



Vision Lighting

Vision lighting is the key to creating all-important contrast between the feature of interest and its background.



Ring Lights page 498
 Mounts directly to the sensor for easy setup and illuminates any object directly in front of the sensor



Area Lights page 500
 Provides even illumination in a concentrated area



Backlights page 502
 Installs behind the target, directly facing the sensor; has a highly diffused surface and uniform brightness



Linear Array Backlights page 503
 Diffused backlights that can be used for any vision system or as a highly diffused area light



Linear Array Lights page 504
 Provides high-intensity illumination of large areas, at long distances



On-Axis Lights page 505
 Provides collimated illumination along the same optical path as the camera



Spot Lights page 506
 Provides even illumination in a small concentrated spot



Low-Angle Ring Lights page 508
 Illuminates nearly perpendicular to the direction of an inspection



Laser Line Generator page 508
 Laser Line Generators have dynamic line balancing for repeatable performance



Tubular Fluorescent Lights page 509
 Features flicker-free high-intensity illumination of large areas

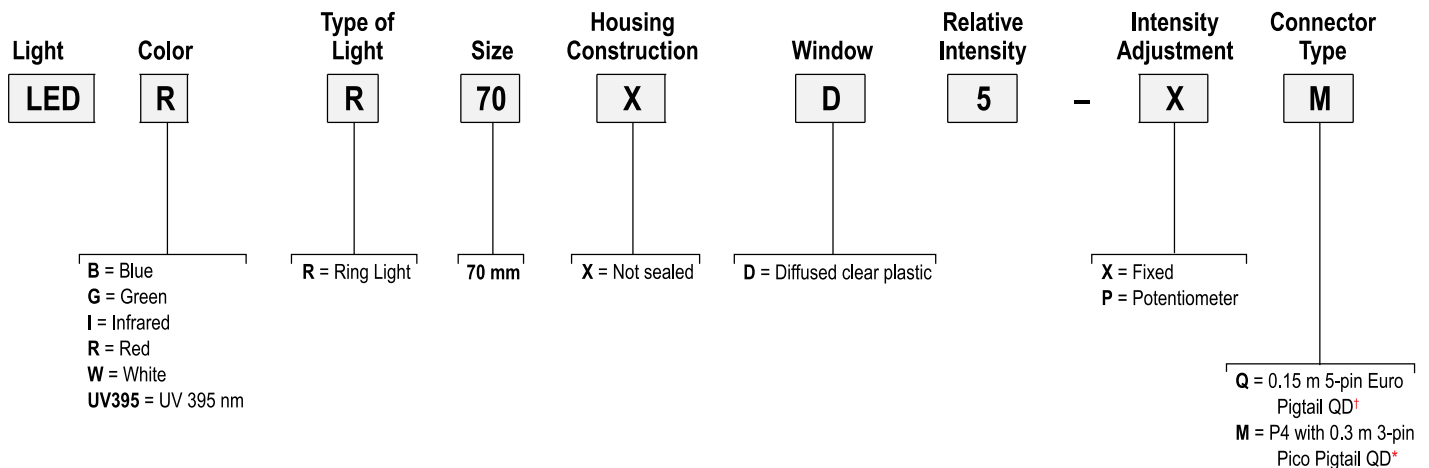


Ring Lights

A ring light provides direct illumination over a small area. With the lens axis through the center opening of the ring light assembly, the ring light illuminates the area directly in front of the camera.

