Johting & Indication 2013







Who is Banner?

Every 3.5 seconds, a Banner sensor is installed somewhere in the world. Banner solves problems for most of the manufacturing companies in the Fortune 500, who rely on Banner for reliable automation solutions.

Banner products help manufacture the cars you drive, the TVs you watch, the food you eat, the medicine you take and virtually every product you consume. Whatever the industry, Banner has a solution to help you automate your plants, improve efficiency and manufacture quality products.

Manufacturing Specialists

Banner is a leading source for manufacturing needs with an extensive product line. With over 30,000 products, including our award-winning sensors, wireless solutions, vision sensors and lighting, machine safety, indicator lights and LED lighting, we have a solution for you.

Application Solution Experts

Our field sales engineers are the most highly-trained and experienced professionals in the industry. They can rapidly analyze an application to help you find the best solution.

Global Presence

We are a global company with a focus on our commitment to customers around the world. Banner has worldwide support with a network of 3,000 professionals who are ready to help you in your plant no matter where you are located.

Banner Specials

Banner's growing family of Lighting and Indicator products include thousands of standard products. However, if you have an application requiring a unique solution, contact one of Banner's Application Engineers and learn about our rapid customization and ability to deliver special product variations.

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	Banner's Lighting and Indication Solutions	
	LED Lighting14	
	Robust, high-quality and energy-efficient LED Lighting products have sleek designs and are ideal for a wide range of industrial and mobile applications.	
	Signal Tower Lights	
Ç	Premium LED-based, stylish Signal Tower Lights are completely factory assembled and have a range of mounting accessories for quick and easy installation.	
	Indicators	
)	Rugged Indicators require no additional protective enclosure and are flexible in design, size and mounting for a unique indication solution.	
	Touch Buttons	
)	Touch Buttons come in a variety of options for lighting and touch functions and have unique, rugged packages that require no additional protective enclosure.	
	Pick-to-Light	
)	Rugged, unique Pick-to-Light products help reduce assembly time and increase quality for online and offline operator guidance processes.	

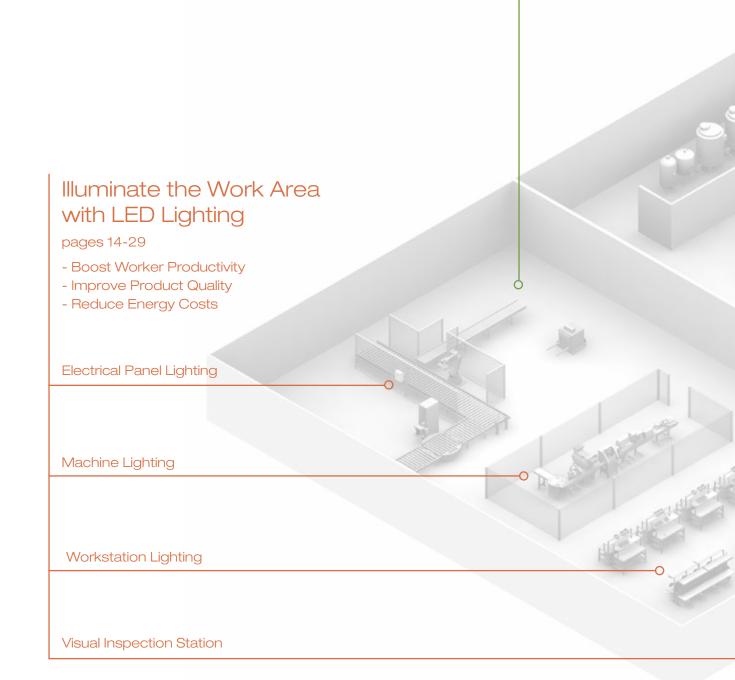
Complimentary Banner Solutions

Custom Solutions	3
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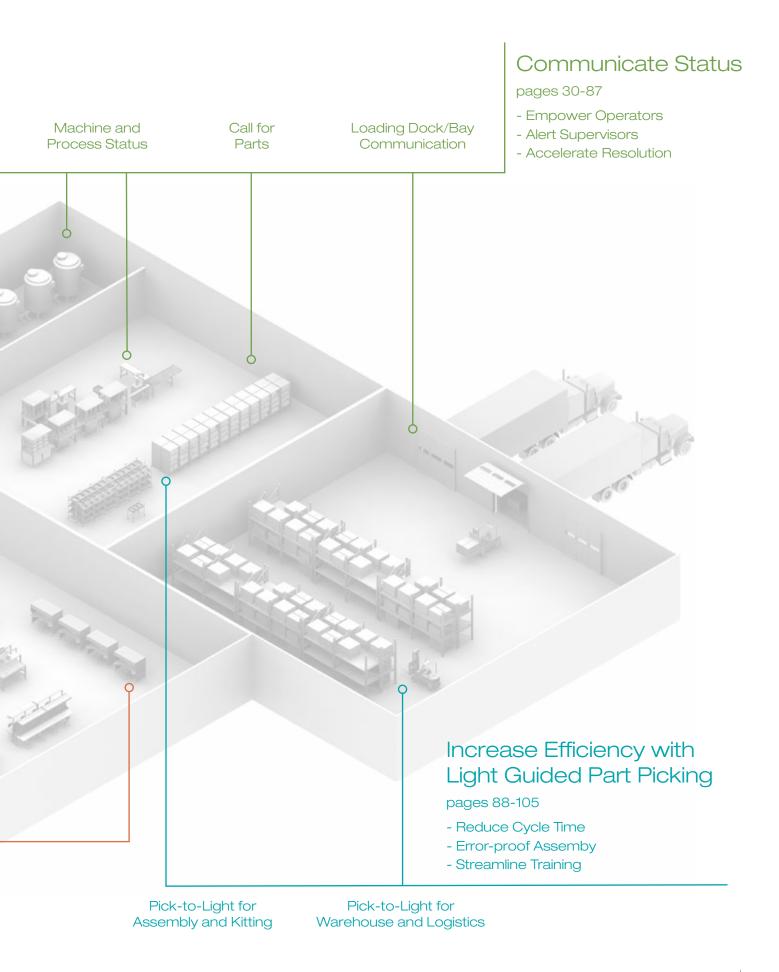
Light Up the Visual Factory

Enhance your Visual Management Efforts with Banner's Lighting and Indicators.





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Lean Principle

Light Up the 'Gemba'

Gemba is the Japanese term for "the real place" — or in lean manufacturing, the factory floor, where actual services are provided or where work gets done. Lighting up the "Gemba" means to make problems visible so they can be quickly fixed. Proper workplace illumination is a key step to achieve efficient processes, optimal defect detection and maximum worker safety.

Illuminate Work Areas with High-Intensity LED Lighting

Increase efficiency, improve product quality and reduce costs with Banner's industrial LED lighting products. Banner LED lights are designed to withstand the toughest environments featuring high-quality, shatterproof housings and washdown safe models.

Boost Productivity – Proper lighting increases the speed and accuracy of visual task performance, reducing assembly times

Improve Product Quality – Appropriate lighting improves the ability of the human eye to detect part defects during assembly and inspection

Reduce Costs – Ultra-long lifetimes, no maintenance, and advanced energy efficiency for long-term savings

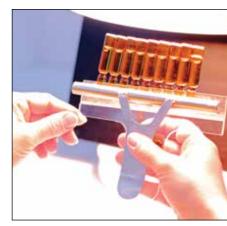


Strip Lights page 16

Chemical-Resistant Lights page 18



Spot Lights page 24









Communicate Status to Supervisors

Bright, highly visible indication allows for improved communication across the manufacturing floor. Convenient, effective wireless options allow for rapid communication throughout the plant.

Immediate – Instant attention to problems as they occur can reduce downtime, improve quality and reduce safety issues

Simple – Efficient visual communication reduces complexity and focuses attention on key pieces of information

Standard – Consistent communication using established practices eliminates confusion and speeds up reaction times

Lean Principle

Jidoka

Enabling a machine or operator to detect abnormalities and stop the process is referred to as Jidoka. Bright, easily detectable status lights enable operators to simultaneously monitor several machines, resulting in significant productivity gains. Implementation can also prevent production of defective products, eliminate overproduction and focus attention on process problems and solutions. Typically the machine is "set" to do self inspection and notify a human if defects are detected.

Communicate Status to Operators

Clear status indication gives workers information when and where they need it, resulting in efficient processes.

Empower Operators – Indicators, touch buttons and E-stops for operator communication and interface improve accountability by empowering workers to take action when problems occur

Alert Supervisors - Tower lights and indicators communicate machine, work cell and inventory status, which helps supervisors identify and resolve issues quickly

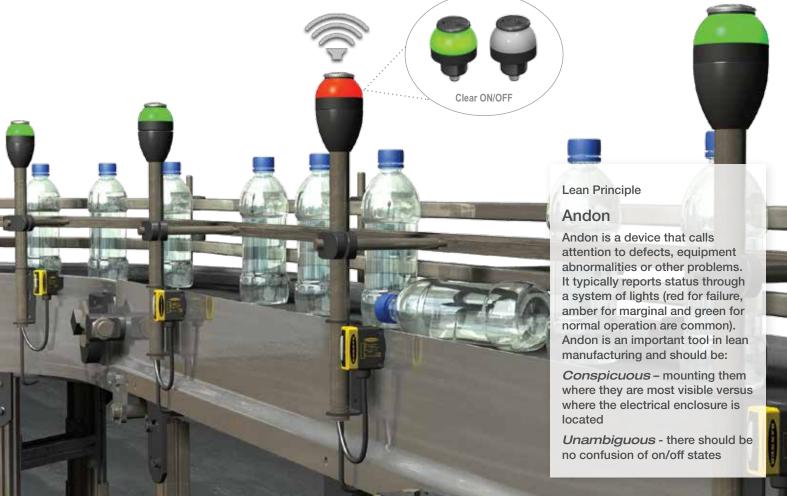
Accelerate Problem Resolution - Immediate, overt status information ensures more efficient problem resolution



Touch Buttons page 82

Indicators





Lean Principle

Poke-Yoke

An example of the Poke-Yoke method, or mistake proofing, is light-guided assembly. With simple implementation in the factory, this technique speeds up manufacturing by visually guiding the assembler and providing feedback for correct and incorrect picks.

Increase Efficiency with Pick-to-Light Assembly Processes

Easy-to-see pick-to-light indication guides operators for assembly and kitting applications. Real-time sensor feedback ensures accuracy.

Fast – increase operator efficiency with visual guidance to the correct part location

Accurate – Visual indication and pick feedback result in increased operator accuracy

Cost Effective – Simple devices that can be easily implemented into a control system

Flexible – A variety of hardware solutions and mounting options



Touch Buttons page 96



Sensors page 98



Sensor Arrays page 92







The Design: Sleek yet Rugged

The Products: Simple yet Intelligent

The Options: Endless yet Unique

Banner's lighting and indicator solutions are high-quality, stylish products designed to meet your application needs. With flexible designs and energy-efficient LED products, Banner gives you better indication solutions that require no maintenance.

ease-of-use

Banner's lighting and indicator products require no additional protective enclosure, have quick-disconnect options and a variety of mounting solutions, making products easy to install.



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high quality

All of Banner's lighting and indicator products are made for long-term use, requiring zero maintenance after installation.

rugged

Banner's lighting and indicator products are made to last in the toughest environments with housings rated up to IP69K.



Banner's lighting and indicator products are advanced solutions that pinpoint what's important to give you a unique solution that suits your environmental, workplace efficiency and mounting needs.





LED Lighting

Banner's LED lighting solutions are high-quality, energy-efficient products that provide bright illumination for up to 50,000 hours of working life. Robust, vibration-resistant housings and sleek designs make the Banner LED lighting line ideal for a wide range of industrial and mobile applications, including machine lighting, enclosure lighting, visual inspection illumination and work cell lighting. Low dc voltage operation allows for lighting control via a PLC or other control system for additional energy savings.





