



Features

50 mm IO-Link controlled multicolor RGB indicator with Daylight-Visible indicator

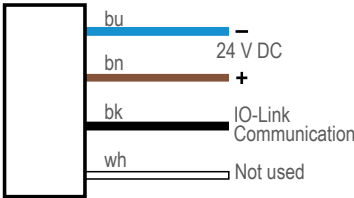


- Bright, uniform indicator light
- IO-Link control allows access to full color, flashing and dimming controls as well as advanced animations
- Millions of color possibilities
- 30 mm threaded polycarbonate base
- Rugged IP67, IP69K per ISO 20653, and UL Type 4X and UL Type 13 design
- Intense levels of light output for areas with high ambient light including outdoors
- Viewable around entire perimeter

Models

Model Name	Input	Connector ⁽¹⁾
K50PBLKQ	IO-Link	Integral 4-pin M12 male quick-disconnect connector
K50PBLKQP		150 mm (6 in) PVC-jacketed cable with a 4-pin M12 male quick-disconnect connector

Wiring Diagram



IO-Link® Process Out Data

IO-Link is a point-to-point communication link between a master device and a sensor and/or light. It can be used to automatically parameterize sensors or lights and to transmit and/or receive process data. For the latest IO-Link protocol and specifications, please visit www.io-link.com. For the latest IODD files, please refer to the Banner Engineering Corp website at: www.bannerengineering.com.

Process Data is transmitted cyclically to the IO-Link device from the IO-Link master. These parameters are written to the K50 acyclically and are used to perform the following functions:

- Indicator light on and off
- Full color control of indicator light (defined colors and ability to create custom colors)
- Full flashing control of indicator light (defined flashing rates and ability to create custom rates)
- Full dimming control of indicator light (defined intensities and ability to create custom intensities)
- Various animation control and configurability
 - Flashing: flash light at defined flash rate (50/50 duty cycle)
 - Two-Color Flashing: flash two colors at defined flash rate, alternating (50/50 duty cycle)
 - Strobe: strobe light at defined flash rate (80/20 duty cycle)
 - Half/Half: show half one color and half another color
 - Half/Half Rotate: animation that shows half one color and half another color while rotating clockwise or counter-clockwise
 - Chase: animation that shows a single spot in one color against a background of another color while rotating clockwise or counter-clockwise
 - Demo Mode: cycles through defined colors and then through color spectrum

NOTE: Additional color shades can be made by adjusting intensity

⁽¹⁾ Models with a quick-disconnect connector require a mating cordset.

IO-Link Process Data Out for the K50	
Name	Values
Color 1	Green, Red, Orange, Yellow, Lime Green, Spring Green, Cyan, Sky Blue, Blue, Violet, Magenta, Rose, White, 5 Custom Colors to define
Color 2	
Color Flash Rate (Hz)	0.5, 1.5, 3, 6, 9, 12, Custom Rate to define
Color 1 Intensity	High, Medium, Low, Custom Intensity to define
Color 2 Intensity	
Animation Mode	Steady, Flash, Two-Color Flash, Strobe, Half/Half, Half/Half Rotate, Chase, Demo Mode
Rotation Direction	Counter Clockwise, Clockwise

For more information see IO-Link Data Reference Guide: K50 Pro Indicator (p/n 200721).

Specifications

Supply Voltage and Current

- 24 V DC $\pm 25\%$
- 115 mA typical at 24 V DC
- 150 mA maximum at 18 V DC

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Input Response Time

30 milliseconds maximum while active

Connections

Integral 4-pin M12 male quick-disconnect connector, or 150 mm (6 in) PVC-jacketed cable with an M12 quick disconnect, depending on model

Models with a quick disconnect require a mating cordset

Mounting

M30 by 1.5 threaded base, maximum torque 4.5 N·m (40 inch·lbf)

Mounting nut included

Construction

Model Base, Dome, and Nut: Polycarbonate

Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 30G 11 ms duration, half sine wave)

Application Note

Light emits 360° from housing sides in K50BL models.



Operating Conditions

–40 °C to +50 °C (–40 °F to +122 °F)

90% at +50 °C maximum relative humidity (non-condensing)

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

Environmental Rating

All Models: IP67, IP69K per ISO 20653, meets UL Type 4X and UL Type 13 when mounted in a UL Type 4X or Type 13 enclosure

All Cabled Models also meet IP69K per ISO 20653 if the cable and cable entrance are protected from high-pressure spray

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.

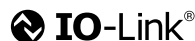
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

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	1.0	30	0.5

Certifications



Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates ⁽²⁾		Lumen Output (Typical at 25 °C)
		x	y	
Green	530 nm	0.153	0.697	15.3
Red	625 nm	0.691	0.307	6.8
Yellow	–	0.469	0.466	17.2
Blue	470 nm	0.14	0.05	3.3
Orange	–	0.534	0.410	12.6
White	5700 K	0.338	0.336	20.9
Cyan	–	0.159	0.337	17
Magenta	–	0.399	0.189	8.6
Lime Green	–	0.386	0.527	20.4
Spring Green	–	0.156	0.532	15.8
Sky Blue	–	0.147	0.248	17.9
Violet	–	0.230	0.098	6.7
Rose	–	0.531	0.239	7.7

FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

Industry Canada ICES-003(B)