- Connects directly to PresencePLUS vision sensors or an external power supply
- Brightly illuminates small objects
- Mounts directly to the camera and centers the light on the image
- Includes models to withstand washdown environments (IP68 rated)
- Cordsets and brackets see page 510

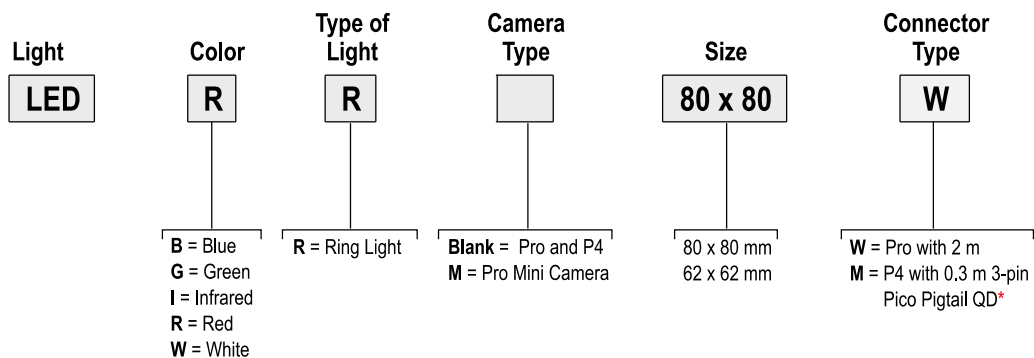
IP50 High-Intensity LED Ring Light Model Key, 24 V DC Example Model Number LEDRR70XD5-XM



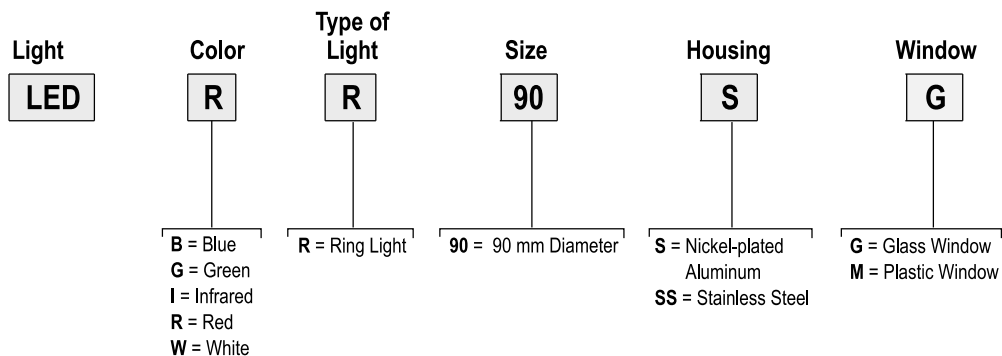
Connection options:

- * Pico QD model required for P4 sensors.
Pico QD models include a built-in mounting bracket for use with P4 sensors.
- [†] Models require a mating cordset (see page 510).
Optional bracket SMBPPRH1 required for use with Pro cameras (see page 510).
Optional bracket SMBMPRH1 required for use with Pro Mini cameras (see page 510).

IP20 LED Ring Lights, 24 V DC Example Model Number LEDRR80X80W



IP68 LED Ring Lights (for sealed Pro II and P4 Models), 24 V DC Example Model Number LEDRR90S-G



Connection options:

For 9 m cable, add suffix **W30** to the 2 m model number (example, LEDRR80X80W W30).

For replacement windows and diffusers (see page 510).

* Splitter cordsets available for powering two lights (see page 510).