WLS28 LED Strip Lights

Banner's LED Strip Lights have sturdy aluminum housings, shatterproof windows and a low-profile, space-saving design. Convenient angle brackets can be used to direct the light exactly where it's needed.

- Rugged, water-resistant IP69K models
- Available in lengths from 145 to 1130 mm
- Magnetic mount options available for easy installation
- Lensed option or choice of clear or diffuse window
- Can be cascaded end-to-end to minimize wiring

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Supply Voltage			12 to 30V	′ dc									
Construction			End Caps	Clear anoo E Painted 2 Acrylic zino	zinc	ninum	28 mm						
Environmental Rating		ting	Non-sealed Models: IEC IP50 Sealed Models: IEC IP67/IP69K per DIN 40050			21 mm		Î	C. I.	32 mm			
Operatin	Operating Temperature		-20° to +50° C (-4° to +122° F)					0	ngth				
Certificat	tions		(€ ،(ULUS				Lighted Length		ngu	Lighted Length	Lighted Length	
			s* (Typical	@ 25°C)					+				
Length	Cool White	Warm White	Red	Green	Blue	Yellow			15		•		
145 285	225 450	180 360	60 120	126 252	36 72	114 228				100			
430	675	540	120	378	108	342							
570	900	720	240	504	144	456			Stand-Alone Push-Button	Sealed		Lensed	
710	1125	900	300	630	180	570		Stand-Alone		Cascada		Cascadable	
850	1350	1080	360	756	216	684	Cable Mo	dels	QD Models	Model	5	Models	
990	1575	1260	420	882	252	798							

*Lumen values lowered by 35% on diffused window models

480

1008

288

912

1440

1130

1800

Magnetic Mount Top Mount Side Mount Shown with SMBWLS28RA SMBWLS28RA SMBWLS28SM SMBWLSMAG (included with light) rubber cover for magnet sold separately



Euro-Style Cordsets Double-Ended (straight male/straight female connectors)

4-Pin M12/Euro-Style Cordsets Splitter

Additional accessories are available at bannerengineering.com

bannerengineering.com

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

MQDEC-401SS 0.3 m (1') MQDEC-403SS 1 m (3') MQDEC-406SS 2 m (6.5')

CSB-M1241M1241 0.3 m (1') male trunk; 2 x 0.3 m (1') female branches



PSD-24-4 Class 2 Power Supply Input: 90-264V ac 1.5A Output: 24V dc 3.9A

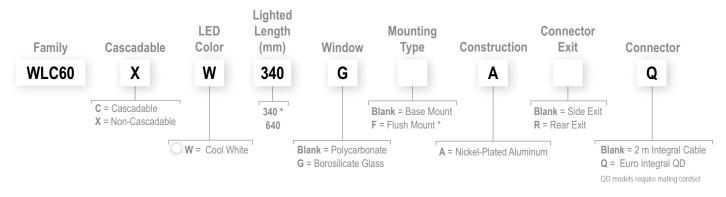
2 m (6.5') 4-Pin Euro Connector

WLC60 Heavy-Duty LED Light

The WLC60 Heavy-Duty LED Light is engineered to withstand harsh environments making it the first choice for a machine lighting solution. A conservative mechanical design protects against liquid ingress and state-of-the-art LED technology delivers best in class brightness. Choose between a durable polycarbonate window or a borosilicate glass (BSG) option featuring enhanced chemical and thermal resistance. This smart industrial lighting solution also features energy efficient Eco-mode dimming states to tailor the lumen levels and power consumption to the application.

- Rugged and durable for harsh environments
- Oil, chemical and water resistant with IP68, IP68g and IP69K ratings
- High brightness paired with advanced glare-reducing optics
- Easy to install with a wide variety of mounting solutions
- Highly resistant to vibration and shock

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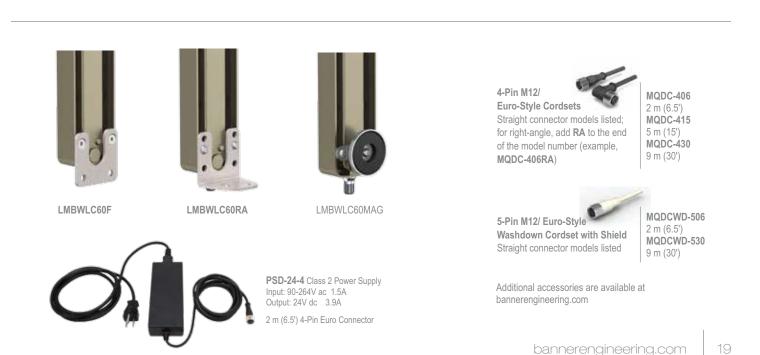


* Flush Mount models only available in 340 mm length

60.0 mm

88.0 mm









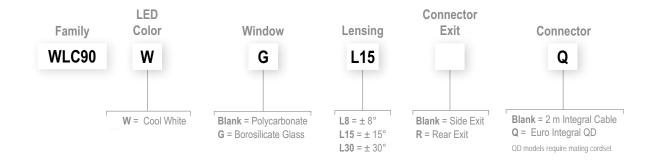
WLC90 Heavy-Duty LED Light

Banner's WLC90 Heavy-Duty Lights are designed to operate in harsh environments, withstanding washdown and spray from water and chemicals such as coolants and detergents. They are extremely compact and bright, making them an excellent choice for machining centers and food processing equipment.

- Rugged housing resists water, coolants, oils and detergent with IP68, IP69K and IP68g ratings
- Wide operating temperature range with an internal monitoring circuit that will dim the LEDs to a safe level at extreme temperatures
- Three lens options to suit many application needs
- Pan and tilt brackets for versatile mounting to direct light in any direction
- All models have three discrete intensity level settings

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625



Rear-Exit Models

LMBWLC90PT

Side-Exit Models



SMBAMS70AS

4-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle, add RA to the end of the model number (example, MQDC-406RA) MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')



MQDCWD-506 2 m (6.5') MQDCWD-530 9 m (30')

Additional accessories are available at bannerengineering.com



PSD-24-4 Class 2 Power Supply Input: 90-264V ac 1.5A Output: 24V dc 3.9A 2 m (6.5') 4-Pin Euro Connector

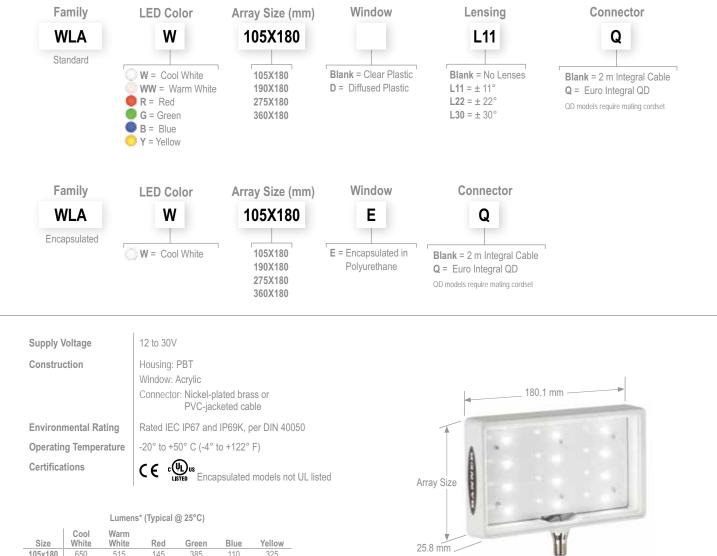


WLA LED Area Lights

Banner's LED Area Lights provide high intensity, uniform light with low energy consumption and a small footprint. Banner's Area Lights are a versatile lighting source for a wide range of indoor and outdoor applications with angle bracket or magnetic mount options available.

- Up to 2600 lumens for extremely bright illumination
- Encapsulated models available for enhanced resistance to chemicals, vibration and shock
- Choice of clear or diffuse window for reduced glare
- Optical lensed options create more focused illumination
- Rugged housing rated to IP69K for high-pressure, high-temperature washdown applications

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Size	Cool White	Warm White	Red	Green	Blue	Yellow
105x180	650	515	145	385	110	325
190x180	1300	1030	290	770	220	650
275x180	1950	1545	435	1155	330	975
360x180	2600	2060	580	1540	440	1300
		1010		1100		010

*Lumen values lowered by 35% on diffused window models



25.8 mm

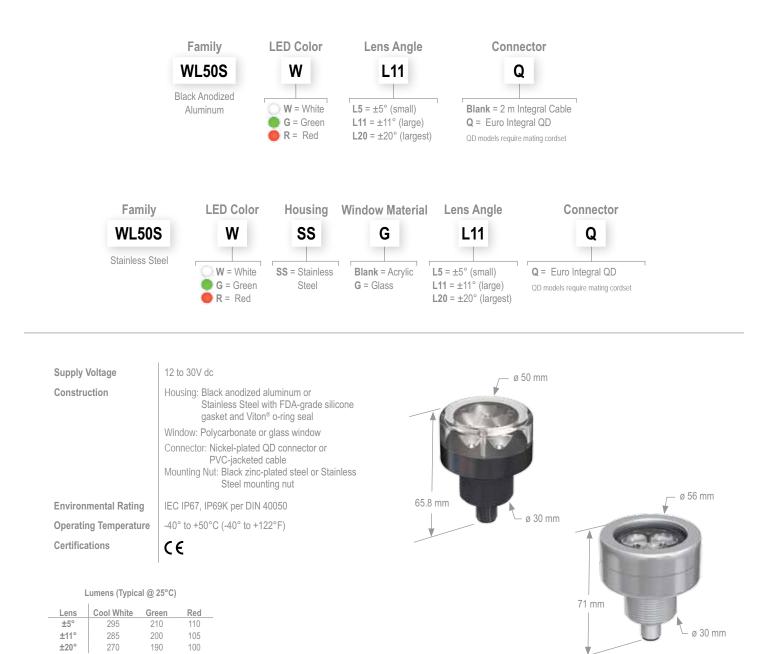


WL50S LED Spot Lights

Banner's high-intensity LED Spot Lights emit light in a controlled beam, providing extremely bright illumination directly at a target with optimal energy efficiency. These lights are rugged and water-resistant, making them a good choice for machine lighting, food and beverage applications and mobile applications.

- Three lens options to suit many application needs
- Rugged, sealed housing rated to IP69K
- 50 mm diameter with flat profile and 30 mm mounting base
- Stainless steel version with FDA-grade silicone gasket and Viton® O-Ring seal
- Many bracket options for simple mounting and alignment

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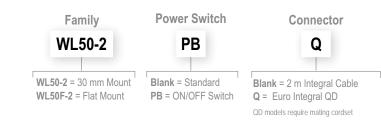


WL50-2 LED Work Lights

Banner's LED Work Lights are ideal in areas where space is limited. Featuring a low-profile, 50 mm flat-pack design and robust housing, the LED Work Lights are suitable for many applications, including maintenance stations, control cabinets and general illumination applications.

- Low power consumption
- Aesthetic shape that sheds debris and moisture
- Rugged, water-resistant IP69K models
- VELCRO® brand VELCOIN® fasteners included for quick mounting and convenient repositioning of light
- Long-lasting LED technology for zero maintenance after installation

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Flex Arm

Banner's Flex Arm Mounting Accessories provide versatile mounting options to easily direct lighting where it is needed, whether in a work station or along a manufacturing line. The Flex Arm is available for use with spot lights, work lights and vision spot lights.