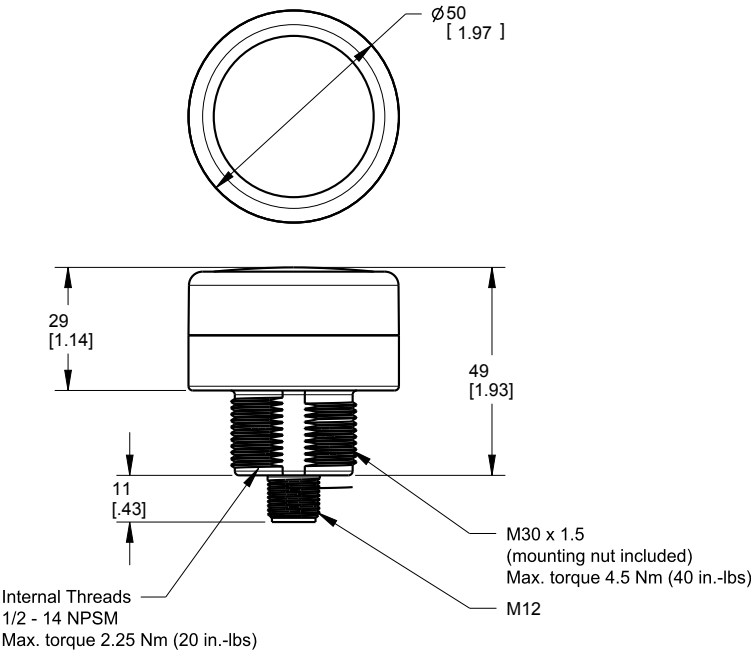
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

⁽²⁾ Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.

Dimensions

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



Accessories

Cordsets

4-Pin Double-Ended M12 Female to M12 Male Cordsets				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		<p>Female</p> <p>Male</p> <p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-415SS	4.58 m (15 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30.2 ft)			
MQDEC-450SS	15.2 m (49.9 ft)			

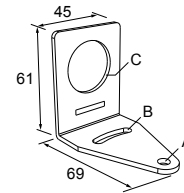
Brackets

SMB30A

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

Hole center spacing: A to B=40

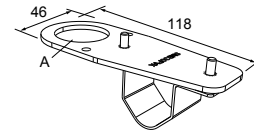
Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5



SMB30FVK

- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

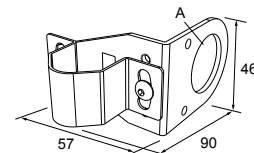
Hole size: A= ø 31



SMB30RAV/K

- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

Hole size: A = ø 30.5

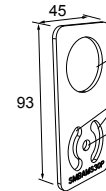


SMBAMS30P

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

Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0

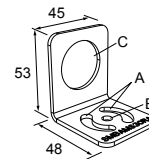


SMBAMS30RA

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

Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0

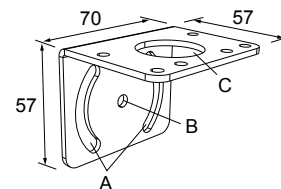


SMB30MM

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

Hole center spacing: A = 51, A to B = 25.4

Hole size: A = 42.6 × 7, B = ø 6.4, C = ø 30.1

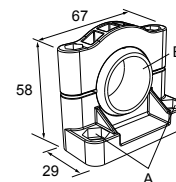


SMB30SC

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

Hole center spacing: A=ø 50.8

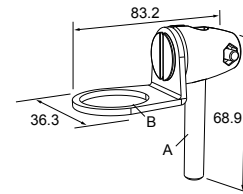
Hole size: A=ø 7.0, B=ø 30.0



SMB30FA

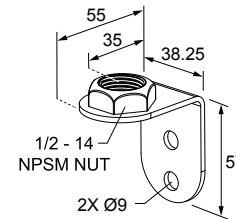
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-gauge 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric- and inch-size bolt available

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

**LMBE12RA35**

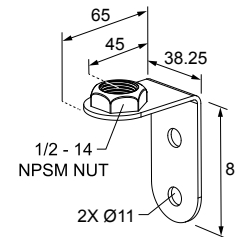
- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 35 mm

Hole center spacing: 20.0

**LMBE12RA45**




- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 45 mm

Hole center spacing: 35.0



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

Elevated Mount System

Model			Description	Components
SA-M30TE12 - Black Acetal			<ul style="list-style-type: none">Streamlined black acetal or white UHMW stand-off pipe adapter/coverConnects between 30 mm light base and ½ in. NPSM/ DN15 pipeMounting hardware included	
SA-M30TE12C - White UHMW				
Polished 304 Stainless Steel	Black Anodized Aluminum	Clear Anodized Aluminum	<ul style="list-style-type: none">Elevated-use stand-off pipe (½ in. NPSM/DN15)Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface½ in. NPT thread at both ends: one end screws into the internal threads of the light's base, and one end screws into the mounting base adapter/coverCompatible with most industrial environments	
SOP-E12-150SS 150 mm (6 in) long	SOP-E12-150A 150 mm (6 in) long	SOP-E12-150AC 150 mm (6 in) long		
SOP-E12-300SS 300 mm (12 in) long	SOP-E12-300A 300 mm (12 in) long	SOP-E12-300AC 300 mm (12 in) long		
SOP-E12-900SS 900 mm (36 in) long	SOP-E12-900A 900 mm (36 in) long	SOP-E12-900AC 900 mm (36 in) long		
SA-E12M30 - Black Acetal			<ul style="list-style-type: none">Streamlined black acetal or white UHMW mounting base adapter/coverConnects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled holeMounting hardware included	
SA-E12M30C - White UHMW				

Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.