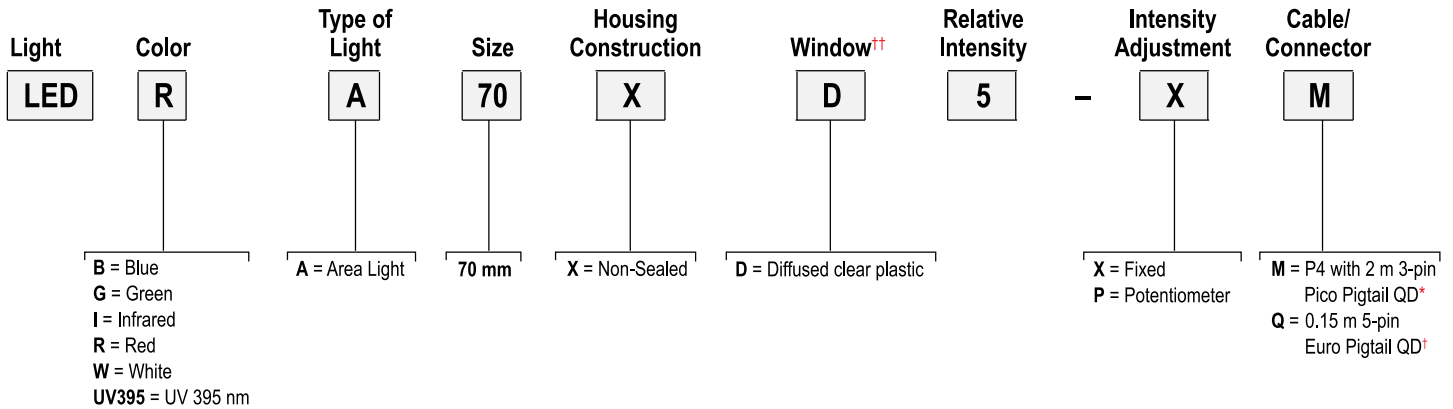


Area Lights

An area light provides even illumination in a concentrated area. When properly placed area lights can create shadows and glare, allowing the vision sensor to detect the presence or absence of a feature.

- Creates shadows to detect changes in depth, depending on mounting
- High-intensity lighting for distances greater than 12 inches
- Cordsets and brackets see page 510

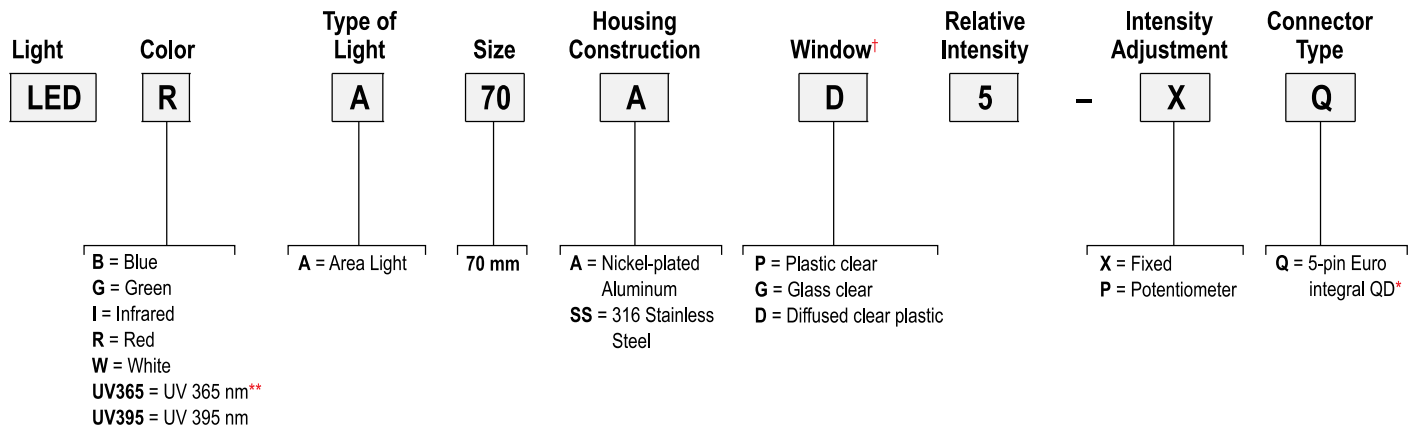
IP50 High-Intensity LED Area Light Model Key, 24 V D Example Model Number LEDRA70XD5-XM