- Versatile mounting options including magnetic mount, clamp mount and flange mount
- Vinyl coated to protect against moisture
- Adjustable arm allows for easy repositioning of light to suit many application needs
- Concentrate light exactly where needed
- Portability with magnetic and clamp mount options

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Models	Base Connection	Light Connection		Brackets	
FLX18-1212	1/2-14 NPSM	1/2-14 NPSM (Male)	SMB22	SMBFLXMAG	LMB12RA
FLX18-F12	3-Hole Flange	Use with: WL50 WL50PB WL50-2 WL50-2PB		Direct Mount	
FLX18-12M30	1/2-14 NPSM		SMB22	SMBFLXMAG	LMB12RA
FLX18-DM30	2 x 1/4-20W 1.375 spacing	M30 x 1.5 (Female) Use with: WL50 WL50PB WL50-2 WL50-2PB WL50-2PB WL50S	SMBFLXCLAMPD	SMBFLXMAGD	
FLX18-FM30	3-Hole Flange			Direct Mount	

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Signal Tower Lights

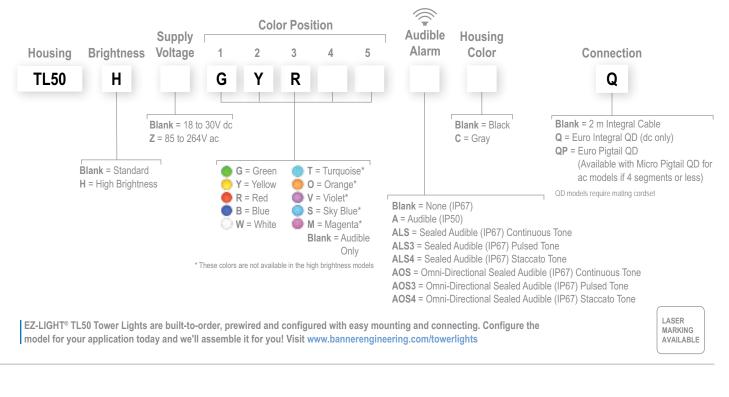
Banner's Signal Tower Lights are premium LED-based products that are designed for long life and no maintenance. These rugged, yet stylish tower lights are completely factory assembled and have an extensive range of mounting accessories, which allows for a quick and easy installation process. Various model offerings allow for customized solutions, including a choice of ac or dc supply power, three audible output options, standard or high light intensities and quickdisconnect or prewired options.

TL50 Tower Lights

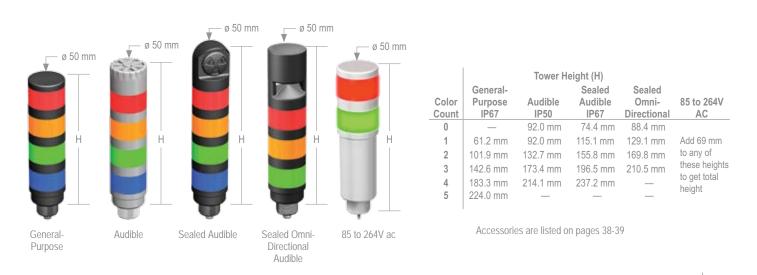
Banner's TL50 Tower Lights are designed to be exceptionally bright with a long, visible indication range, providing excellent operational status for workers and supervisors. Several models are available for use in a variety of environments, including options with audible alerts.

- Install quickly and easily with no assembly required
- Clearly evident on/off status
- Versatile mounting options
- Compact, sleek, rugged design with IP67 models available
- Audible alert: continuous, pulsed and staccato models available

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Supply Voltage	18 to 30V dc or 21-27V ac 85 to 264V ac	Audible	
Construction	Bases and Covers: ABS Light Segment: Polycarbonate	max. intensity 92 db @ 1 meter (typical)	Position 5
Environmental Rating	General-Purpose and Sealed Audible: IEC IP67	Sealed Audible	Position 4
	Standard Audible: IEC IP50	max. intensity 94 db @ 1 meter (typical)	Position 3 Position 2
Operating Temperature	General-Purpose: -40° to +50° C (-40° to +122° F)	Sealed	
	Standard and Sealed Audible: -20° to +50° C (-4° to +122° F)	Omni-Directional Audible max. intensity	Position 1
Certifications	CE Some models pending. Contact factoryy for additional information.	99 db @ 1 meter (typical)	W

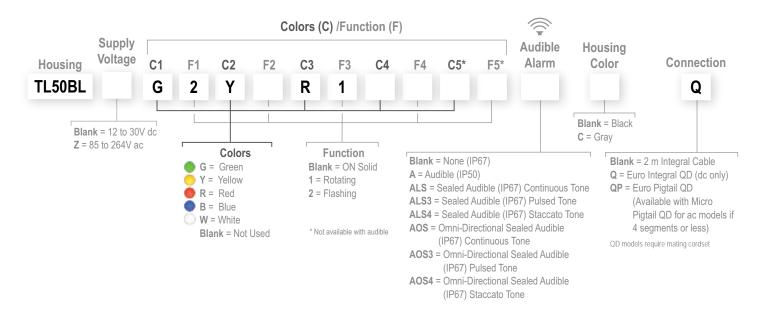


TL50 Beacon Tower Lights

Banner's TL50 Beacon Tower Lights are extremely rugged and built for use in the toughest industrial environments. With a sleek and stylish design, the TL50 Beacon's housing is UV stabilized, making it suitable for use in outdoor environments.

- Highly visible indication for indoor or outdoor applications
- Compact, stylish design with rotating and flashing options
- Audible alert: continuous, pulsed and staccato models available
- Omni-Directional audible models provide clear annunciation in the noisiest environments
- Models available with rugged, water-resistant IP67 housing

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EZ-LIGHT[®] TL50 Tower Lights are built-to-order, prewired and configured with easy mounting and connecting. Configure the model for your application today and we'll assemble it for you! Visit www.bannerengineering.com/towerlights





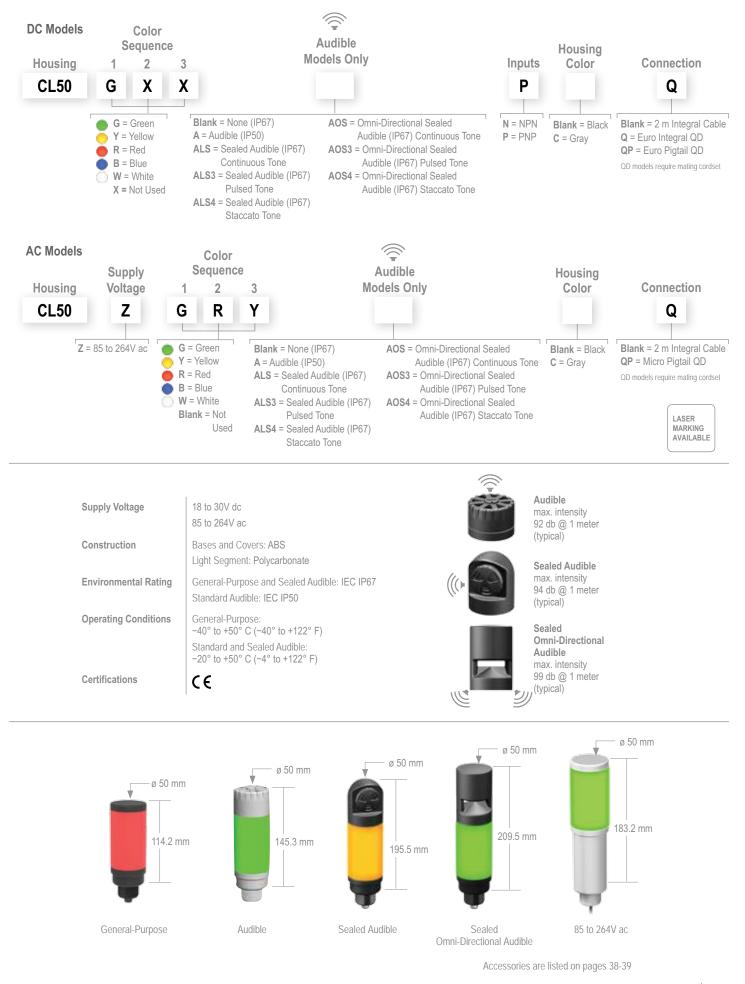
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CL50 Column Lights

The CL50 Column Lights are rugged, cost-effective and easy-to-install multicolor indicators with highly visible illumination for clear equipment status indication. These compact devices have a unique design with versatile mounting options, allowing for easy installation.

- Up to three colors in one device for multiple status indication
- Ideal for machine process status indication and visual guidance
- Install quickly and easily, no tools required
- Large surface area can be easily seen from long distances
- Audible models available with standard or sealed audible element

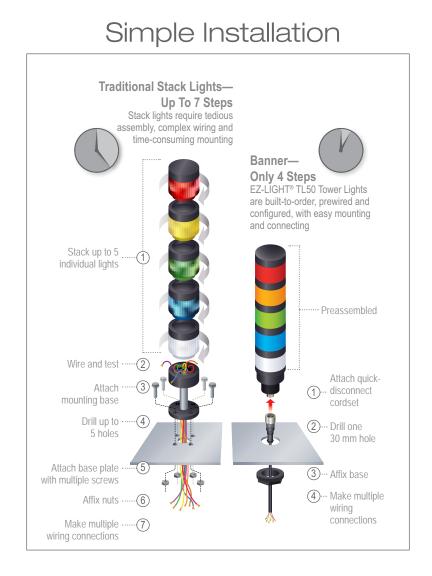
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Cordsets for DC Models

4-Pin M12/ Euro-Style Cordsets use with 3-color models Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC-406RA)	MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')
5-Pin M12/ Euro-Style Cordsets use with 4-color models Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC1-506RA)	MQDC1-506 2 m (6.5') MQDC1-515 5 m (15') MQDC1-530 9 m (30')
8-Pin M12/ Euro-Style Cordsets use with 5+ -color models Straight connector models	MQDC2S-806 2 m (6.5') MQDC2S-815 5 m (15') MQDC2S-830 9 m (30')

Cordsets for AC Models

4-Pin Micro-Style Cordsets Straight connector models listed; for right-angle models, add RA

to the end of model number (example, MQAC2-406RA)

5-Pin Micro-Style Cordsets Straight connector models MQAC2-406 2 m (6.5') MQAC2-415 5 m (15') MQAC2-430 9 m (30')

MQAC2-506 2 m (6.5') MQAC2-515 5 m (15') MQAC2-530 9 m (30')

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Accessories

Mounting Brackets



SMB30MM

SMB30A



SMBAMS30P



Sealed Right-Angle Brackets



LMBE12RAC





LMB30RAC



Additional accessories are available at bannerengineering.com

marked with custom text or images





Indicators

Banner's Indicators offer a wide variety of bright, highly visible models ranging from daylight visible to multiple colors in one device. Indicators have a rugged design for long-term use and require no additional protective box. Flexibility in design, size and mounting provides a unique solution for many indication applications.

Selection Guide

				T	Contraction of the second seco	
		Base Mount		Barrel	Mount	
Page	52	44	48	58	60	
Family Name	K30L	K50L	K50BL	S18L/S22L	M18	
Dome Size (mm)	30	50	50	18	18	
Mounting Hole Diameter	22	30	30	18/22	18	
DC Power Option	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
AC Power Option		\checkmark	\checkmark			
Audible Alarm Options		\checkmark				
Daylight Visible Options		\checkmark	\checkmark	\checkmark		
Multiple Colors per Light Segment	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
IP67 Options	1	\checkmark	\checkmark	\checkmark	\checkmark	
IP69K Options	\checkmark	\checkmark	\checkmark	\checkmark		
Flashing or Strobing Options		\checkmark	\checkmark		\checkmark	

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¢			Ţ	I	Ţ
T-Style Mount			Flat Mount		
54	74	70	66	68	72
T-Series	TL30F	K50FL	K80	K80 Segmented	SP Series
8/18/30	NA	50	50	80	50
8/18/30	NA	NA	NA	NA	NA
\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
			\checkmark		\checkmark
			\checkmark		\checkmark
1		\checkmark	\checkmark		\checkmark
\checkmark	IP65	\checkmark	\checkmark	\checkmark	\checkmark
		\checkmark			
		\checkmark	\checkmark	\checkmark	

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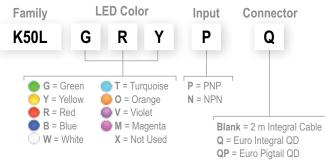
K50L 50 mm Domed Indicators

Banner's K50L is our most popular indicator light. The smooth 50 mm diameter dome gives uniform illumination from all directions. These indicators are completely epoxy encapsulated, which protects the electronics from the harshest environments, making them nearly indestructible. The neutral color when in the off condition eliminates false indication from surrounding ambient light.

