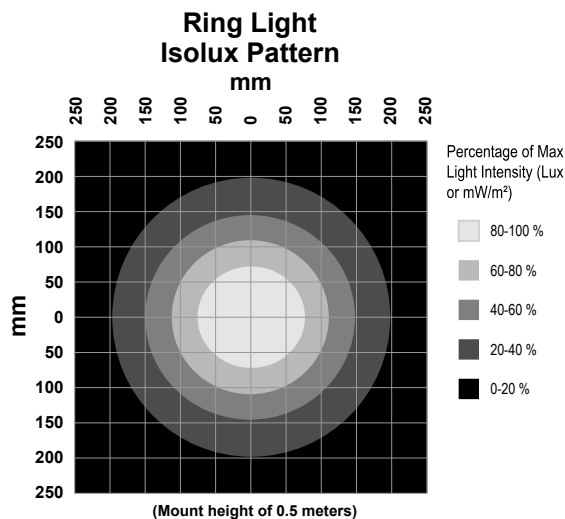
| Supply Wiring (AWG) | Required Overcurrent Protection (A) | Supply Wiring (AWG) | Required Overcurrent Protection (A) |
|---------------------|-------------------------------------|---------------------|-------------------------------------|
| 20                  | 5.0                                 | 26                  | 1.0                                 |
| 22                  | 3.0                                 | 28                  | 0.8                                 |
| 24                  | 2.0                                 | 30                  | 0.5                                 |

### 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   |

### Optical Data

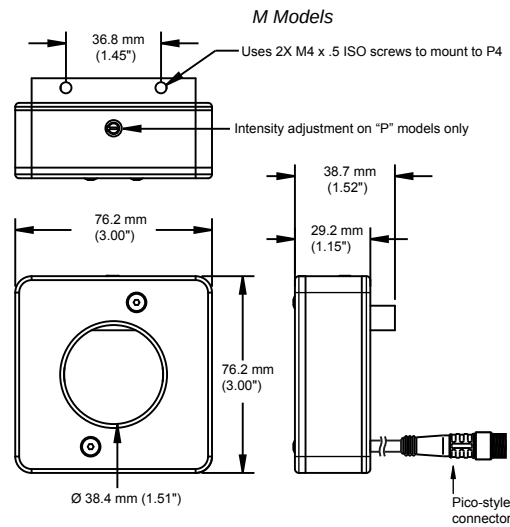
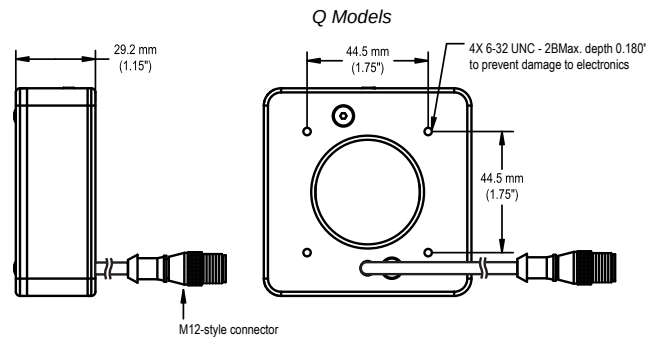


Values shown are typical at 25 °C.

| 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                      |
| 0.5          | 5,150                     | 4,490  | 3,169  | 1,717 | 12,479  | 6,272  | 0.26                    | 0.25                      |
| 1            | 1,125                     | 981    | 692    | 375   | 2,726   | 1,370  | 0.53                    | 0.51                      |

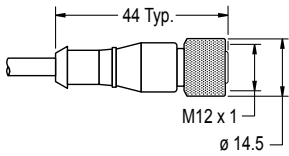
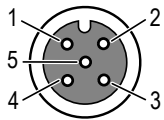
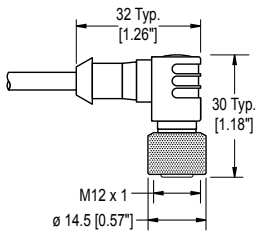

## Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.



## Accessories

### Cordsets

| 5-Pin Single-Ended M12 Female Cordsets |                 |             |  |  |
|--|-----------------|-------------|--|--|
| Model                                  | Length          | Style       | Dimensions   | Pinout (Female)  |
| MQDC1-501.5                            | 0.5 m (1.5 ft)  | Straight    |    | <br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray |
| MQDC1-503                              | 0.9 m (2.9 ft)  |             |  |  |
| MQDC1-506                              | 2 m (6.5 ft)    |             |  |  |
| MQDC1-515                              | 5 m (16.4 ft)   |             |  |  |
| MQDC1-530                              | 9 m (29.5 ft)   |             |  |  |
| MQDC1-560                              | 18 m (59 ft)    |             |  |  |
| MQDC1-5100                             | 31 m (101.7 ft) | Right-Angle |  |   |
| MQDC1-506RA                            | 2 m (6.5 ft)    |             |  |  |
| MQDC1-515RA                            | 5 m (16.4 ft)   |             |  |  |
| MQDC1-530RA                            | 9 m (29.5 ft)   |             |  |  |
| MQDC1-560RA                            | 19 m (62.3 ft)  |             |  |  |

## Brackets

### SMBPPRHI

- Black zinc plated cold rolled steel bracket
- Mounts directly to Presence*PLUS* Pro sensor
- Includes: 2 – 6-32 screws (socket drive, button head) 4 – M3 screws (socket drive, cap head)
- CAD Files: [DXF](#), [PDF](#), [IGS](#), [STP](#)



## Banner Engineering Corp Limited Warranty

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For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

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