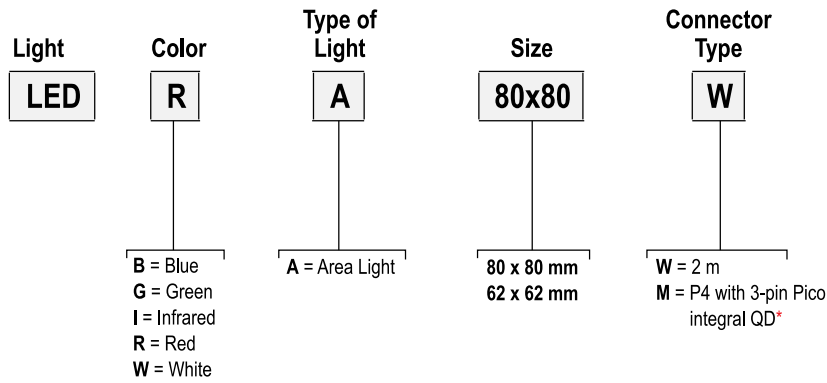
Connection options:

* Pico QD model required for P4 sensors.
[†] Models require a mating cordset (see page 510).
^{††} For replacement windows and diffusers (see page 511).

IP68 Sealed High-Intensity LED Area Light Model Key, 24 V DC Example Model Number LEDRA70AD5-XQ



IP40 LED Area Light Model Key, 24 V DC Example Model Number LEDRA80X80W



Connection options:

For 9 m cable, add suffix W/30 to the 2 m model number (example, LEDRA80X80W W/30).
 QD models can be connected directly to P4 sensors; splitter cordset available for powering two lights (see page 510).
 * Models require a mating cordset (see page 510)
 ** UV365 can only be used with glass window
 † For replacement windows and diffusers (see page 510)

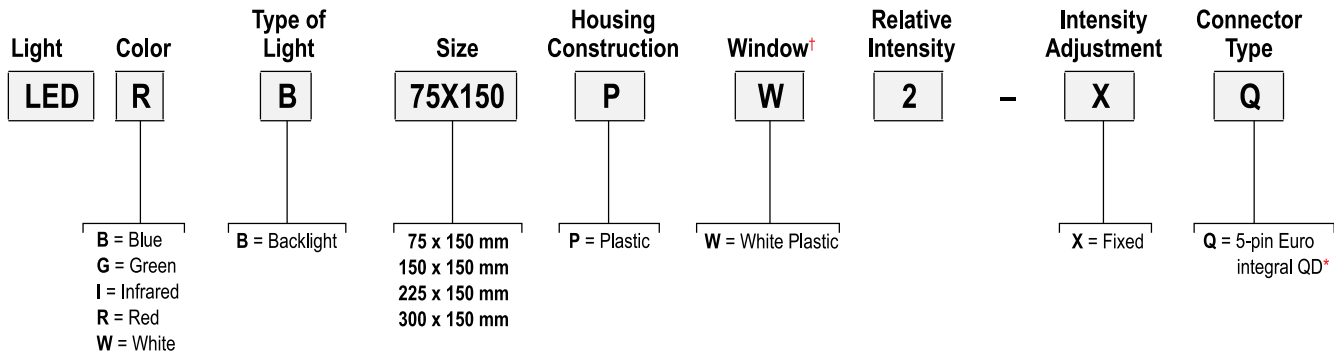


Backlights

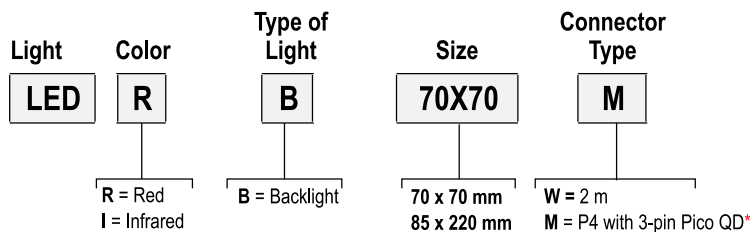
A backlight provides even bright lighting by placing the backlight behind the target and aiming it directly towards the camera. The resulting silhouette can be inspected for proper size and shape.