- Up to five colors in one device with many different color combinations
- Long-lasting, energy-efficient LEDs for years of operation with zero maintenance
- Audible alarm models available with several tones and intensity levels
- Many models rated to IP69K to handle high-pressure washdown
 environments
- Base has internal and external threads allowing for a variety of mounting methods

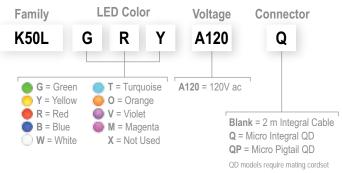
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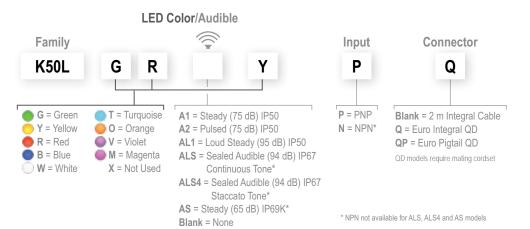


QD models require mating cordset

One-, Two- or Three-Color Indicators, 85 to 120V ac



One-, Two- or Three-Color Audible Indicators



Supply Voltage Construction	Sealed Audible: 12 to 30V dc All Other Models: 18 to 30V dc Base: polycarbonate Translucent Dome: polycarbonate	ø 50 mm	ø 50 mm
Environmental Rating	Standard Models: IEC IP67 Integral QD models meet DIN 40050 (IP69K)	ø 30 mm	ø 30 mm
	Standard Audible Models (A1, A2, AL1): IP50	K50L Models	K50L Audible Models (A1, A2, AL1)
	Fixed Audible Sealed Models (AS): IEC IP67/ IP69K per DIN 40050		
	Adjustable Loud Audible Sealed Models (ALS, ALS4): IEC IP67/ IP69K per DIN 40050	ø 50 mm	ø 50 mm
Operating Temperature	Sealed Audible: -20° to +50° C (-4° to +122° F) All Other Models: -40° to +50° C (-40° to +122° F)	61.8 mm	61.8 mm
Certifications	CE Some models pending. Contact factoryy for additional information.	ø 30 mm	ø 30 mm

K50L Adjustable Loud Audible Models (ALS, ALS4)

K50L Fixed Audible Models (AS) No open cavities to collect liquids

Multifunction options and accessories are on pages 46-47

Multifunction Options

These multicolor indicator lights are extremely versatile. They allow for any of the colors to be ON, steady or flashing, or you can alternate between colors. The functionality is easily controlled with simple combinations of the hookup wires. Choose up to five colors in a single device with several different housing styles available.



K50L page 44



K50FL page 70



K80L page 62

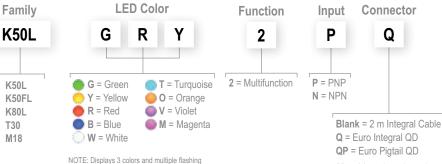


T30 page 54



M18 page 60

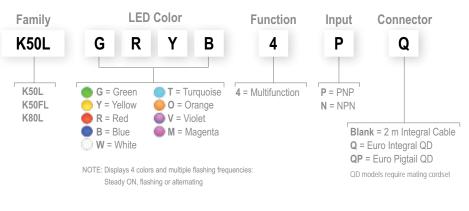
Three-Color Multifunction Indicators



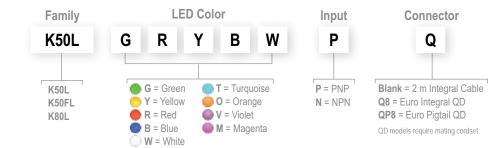
frequencies: Steady ON, flashing or alternating

QD models require mating cordset

Four-Color Multifunction Indicators



Five-Color Multifunction Indicators



NOTE: Displays 5 colors and multiple flashing frequencies: Steady ON, flashing or alternating

BANNER

K50L Accessories









SMB30A

SMB30SC

SMB30FA

SMB30FVK



Cordsets for DC Models

4-Pin M12/

Euro-Style Cordsets use with 3-color models Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC-406RA)

5-Pin M12/

Euro-Style Cordsets use with 4-color models Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC1-506RA)

8-Pin M12/ Euro-Style Cordsets use with 5-color models Straight connector models

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

MQDC1-506 2 m (6.5') MQDC1-515 5 m (15') MQDC1-530 9 m (30')

MQDC2S-806 2 m (6.5') MQDC2S-815 5 m (15') MQDC2S-830 9 m (30')

Cordsets for AC Models

4-Pin Micro-Style Cordsets Straight connector models listed;

for right-angle models, add **RA** to the end of model number (example, **MQAC2-406RA**)

5-Pin Micro-Style Cordsets Straight connector models MQAC2-406 2 m (6.5') MQAC2-415 5 m (15') MQAC2-430 9 m (30')

MQAC2-506 2 m (6.5') MQAC2-515 5 m (15') MQAC2-530 9 m (30')

Additional accessories are available at bannerengineering.com

bannerengineering.com 47

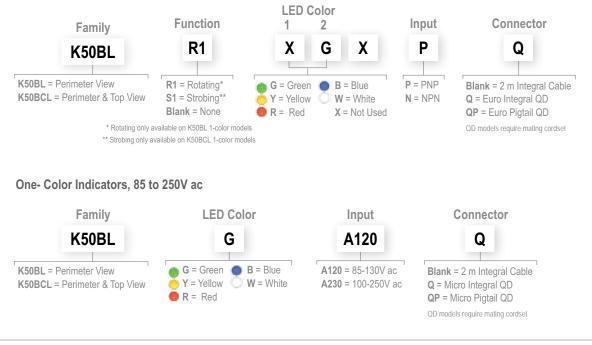
K50 Beacon Omni-Directional High-Intensity Indicators

Banner's K50 Beacon Indicators are extremely bright, making them ideal for indoor and outdoor areas with high levels of ambient light. The tough UV stabilized polycarbonate housing and epoxy encapsulated electronics allow for years of maintenance-free operation. They are available in five colors and a wide range of voltage levels to fit nearly any application.

- Continuous, strobing and rotating models available
- 12-30V dc models are ideal for battery-powered mobile applications
- Models with LEDs emitting from the top in addition to the perimeter
- Rugged, sealed housing rated to IP69K for high-pressure washdown
- Models for 120V and 230V ac operation

BANNE

One- or Two- Color Indicators, 12 to 30V dc







K50L Daylight Visible Directional Indicators

Banner's K50 Daylight Visible Indicators are rugged, cost-effective and easy-to-use indicators for use in outdoor environments or in areas with high levels of ambient light. The K50 Daylight Visible Indicator has a flat 50 mm profile with high-intensity LEDs that clearly show status indication.

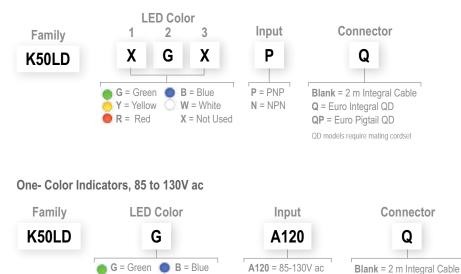
- Intense levels of light output for outdoor application use
- Easy-to-install 30 mm threaded base mount, no tools required
- Up to three colors in one device to communicate multiple statuses
- Rugged design for many years of operation
- Completely self-contained, no controller needed

BANNI

One- or Three- Color Indicators, 15 to 30V dc

🍊 Y = Yellow 🔘 W = White

\varTheta R = Red



 Supply Voltage
 15 to 30V dc 85 to 130V ac
 Ø 50 mm

 Construction
 Polycarbonate; fully encapsulated
 IEC IP67

 Operating Temperature
 -40° to +50° C (-40° to +122° F)
 Ø 30 mm

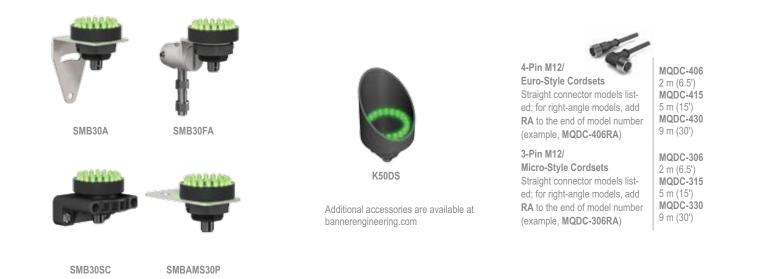
 Certifications
 E E

Q = Micro Integral QD

QP = Micro Pigtail QD QD models require mating cordset

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Comercial Andaluza de Técnicas y Suministros, S.L. (CATS, S.L.) Málaga (España). Telf: +(34) 952 24 61 37 www.cats.es comercial@cats.es

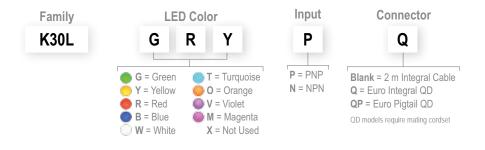
K30L 30 mm Domed Indicators

The K30L Indicators are rugged, cost-effective and easy-to-install, providing simple indication solutions on the factory floor. These small, 30 mm dome indicators have long-life LEDs for zero maintenance after installation and provide highly visible indication.

- Illuminated dome provides easy-to-see operator guidance
- Easy-to-install 22 mm threaded base mount, no tools required
- Up to three colors in one device to communicate multiple statuses
- Many colors and color combinations available
- Rugged epoxy encapsulated design

BANNER

One-, Two- or Three- Color Indicators







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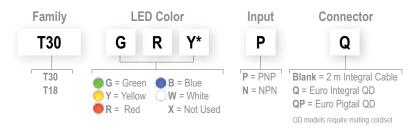
T30 and T18 T-Style Indicators

The T18 and T30 Indicators have an 18 mm or 30 mm T-Style housing that is easy to install in a punched hole or directly on a machine.

- Up to three colors in one device to communicate multiple statuses
- 18 mm or 30 mm T-Style housing for easy installation
- Designed for panel-mount or stand-alone applications
- Right-angle wiring connection for low profile applications
- Rugged, fully encapsulated design rated to IP67

BANNER

One-, Two- or Three- Color Indicators



* Add 7 after last color option for Sensor Emulators (example, T30GYX7PQ). Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.

Multifunction options available on page 46





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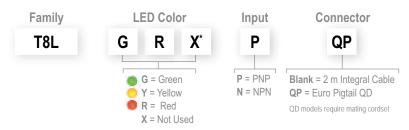
T8L T-Style Indicators

Banner's T8L T-Style Mount Indicators have a low profile, ideal for simple panel mounting or use on a machine. The T8L can be easily assembled into a punched hole with the included mounting hardware, no additional hardware needed.

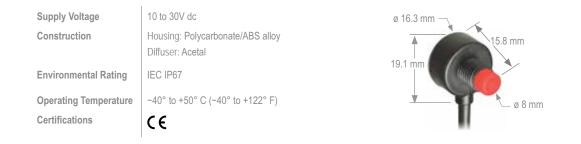
- Up to two colors in one device with an 8 mm threaded nose
- Designed for panel-mount or stand-alone applications
- Right-angle wiring exit for low profile applications
- Ideal for operator guidance and equipment status indication
- Rugged design rated to IP67

BANNER

One- or Two- Color Indicators



* Add 7 after last color option for Sensor Emulators (example, T8LGYX7PQP). Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.