- Determines the shape and size of target objects
- Offers a highly diffused surface and uniform brightness, with lower intensity than other lights
- Provides the most robust lighting for measuring and gauging
- Highlights through-holes in target objects
- Cordsets and brackets see page 510

IP67 Sealed LED Backlights Model Key, 24 V DC Example Model Number LEDRB75X150PW2-XQ



IP40 LED Backlights, 24 V DC Example Model Number LEDRB70X70M



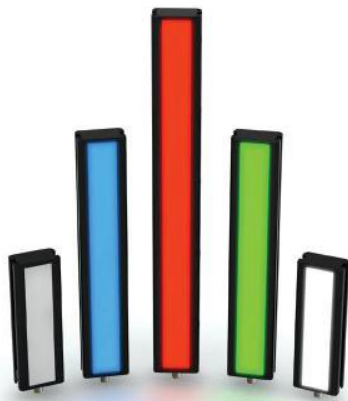
 **Connection options:** A model with a QD requires a mating cordset (see page 510).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **LEDRB70X70W W/30**).

QD models can be connected directly to **P4** sensors; splitter cordsets available for powering two lights (see page 510).

* Models require a mating cordset (see page 510).

† For replacement windows and diffusers (see page 511).



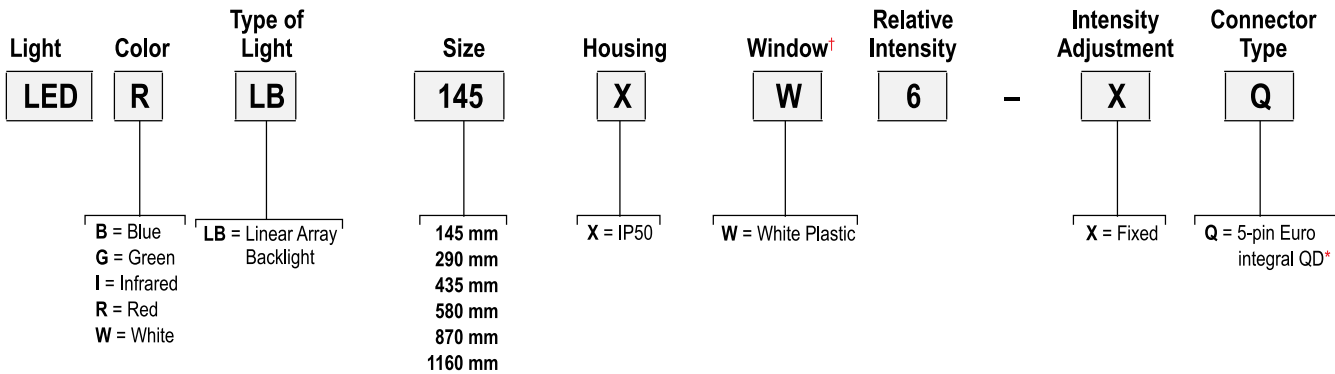
Linear Array Backlights

Linear array backlights are diffused backlights that can be used for any vision system or as a highly diffused area light. Linear array backlights are high power and have a solid-state LED array with continuous or strobed operation, which is selectable via sensor software (P4 models) or via hookup.

- Built-in constant current regulation with very even light pattern
- Optically isolated strobe signal with selectable Active High or Active Low strobe option
- Maintenance-free, rugged construction
- Four high-intensity, visible wavelengths, plus IR
- Cordsets and brackets see page 510

IP50 High-Power Linear Array Backlights Model Key, 24 V DC

Example Model Number LEDRLB145XW6-XQ



Connection options: A model with a QD requires a mating cordset (see page 510).

* Models require a mating cordset (see page 510).
[†] For replacement windows and diffusers (see page 511).

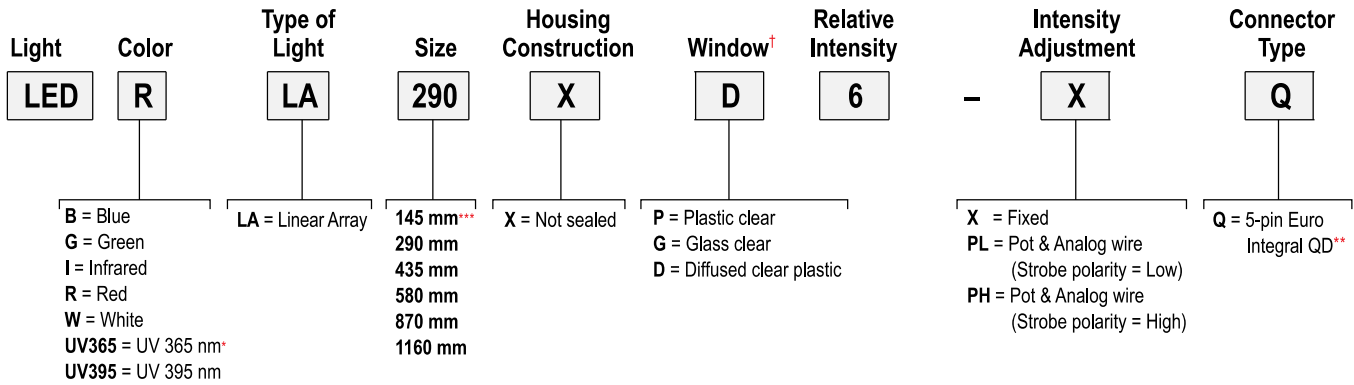


Linear Array Lights

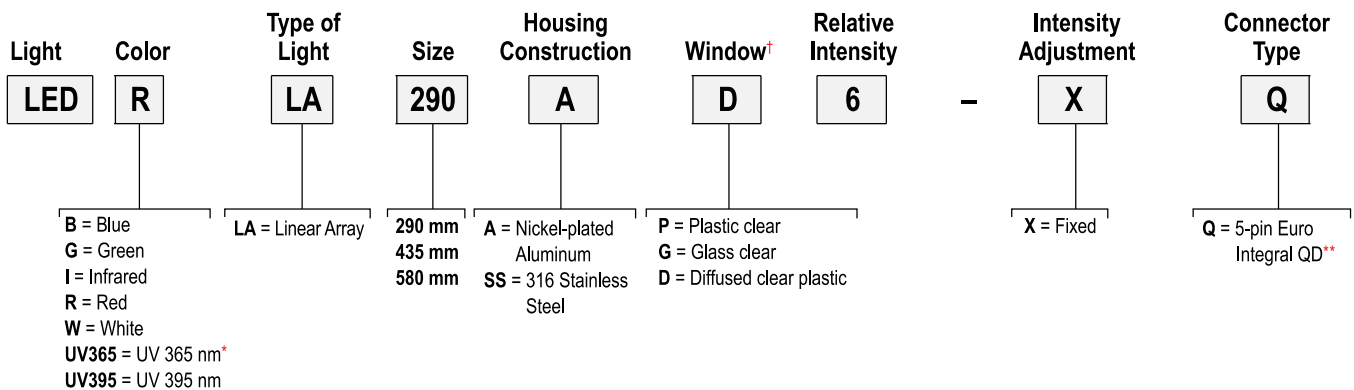
Linear array lights provide high-intensity illumination of large areas, and for long distances. Available in 3 housings including: nickel-plated aluminum (IP68), stainless steel (IP68) and black anodized aluminum (IP50).

- Provides maintenance-free LED illumination of large objects from far away
- Provides superior high-intensity illumination of large areas
- Available in sealed (IP68) nickel-plated and non-sealed (IP50) housings
- Provides optically isolated strobe signal
- Cordsets and brackets see page 510

IP50 High-Intensity LED Linear Array Model Key, 24 V DC Example Model Number LEDRLA290XD6-XQ



IP68 High-Intensity LED Linear Array Model Key, 24 V DC Example Model Number LEDRLA290AD6-XQ



Connection options: A model with a QD requires a mating cordset (see page 510).

* UV365 can only be used with glass window
 ** Models require a mating cordset (see page 510).
 *** Intensity adjustment not available on 145 mm length
 † For replacement windows and diffusers (see page 511).