SMB8MM

4-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC-406RA)

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

Additional accessories are available at bannerengineering.com



S18L & S22L Barrel Indicators

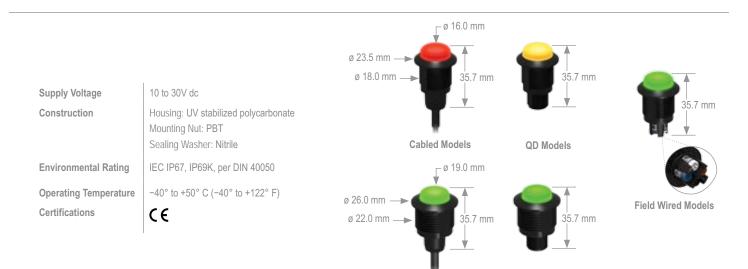
The overmolded IP69K rated design makes the S18L & S22L Indicators extremely rugged and able to withstand harsh environments. There are standard intensity and high intensity daylight visible models available in a variety of colors with 18 mm or 22 mm bases.

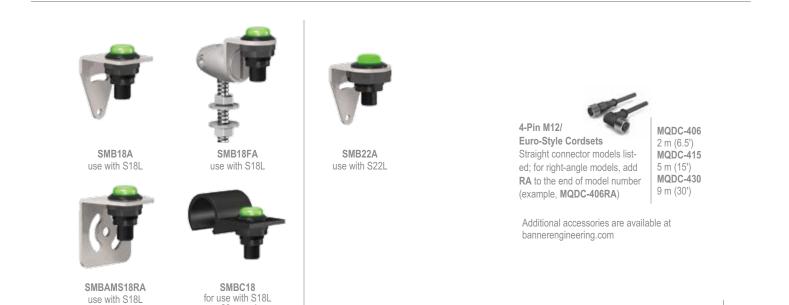
- Designed for panel-mount or stand-alone applications
- Daylight visible models available for use in outdoor applications or in areas with high levels of ambient light
- Up to three colors available in one device allowing one S18L or S22L to replace three conventional panel indicators
- Compact and light weight, but extremely rugged
- Terminal connection models have color-coded screw heads for quick, error-free wiring

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* Single-color models are available and should be ordered as PNP, but can be wired for either PNP or NPN input





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on 28 mm pipe



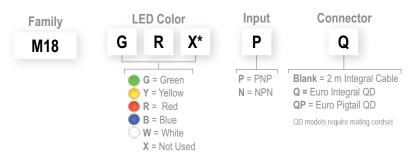
M18 Metal Barrel Indicators

The M18 Indicators are compact, yet extremely rugged indicators that are easy-to-install with an 18 mm threaded base. These compact devices are completely self-contained and offer easy-to-see operator guidance on the factory floor.

- Up to three colors in one device to communicate multiple statuses
- 18 mm barrel-mount indicator with nickel-plated brass housing
- Ideal for operator guidance and equipment status indication
- Rugged, completely epoxy encapsulated design can withstand harsh conditions

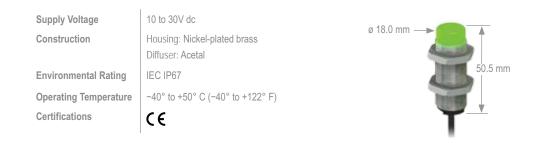
BANNEL

One-, Two- or Three- Color Indicators



* Add 7 after last color option for Sensor Emulators (example, M18GYX7PQ). Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.

Multifunction options available on page 46





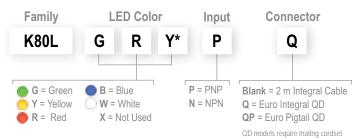
K80L Flat-Mount Domed Indicators

The K80L Indicators are rugged, cost-effective, flat-mount indicators that provide easy-to-see operator guidance with a 50 mm dome.

- Easy-to-mount to flat surfaces such as walls or panels
- High-intensity LEDs give highly visible indication and provide zeromaintenance operation
- Audible alarm models available with several tones and intensity levels
- Rugged, fully encapsulated design rated to IP67
- Up to five colors in one device to communicate multiple statuses

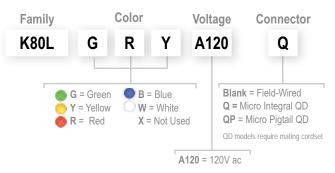
BANNER

One-, Two- or Three-Color Indicators, 18 to 30V dc

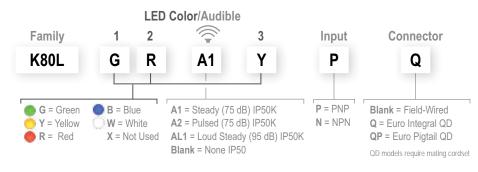


* Add 7 after last color option for Sensor Emulators (example, K80LGRX7PQ). Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.

One-, Two- or Three-Color Indicators, 85 to 130V ac



Two- or Three-Color and Audible Indicators, 18 to 30V dc



Multifunction options available on page 46





SMBDX80DIN for mounting to 35 mm DIN Rail



Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC-406RA)

5-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC1-506RA)

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

MQDC1-506

2 m (6.5') MQDC1-515

5 m (15')

9 m (30')

MQDC1-530

5-Pin Micro-Style Cordsets Straight connector models MQAC2-506 2 m (6.5') MQAC2-515 5 m (15') MQAC2-530 9 m (30')

Additional accessories are available at bannerengineering.com

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K80 Call Light Battery Powered Flashing Indicators

Banner's portable, battery-powered K80 Call Lights provide operational status indication for personnel and are ideal in locations where power is limited or unavailable. The preassembled housing and multiple mounting options make the indicator light cost-effective and easy to install.

- Flashes ON/OFF
- Switch activated
- No assembly required
- Rugged and easy to install
- Long-life LED technology gives up to 100 hours of operation on two 9V batteries (included)

BANNER

Model	LED Function	Input
K80CLR	Red 1 Second Flash Rate	ON/OFF Switch



 Supply Voltage
 18V dc (includes two 9V batteries)

 Construction
 Housing: Polycarbonate

 Dome: Polycarbonate
 Dome: Polycarbonate

 Environmental Rating
 IP50

 Operating Temperature
 -20° to +50° C (-4° to +122° F)





K80FL and K80FDL Flat-Mount Indicators

The K80FL standard intensity models have uniform lighting, viewable from nearly 180 degrees. The K80FDL daylight visible models are more intense with a narrower field-of-view for use in areas with high levels of ambient light, including outdoor applications. These indicators are ideal for a variety of applications including traffic control at truck docks, car washes and general machine status indication.

- Extremely bright indicator with selectable flash rates
- Up to three colors in one device with a choice of many colors or color combinations
- Large flat face allows for clear indication from farther distances
- Easy to mount to flat surfaces such as walls or panels
- Long-lasting LED technology with low power consumption

BANNER



* These colors are not available in the daylight visible models





SMBDX80DIN for mounting to 35 mm DIN Rail



MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

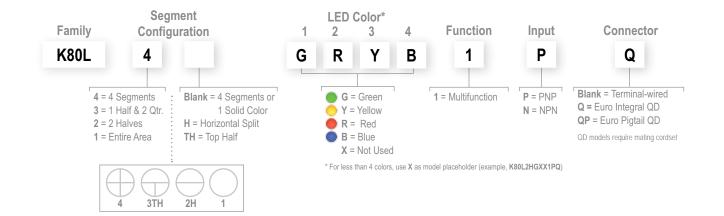
Additional accessories are available at bannerengineering.com

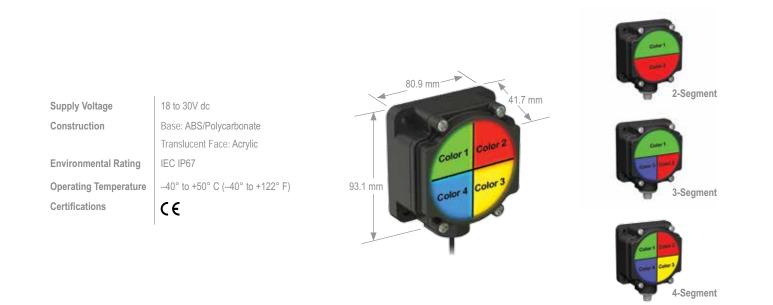
K80 Segmented Indicators

Banner's K80L Segmented Indicator has up to four individual segments that can be lighted separately or in combination for error-proofing and operator guidance applications.

- Easily mounted on flat surfaces
- Up to four individual color segments can show status of items simultaneously or in combination
- Optional, customizable labels available for enhanced segment identification
- Highly visible color segments allow for quick and easy identification of statuses

BANNER







SMBDX80DIN for mounting to 35 mm DIN Rail

Segmented Indicator Label Kits



1

SALK-K80L4 4-segment transparent laser



SALK-K80L1 1-segment transparent laser label (includes 30 labels)

5-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC1-506RA)

MQDC1-506 2 m (6.5') MQDC1-515 5 m (15') MQDC1-530 9 m (30')

Additional accessories are available at bannerengineering.com

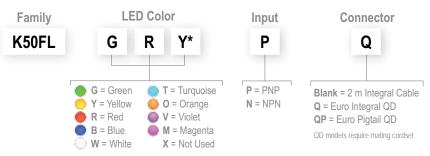


Banner's K50FL can display up to five colors in a single device for various application uses. With a bright, highly visible illuminated dome, K50FLs are ideal for operator guidance and equipment status indication.

- Flat-pack mounting allows for indicators to be mounted on any flat surface
- Fully encapsulated indicators with most models rated to IP69K for high-pressure washdown environments
- Many colors and color combinations available
- Long-lasting LED technology with low power consumption
- Multifunction models available with steady ON, flashing or alternating frequencies

BANNER

One-, Two- or Three-Color Indicators, 18 to 30V dc



* Add 7 after last color option for Sensor Emulators (example, K50LGRX7PQ). Use with discrete output of photoelectric and proximity sensors to duplicate the sensor's Green and Yellow indicator function. When the sensor is powered, the Green LED is ON. When the sensor's output is energized, the Yellow LED is ON.

Multifunction options available on page 46





Euro-Style Cordsets

angle models, add RA to the end of model number (example, MQDC-406RA)

5-Pin M12/

Euro-Style Cordsets Straight connector models listed; for rightangle models, add RA to the end of model number (example, MQDC1-506RA)

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')

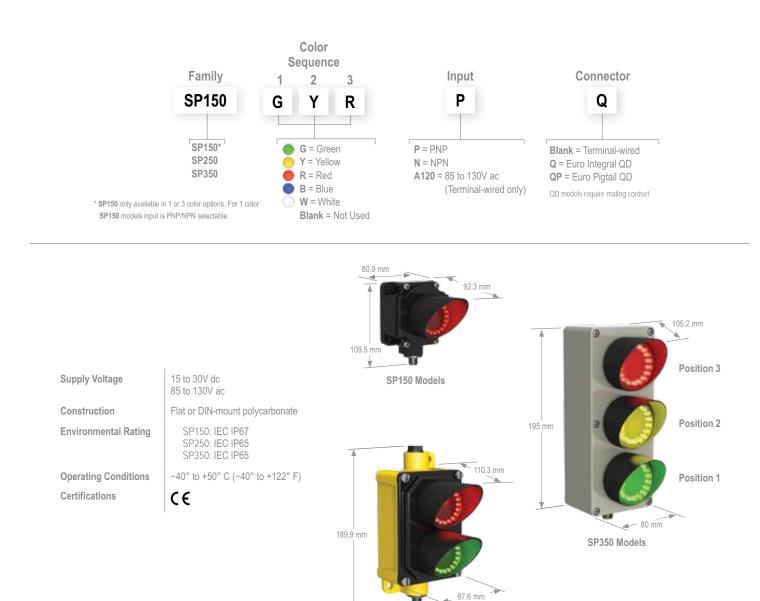
MQDC1-506 2 m (6.5') MQDC1-515 5 m (15') MQDC1-530 9 m (30')

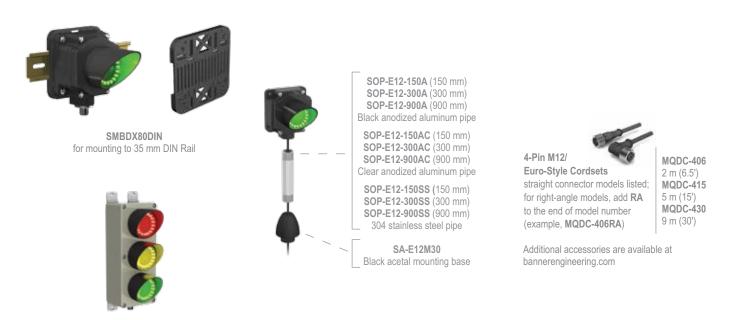
SP Series Signal Lights

Banner's SP Series Indicators are rugged, easy-to-install signal lights that provide high visibility outdoors or in other applications where there are high levels of ambient light. These signal lights are preassembled with up to three indicators per unit. The rugged housing is designed to withstand wet and dirty environments.

- Intense levels of light output for use outdoors or in environments with high levels of ambient light
- Controlled field-of-view for signage and narrow lane use
- Shock, vibration and impact resistant
- Convenient Euro quick-disconnect option for easy installation
- 15 to 30V dc or 85 to 130V ac supply voltage, depending on model

BANNE





SP250 Models

SMBSP350 (Tabs only)

bannerengineering.com

TL30F Linear Segmented Indicators

Banner's TL30F Linear Segmented Indicator is a low-profile, flat-mount indicator. Multiple color segments can be lit simultaneously, making this a useful option for operator guidance or machine indication. This versatile product is also frequently used with pick-to-light products to give operators additional visual indication such as number of parts to pick or color-coded part picking.

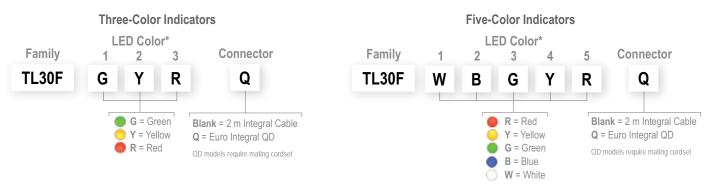
- Displays three or five colors in single device
- Durable, rugged metal housing rated to IP65
- Easily mounts on horizontal or vertical work centers or automation machinery
- Compact devices easily fit on work stations
- 18 to 30V dc bimodal (NPN or PNP) and 21 to 27V ac inputs

BANNER

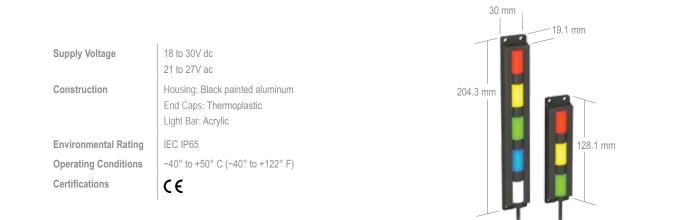
74

TL30FWBGY

TL-30FGYRQ



* TL30F indicators are pre-configured in three- or five-colors. Positions are set as pictured below. For other color combinations, please contact the factory.





SMBPVA1



SMBPVA2 for use on 28 mm pipe



SMBPVA6 for use on 28 mm pipe





8-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC2S-806RA)



MQDC2S-806 2 m (6.5') MQDC2S-815 5 m (15') MQDC2S-830 9 m (30')





Touch Buttons

Banner is the leader in ergonomic, visual and sealed operator touch buttons for industrial applications. Banner's Touch Buttons require no protective enclosure. A wide variety of mounting brackets and convenient quick-disconnect options make Banner Touch Buttons easy to mount on tube racks, metal shelving or automation machinery. Since Banner Touch Buttons can have multiple colors per button and a variety of I/O capabilities, one can replace several conventional buttons, making them ideal in lean manufacturing environments.

K50 Illuminated Touch Buttons

The K50 Touch Series is a versatile family that combines a large, bright indicator with solid-state switching capability activated by a simple touch. There are several models with a variety of input/output options to choose from that fit nearly any application.

- Simple operation with the touch of a finger, hand or whole palm
- Easily actuated with bare hands or work gloves
- Rugged, fully encapsulated IP69K construction
- Models with either latching or momentary outputs
- One-, two- and three-color models available with a variety of colors and option of custom laser surface marking

BANNER

Independent Input/Output Models with up to Three Indicator Colors Controlled by Separate Inputs

The output is activated by touching the device and is totally independent of the indicator inputs.



LASER

MQDC2S-815

MQDC2S-830

5 m (15')

9 m (30')

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Straight connector models listed;

for right-angle models, add RA

to the end of model number

(example, MQDC2S-806RA) Additional accessories are available at

bannerengineering.com

MARKING AVAILABLE

One- or Two-Color Momentary or Latching Bipolar (1 NPN and 1 PNP) Output Models

These models do not have inputs to control the indicator. The color of the indicator is determined by the non-activated or activated condition.



SMB30RAVK

SMB30FVK

K30 Illuminated Touch Buttons

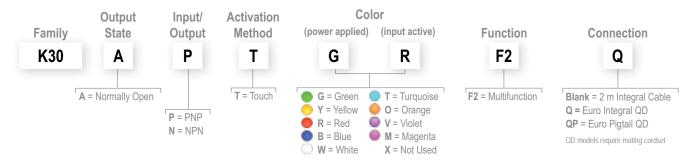
The K30 Touch Series is a versatile family that combines a small, bright indicator with solid-state switching capability activated by a simple touch. These easy-to-use small indicators are cost-effective with a 22 mm threaded base to fit into industry standard punched holes.

- Simple operation with the touch of a finger, hand or whole palm
- Easily actuated with bare hands or work gloves
- Rugged, fully encapsulated IP69K construction
- Models with either latching or momentary outputs
- One- and two-color models available with a variety of colors and option of custom laser surface marking

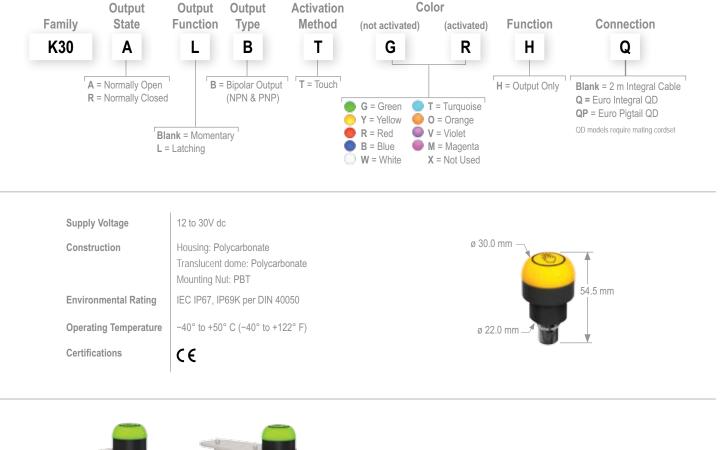
BANNET

Independent Input/Output Models with One Color Controlled by a Separate Input

The output is activated by touching the device and is totally independent of the indicator input



One- or Two-Color Momentary or Latching Bipolar (1 NPN and 1 PNP) Output Models These models do not have inputs to control the indicator. The color of the indicator is determined by the non-activated or activated condition.







SMB22FVK



4-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of model number (example, MQDC-406RA)

MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30') LASER MARKING

AVAILABLE

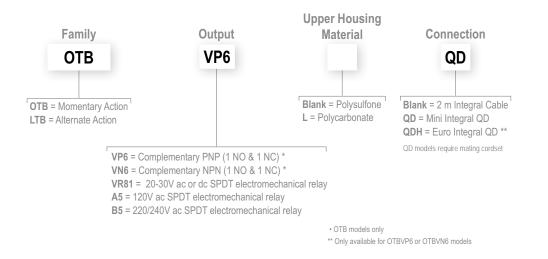
Additional accessories are available at bannerengineering.com

OTB/LTB Optical Touch Buttons

Banner's OTB and LTB are the industry standard for ergonomic touch buttons and are ideal as replacements for mechanical pushbuttons. These touch buttons have LED indicators to signal "power on" and "output active" conditions.

- Optimized for easy mounting with 30 mm threaded base
- Ergonomic design eliminates hand, wrist and arm stress
- Momentary and alternate action models available
- Available in a wide variety of voltage ranges and output types to suit any application
- Field covers (black) included to prevent inadvertent activation from loose clothing, debris, etc.

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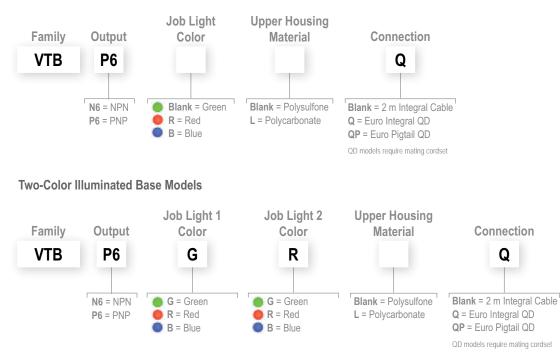
VTB Verification Touch Buttons

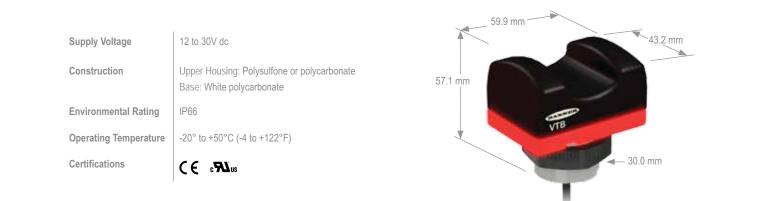
The VTB features a brightly illuminated base for enhanced visual indication. Like the OTB, the VTB is an ergonomic touch button that requires no physical pressure to operate, and is ideal for machine start/ stop and other applications where clear, visual indication of the touch button status is desired.

- Illuminated version of the Optical Touch Button
- Ergonomic design eliminates hand, wrist and arm stress
- Provides bright, easy-to-see status indication that can be seen in almost any environment
- One- and two-color models available
- 30 mm threaded base for convenient mounting

BANNER

One-Color Illuminated Base Models







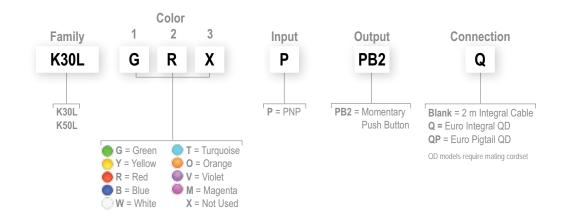
K50L and K30L Illuminated Push Buttons

These two product families combine Banner's popular K50L and K30L EZ-LIGHT® indicators with a sealed push button that can withstand washdown applications. Unlike typical lighted push buttons, these devices are extremely bright and can be seen from all directions due to their unique shape. The rugged, encapsulated construction allows them to be used as stand alone devices without an enclosure.

- Up to three colors in one device with a variety of colors for customized indication
- Available in two sizes with a variety of mounting brackets available
- Quick-disconnect models for easy installation
- Dry contact switch output is completely isolated from the LED indicator input
- Designed for panel-mount or stand-alone applications

BANN

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Pick-to-Light

Banner's Pick-to-Light products are the easy choice for light-guided assembly processes. Banner is a specialist in pick-to-light applications with products that reduce assembly time and increase quality for online and offline operator guidance processes. Pick-to-light products have unique, rugged packages that are easy to mount for quick installation and have bright indicators with a choice of verification functions.