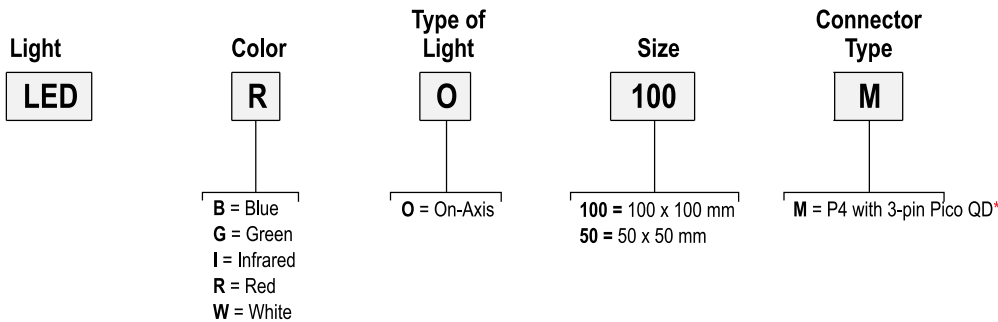
On-Axis Lights

On-axis lighting provides even, diffused illumination. A beam splitter directs the light rays along the same axis as the camera lens. Reflective surfaces perpendicular to the camera appear bright. Surfaces at an angle to the camera and non-reflective surfaces appear dark.

- Provides more uniform illumination than a ring light
- Delivers collimated illumination in the same optical path as camera
- Evenly illuminates flat reflective surfaces
- Provides minimum useful life of 10,000 to 60,000 hours, depending on model
- Cordsets and brackets see page 510



IP40 LED On-Axis Lights, 24 V DC Example Model Number LEDRO100M



Connection options: A model with a QD requires a mating cordset (see page 510).

QD cordsets with flying leads are available for connecting to models other than P4 (see page 510).

* Models require a mating cordset (see page 510).

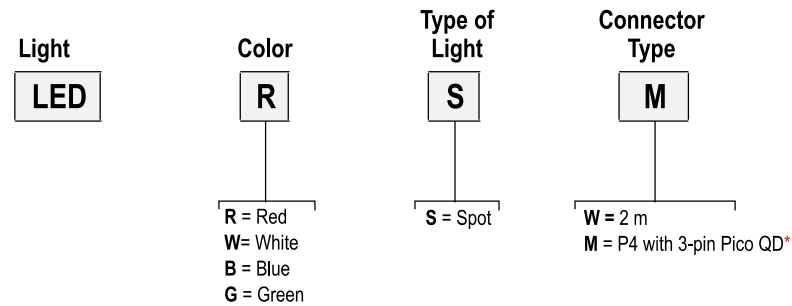
Spot Lights




A spot light provides even light with high-powered LEDs. When properly placed, spotlights can create shadows and glare, allowing the vision sensor to detect the presence or absence of a feature.

- Low-cost, compact washdown spot lights for *PresencePLUS*® sensors
- Continuous or strobed operation is selectable via sensor software
- Provides extremely bright, even light with high-power LEDs
- Adjustable spot size
- Direct connection to *PresencePLUS*® Pro sensor or to an external power supply using 3 discrete wires
- Cordsets and brackets see page 510

IP68 Sealed LED Spot Lights, 10 to 30 V DC Example Model Number LEDRSM



 **Connection options:** A model with a QD requires a mating cordset (see page 510).

For 9 m cable, add suffix **W/30** to the 2 m model number (example, **LEDRSW W/30**).

QD models can be connected directly to P4 sensors; splitter cordsets available for powering two lights (see page 510).

* Models require a mating cordset (see page 510).



Spot Lights

A spot light provides even light with high-powered LEDs. When properly placed, spotlights can create shadows and glare, allowing the vision sensor to detect the presence or absence of a feature.