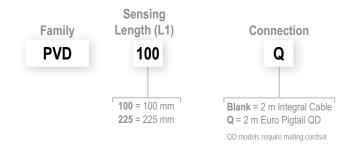


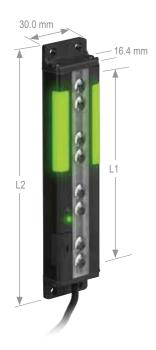
PVD Diffuse/Retroreflective Parts Verification Array

PVD Pick-to-Light Sensors are compact, one-piece solutions useful in many part assembly, pick-to-light and error-proofing applications.

- Innovative, low-profile design with auto-configuration feature for diffuse or retroreflective modes
- Ideal for bin picking in tube rack or shelving applications
- Green light for pick and red light for mispick with selectable control features
- Rugged housing for high durability
- Protective mounting brackets available

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Sensing Range	Retroreflective: 2 m Diffuse: 400 mm
Supply Voltage	12 to 30V dc
Construction	Housing: Black painted aluminum Lenses: Acrylic End Caps: Thermoplastic Switch Cover: Thermoplastic
Environmental Rating	NEMA 2; IEC IP62
Operating Temperature	0° to +50°C (+32° to 122°F)
Certifications	

Models	No. of Beams	Sensing Length (L1)	Overall Length (L2)
PVD100	4	100 mm	137.8 mm
PVD225	8	225 mm	266.4 mm



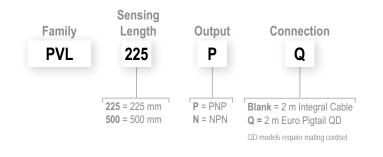
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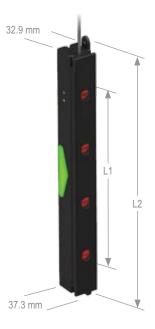
PVL Retroreflective Parts Verification Array

Banner's PVL Pick-to-Light Retroreflective Sensor offers a reliable, cost-effective solution for bin-picking processes. The PVL is easy to install with no assembly required.

- Rugged housing for high durability and works well for larger openings and parts
- 70 mm beam spacing with two available lengths
- Highly visible pick/mispick dual-function indicator
- Can mount directly to a racking profile vertically or horizontally
- Slotted housing design allows cable to exit on either end

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Sensing Range	Retroreflective: 1.5 m
Supply Voltage	12 to 30V dc
Construction	Housing: aluminum anodized Translucent Indicator: polycarbonate
Environmental Rating	IP50
Operating Temperature	0° to +50°C (+32° to 122°F)
Certifications	CE

Models	No. of Beams	Sensing Length (L1)	Hole-to-Hole Length (L2)
PVL225	4	225 mm	327.5 mm
PVL500	8	500 mm	608.0 mm



SMBPVL1 and SMBPVL2-225 or -500

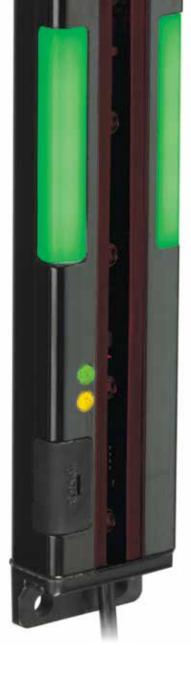


4-Pin M12/ Euro-Style Cordsets Straight connector models listed; for right-angle models, add RA to the end of the model number (example, MQDC-406RA) MQDC-406 2 m (6.5') MQDC-415 5 m (15') MQDC-430 9 m (30')



BRT-THG-1-100 Replacement retroflective tape BRT-84X84A Long Range Reflectors

Additional accessories are available at bannerengineering.com



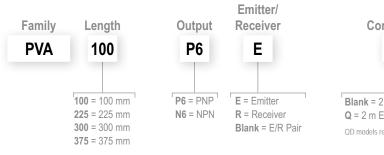


PVA Opposed-Mode Parts Verification Array

The PVA Pick-to-Light Sensor helps reduce missed and misassembled parts for increased quality and reduced production costs. With highly visible job lights, Banner's PVA provides the most reliable solution for error proofing.

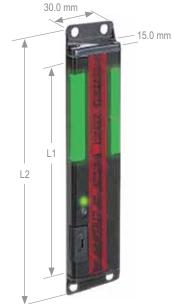
- Emitter/receiver arrays for high resolution sensing
- Four lengths to cover a variety of openings and applications
- Highly reliable sensing over a long operating range
- Wide field-of-view makes alignment easy
- Protective mounting brackets available

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Blank = 2 m Integral Cable Q = 2 m Euro Pigtail QD QD models require mating cordset



	No. of	Sensing	Overall
Models	Beams	Length (L1)	Length (L2)
PVA100	5	100 mm	137.8 mm
PVA225	10	225 mm	266.4 mm
PVA300	13	300 mm	341.4 mm
PVA375	16	375 mm	416.6 mm



 No. of Beams
 Sensing Length (L1 PVA100

 PVA100
 5
 100 mm

 PVA225
 10
 225 mm

 PVA300
 13
 300 mm

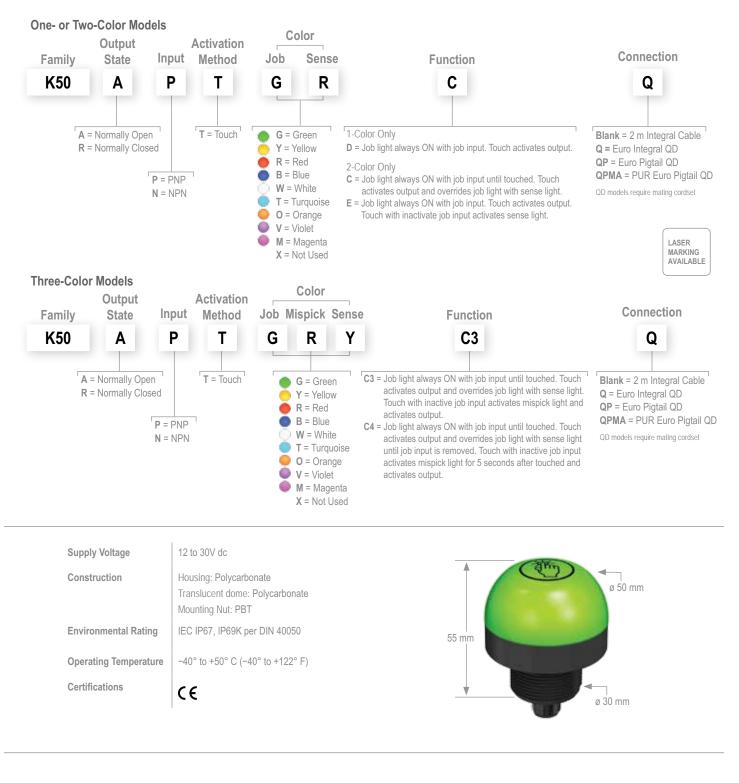
Sensing Range	2 m
Supply Voltage	12 to 30V dc
Construction	Housing: Black painted aluminum Lenses: Acrylic End Caps: PBT Switch Cover: Thermoplastic
Environmental Rating	NEMA 2; IEC IP62
Operating Temperature	0° to +50°C (+32° to 122°F)
Certifications	CE c PU us

K50 Touch Pick-to-Light Series

The K50 Touch Series is a versatile family that combines a large, bright indicator with solid-state switching capability activated by a simple touch. These easy-to-use lighted touch button indicators allow for increased productivity with highly visible indication.

- Ergonomic design requires no physical pressure to operate, preventing stress on hands and wrists
- Ideal for efficient pick-to-light applications where a rugged device is needed
- Simple operation with the touch of a finger, hand or whole palm with or without gloves
- One-, two- and three-color models available with a variety of colors and option of custom laser surface marking
- Rugged, water-resistant IP69K housing

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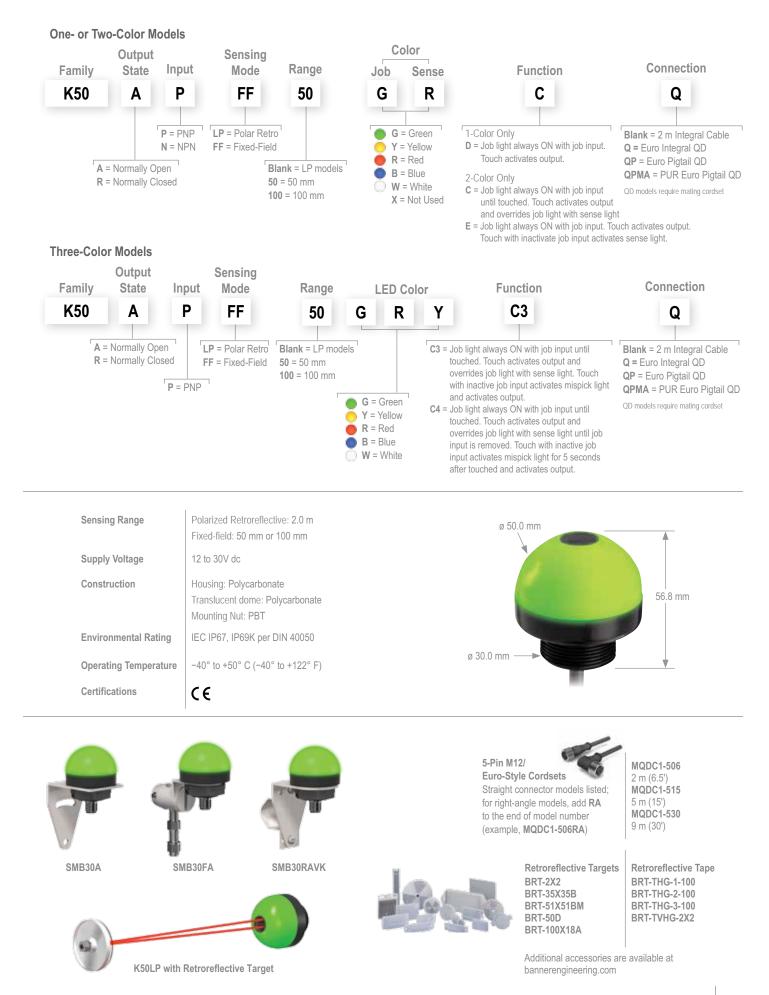
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K50 Optical Pick-to-Light Series

The K50FF and K50LP use reliable photoelectric sensing for noncontact part-picking applications.

- Photoelectric pick acknowledgment
- Fixed-field or polarized retroreflective depending on model
- Simple, one-piece, cost-effective installations
- Easily mounted on any type of tube rack or shelving
- Several logic functions available to customize the operation of the application and control system

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K30 Touch Pick-to-Light Series

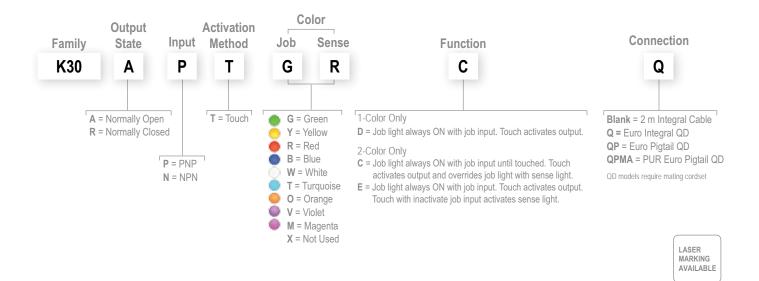
Banner's K30 Touch Pick-to-Light Series is a versatile family that combines a small, bright indicator with solid-state switching capability activated by a simple touch. These easy-to-use small indicators are cost-effective with a 22 mm threaded base to fit into industry standard punched holes and are ideal for error proofing of bin-picking and partsverification applications.

- Ergonomic design requires no physical pressure to operate, preventing stress on hands and wrists
- Ideal for efficient pick-to-light applications where a rugged device is needed
- Simple operation with the touch of a finger, hand or whole palm with or without gloves
- One- and two-color models available with a variety of colors and option of custom laser surface marking



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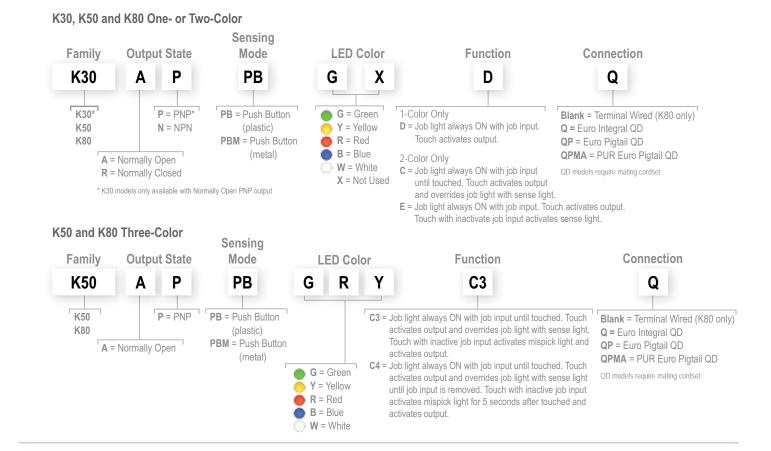
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K30/K50/K80 Push Button Pick-to-Light Series

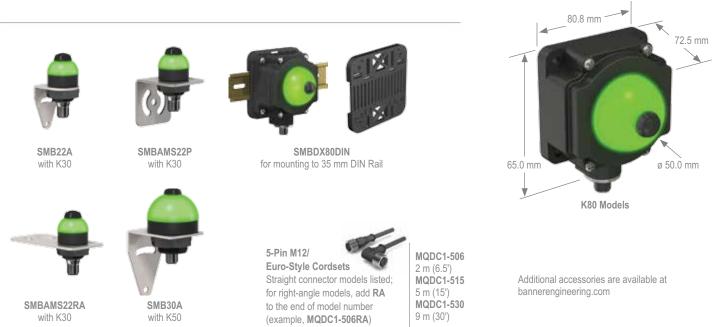
Banner's line of indicators with push buttons are ideal for pick-tolight operations that require a physical acknowledge function. Unlike conventional push buttons, these devices are extremely bright and can be seen from all directions due to their unique shape.

- Rugged, encapsulated construction with sealed push button
- Convenient Euro quick-disconnect options for simple installation
- Multiple colors per light with a variety of I/O options
- Bright, clear indication is visible in the harshest environments
- Wide selection of mounting brackets for easy installation on tube racks or shelving

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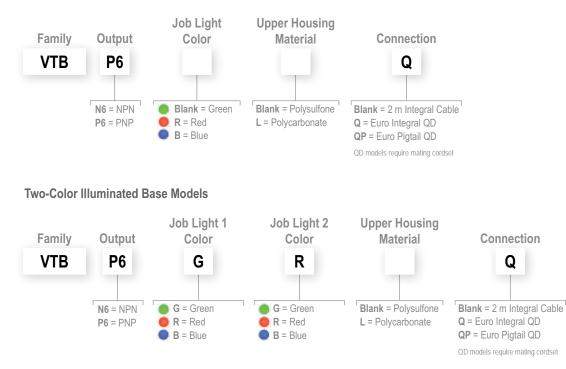
VTB Verification Touch Buttons

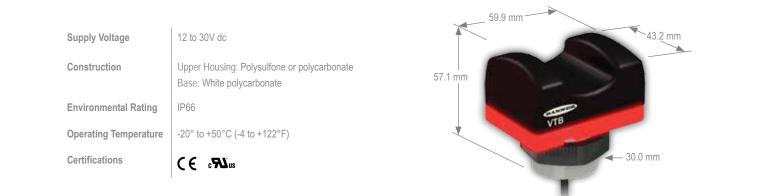
The VTB provides an ergonomic pick-to-light solution that requires no physical pressure to operate. Output is activated while a finger is in the "touch area," interrupting the button's optical sensing beam. A brightly illuminated base provides clear visual indication to the operator.

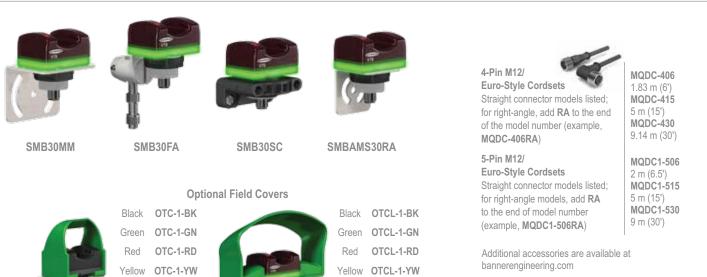
- Ideal for pick-to-light operations in tight areas
- Ergonomic design eliminates hand, wrist and arm stress
- Provides bright, easy-to-see status indication that can be seen in almost any environment
- One- or two-color models available
- 30 mm threaded base for convenient mounting

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One-Color Illuminated Base Models



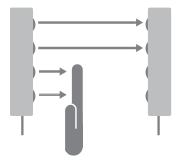




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Actuation Methods

The actuation method is the means by which an operator's actions are sensed. Banner's Pick-to-Light line includes a variety of actuation methods, including contact and non-contact sensors covering a single point on a small bin or a wide opening on a large bin. These actuation methods enable error proofing in a large variety of assembly and kitting applications. Below is a description of each actuation method offered to help you select the best solution for your specific application.

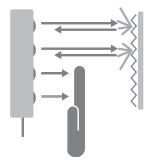


Emitter/Receiver

In opposed-mode sensing, the sensor's emitter and receiver are housed in two separate units. The emitter is placed opposite the receiver, so that the light beam goes directly from the emitter to the receiver.



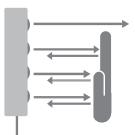
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Retroreflective Mode

Retroreflective sensors contain both the emitter and receiver elements. The beam(s) is(are) established between the emitter, the retroreflector and the receiver. An object is sensed when it interrupts or "breaks" the effective beam.





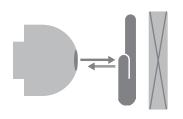
Diffuse

With a diffuse-mode sensor, the object is detected when the object reflects the sensor's transmitted light energy back to the sensor.



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Fixed Field Mode

Background suppression sensors have a definite limit to their sensing range, ignoring objects that lie beyond their range.

Fixed-field sensors compare the amount of reflected light that is seen by two differently aimed receiver elements. If the light reaching the second receiver element is equal to or greater than the light reaching the first receiver element, then the object will be recognized.





Push Buttons Push buttons take physical force to press and actuate the button.





Touch Buttons

Touch buttons can be actuated with no force, just contact with the surface. The contact can be made with a whole hand, palm or finger.





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Custom Solutions

Banner manufactures thousands of custom products to perform special functions for customers. If you do not see what you are looking for, contact one of Banner's Application Engineers and learn about our rapid customization.

Status Indicator for Critical Devices

- Emulates the ON/OFF condition of sensors and safety light screens
- Allows operators to view status of hard-to-see indicators
- Mount in the most conspicuous locations



Three Lights from Two Signals

- Ideal for control systems that use I/O blocks
- Uses quick-disconnects and reduces wiring
- Low installation cost

Highly Visible E-Stop Operators

- Innovative designs for increased safety and productivity
- Multicolor, flashing and built-in logic function
- Allows clear indication of which device has been pushed
- Safety BUS compatible



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Specific Function Solutions

- Multiconnector packages for streamlined wiring and installation
- Special brackets and mounting systems
- Splitter cables for I/O block compatibility





Value-Added Assemblies and Kits

- Unique packages for specific applications
- Wireless andon indicators
- Ideal for call light or station equipment status







Monitor Status across the Factory with Banner's Wireless Solutions

Easy-to-use Wireless Systems Can Transform Banner Tower Lights and Indicators into a Wireless Visual Management Solution

Banner wireless products eliminate costly wiring and speed up continuous improvement projects. Wireless products are optimized for long range data transmission with bi-directional, two-way communication that supports input and output signals.

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Central monitoring of machine status with Banner's Wireless products allows users to easily analyze productivity and efficiency. Banner's Wireless Gateway can connect directly to an HMI or other control system to send status messages via email or text.



Banner's SureCross® Wireless solutions can be paired with any Banner indicator and are ideal for a wide range of applications including Andon, call button, remote operator guidance, pick-to-light, logistics and status monitoring.

For complete information on Banner's full Wireless family, visit www.bannerengineering.com/Wireless.



Node The Node collects data and wirelessly transmits this data to the Gateway

Gateway The Gateway accepts data and interfaces to the control system

interfaces to the control system and plant networks or can be wired directly to discrete I/O devices

	Models	Frequency	Environmental Rating	I/O
Gateway Node	DX80N9X6S-P8	900 MHz	IP67, NEMA 6	12 Inputs or Outputs Configurable
	DX80N2X6S-P8	2.4 GHz		
	DX80G9M6S-P8	900 MHz		
Gate	DX80G2M6S-P8	2.4 GHz		

NOTE: Additional Gateways are available to support Modbus TCP/RTU and Ethernet IP industrial protocols



Advanced Vision Lighting Solutions from Banner

Reliable Vision Performance Requires Advanced Lighting Solutions

Banner knows lights. We've been designing and perfecting LED-based industrial controls for over 40 years. We've developed a comprehensive line of lighting solutions dedicated to your machine vision applications.

For complete information on Banner's full Vision Lighting family, refer to the Vision Lighting brochure, www.bannerengineering.com/137003, or visit www.bannerengineering.com/visionlights.

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Linear Array Lights

Linear Array Lights effectively illuminate large areas over long distances while cutting through dust, mist and grime



LED Area Lights

Area Lights provide even illumination with high-intensity lights for the highest levels of contrast to help vision sensors detect the presence or absence of a feature



LED On-Axis Lights

Banner's innovative On-Axis Lights use a beam splitter to focus light along a camera's optical axis, providing even, diffused illumination



LED Back Lights

Banner Backlights provide more optical contrast by creating an image that shows a silhouette of a part, allowing for inspection of size and shape

LED Ring Lights

Ring Lights brightly illuminate the area directly in front of a camera and are especially useful for small parts and high-speed inspections



Low-Angle Ring Lights

Low-Angle Ring Lights enhance the contrast of surface features, making them ideal for a number of quality, identification and verification applications

LED Spot Lights

Banner's Spot Lights are compact to fit into tight spaces, and when properly placed can effectively create shadows or highlights to boost optical contrast

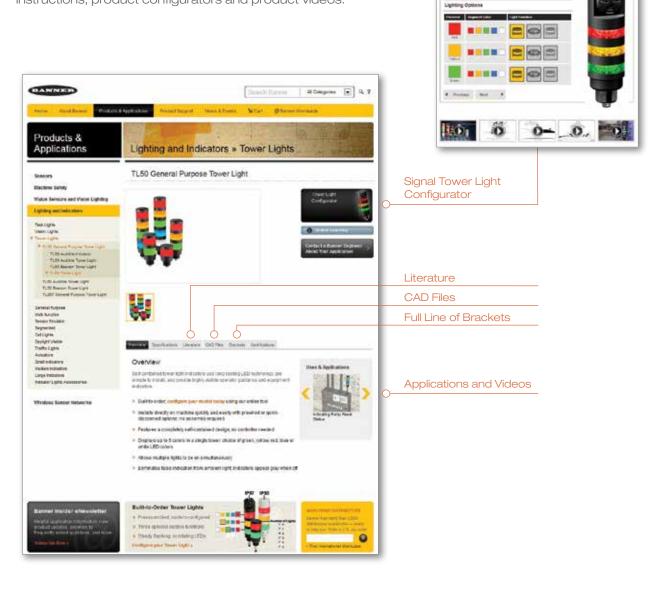


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www.bannerengineering.com

For the latest lighting and indicator products, brackets, cordsets, accessories, and new solutions, find us on the web at www.bannerengineering.com.

You also have access to more detailed information such as engineering drawings, complete specifications, installation instructions, product configurators and product videos.



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