- Provides off-axis illumination of small areas
- Provides extremely bright, even light with high-power LEDs
- Withstands washdown
- Delivers constant, even light intensity, even if voltage fluctuate
- Cordsets and brackets see page 510

IP69K Sealed High Intensity LED Spot Lights, 12 to 30 V DC

Lens Angle	Color	Lumens	Lux		Connection	Models
			0.5 m	1 m		
± 5° (smaller, more focused spot)	Red	110	8,000	2,000	5-pin Euro integral QD connector (use with a 5-wire mating cordset)	LEDRS50L5-XQ
	White	295	13,780	3,445		LEDWS50L5-XQ
	Blue	85	4,880	1,220		LEDBS50L5-XQ
	Green	210	13,000	3,250		LEDGS50L5-XQ
	IR	760*	4.40**	1.10**		LEDIS50L5-XQ
	UV	480*	2.10**	0.52**		LEDUV395S50L5-XQ
± 11° (larger spot)	Red	105	2,500	625	5-pin Euro integral QD connector (use with a 5-wire mating cordset)	LEDRS50L11-XQ
	White	285	5,460	1,365		LEDWS50L11-XQ
	Blue	80	1,540	385		LEDBS50L11-XQ
	Green	200	3,900	975		LEDGS50L11-XQ
	UV	420*	0.78**	0.19**		LEDUV395S50L11-XQ
± 14° (larger spot)	IR	665*	1.16**	0.29**	5-pin Euro integral QD connector (use with a 5-wire mating cordset)	LEDIS50L14-XQ
± 20° (largest spot)	Red	100	1,040	260	5-pin Euro integral QD connector (use with a 5-wire mating cordset)	LEDRS50L20-XQ
	White	270	2,000	500		LEDWS50L20-XQ
	Blue	75	700	175		LEDBS50L20-XQ
	Green	190	1,700	425		LEDGS50L20-XQ
	UV	390*	0.42**	0.10**		LEDUV395S50L11-XQ

Connection options: A model with a QD requires a mating cordset (see page 510).
 For 2 m cable, omit suffix XQ from model number (example, LEDRS50L5).
 * Values listed in milliwatts
 ** Values listed in mW/cm²

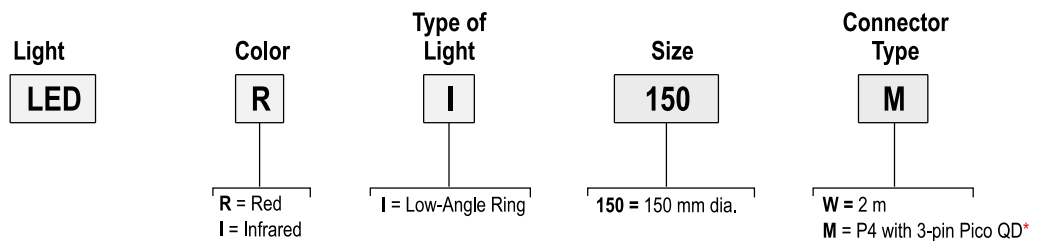


Low-Angle Ring Lights

Low-angle lighting enhances the contrast of surface features. The low-angle light is aimed nearly perpendicular to the imaged surface of the target object so that it can highlight changes in elevation.

- Highlights surface irregularities
- Highlights slight height differences such as etching, solder balls and embossing
- Illuminates from an angle nearly perpendicular to object
- Provides minimum useful life of 10,000 to 60,000 hours, depending on model
- Cordsets and brackets see page 510

LED Low-Angle Ring Lights, 24 V DC Example Model Number LEDRI150M



Laser Line Generator

Laser Line Generators have dynamic line balancing for repeatable performance.

- Laser line uniformity up to 95% on 100% of the line
- External user focus mechanism
- Robust thermal management, providing better stability and longer lifetime
- Remote laser monitoring and control via RS232 communication
- Brackets see page 510



Laser Line Generator, 5-24 V DC

➔ Visible Red Laser

Description	Models
Laser Line Generator	LLG660P10A60II
Laser Line Power Supply Generator 12 V	PSLLG12V

Connection options: A model with a QD requires a mating cordset (see page 510).
 QD cordsets with flying leads are available for connecting to models other than P4 (see page 510).
 * Models require a mating cordset (see page 510).