EZ-LIGHT® K50 Beacon

Features

Daylight-Visible, General-Purpose Indicators for Indoor or Outdoor Use

To view or download the latest technical information about this product, including specifications, dimensions, accessories, and wiring, go to www.bannerengineering.com.

- Intense levels of light output for areas with high ambient light - even outdoors
- Viewable around entire perimeter; some models also emit light from top
- 1- or 2-, or 3-color models available
- Rugged, sealed thermoplastic housing rated for IP67 and IP69K per ISO 20653
- Bright, even light
- 12 V DC to 30 V DC or 85 V AC to 130 V AC (75 V DC to 120 V DC) or 100 V AC to 250 V AC (90 V DC to 240 V DC) operation, depending on model
- 12 V DC operation useful for applications on mobile vehicles
- Consult factory for models with strobing capability

WARNING:

- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

Models

Model		LED Color(s)[1]	Input	Supply Voltage	Connection[2]
Perimeter View Only	Perimeter + Top View				
K50BLXGXPQ	K50BCLXGXPQ	Green	PNP	12 V DC to 30 V DC	Integral 4-pin M12 quick-disconnect connector
K50BLXRXPQ	K50BCLXRXPQ	Red			
K50BLXYXPQ	K50BCLXYXPQ	Yellow			
K50BLXBXPQ	K50BCLXBXPQ	Blue			
K50BLXWXPQ	K50BCLXWXPQ	White			
K50BLGRXPQ	K50BCLGRXPQ	Green / Red			
K50BLGRYPQ	K50BCLGRYPQ	Green / Red / Yellow	PNP	12 V DC to 30 V DC	Integral 5-pin M12 quick-disconnect connector[3]
K50BLGRYNQ	K50BCLGRYNQ	Green / Red / Yellow	NPN	12 V DC to 30 V DC	
K50BLGA120Q	K50BCLGA120Q	Green	AC	85 V AC to 130 V AC	Integral 3-pin 1/2 in-20UNF quick-disconnect connector
K50BLRA120Q	K50BCLRA120Q	Red			
K50BLYA120Q	K50BCLYA120Q	Yellow			
K50BLBA120Q	K50BCLBA120Q	Blue			
K50BLWA120Q	K50BCLWA120Q	White			
K50BLGA230Q	K50BCLGA230Q	Green	AC	100 V AC to 250 V AC	
K50BLRA230Q	K50BCLRA230Q	Red			
K50BLYA230Q	K50BCLYA230Q	Yellow			
K50BLBA230Q	K50BCLBA230Q	Blue			

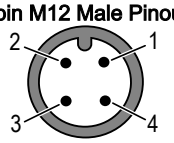
Wiring Diagrams — DC Models

1-Color Models (PNP/NPN Selectable)

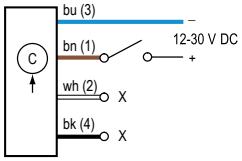
[1] Available colors include: Green (G), Red (R), Yellow (Y), Blue (B) and White (W).
[2] Integral quick disconnect models are listed.
- To order the 150 mm (6 in) PVC cable model with a M12 quick disconnect, replace the suffix "Q" with "QP" in the model number. For example, K50BLXGXPQP.
- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K50BLXGXP.
- Models with a quick disconnect require a mating cordset.

[3] 3-color models use a 4-pin mating cable, see wiring diagram.

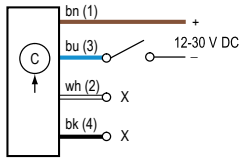
4-pin M12 Male Pinout



PNP



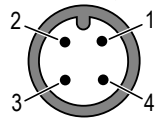
NPN



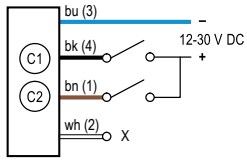
Key:
1 = Brown
2 = White
3 = Blue
4 = Black
C1 = Indicator color 1
X = Not used

2-Color Models

4-pin M12 Male Pinout



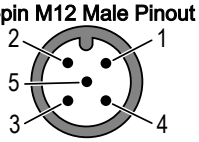
PNP



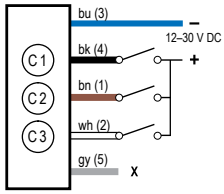
Key:
1 = Brown
2 = White
3 = Blue
4 = Black
C1 = Indicator color 1
C2 = Indicator color 2
X = Not used

3-Color Models

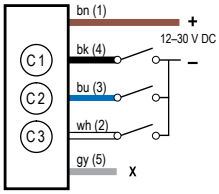
5-pin M12 Male Pinout



PNP



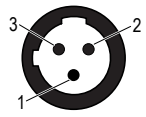
NPN



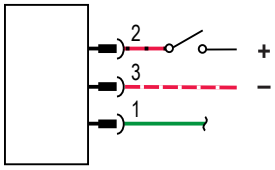
Key:
1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
C1 = Indicator color 1
C2 = Indicator color 2
C3 = Indicator color 3
X = Not used

Wiring Diagrams — AC Models

3-pin 1/2 in-20UNF Male Pinout

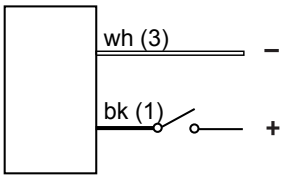


Quick-Disconnect



Wiring Key:
1 = Green (not used)
2 = Red/Black
3 = Red/White

Cabled



Specifications

Supply Voltage and Current - 12 V DC to 30 V DC models

K50BL 1-color models: 140 mA max. at 12 V DC, 70 mA max. at 30 V DC
K50BCL 1-color models: 160 mA max. at 12 V DC, 80 mA max. at 30 V DC
K50BL 2-color models, per color: 75 mA max. at 12 V DC, 40 mA max. at 30 V DC
K50BCL 2-color models, per color: 95 mA max. at 12 V DC, 40 mA max. at 30 V DC
K50BL 3-color models, per color: 85m A at 12 V DC, 55 mA at 30 V DC
K50BCL 3-color models, per color: 110 mA at 12 V DC, 65 mA at 30 V DC

Supply Voltage and Current - 120 V AC models

K50BL models: 85 V AC to 130 V AC or 75 V DC to 120 V DC at 16 mA max. 50/60 Hz
K50BCL models: 85 V AC to 130 V AC or 75 V DC to 120 V DC at 60 mA max. 50/60 Hz

Supply Voltage and Current - 230 V AC models

K50BL models: 100 V AC to 250 V AC or 90 V DC to 240 V DC at 20 mA max. 50 Hz to 60 Hz
K50BCL models: 100 V AC to 250 V AC or 90 V DC to 240 V DC at 25 mA max. 50 Hz to 60 Hz

Supply Protection Circuitry

12 V DC to 30 V DC models: Protected against reverse polarity and transient voltages
120 V AC and 230 V AC models: Protected against transient voltages

Indicators

LED colors are independently selected, depending on model
For 3-color models: only one color can be on at a time. The higher color number overrides the lower color number.

Environmental Rating

Rated IP67 and IP69K per ISO 20653
NEMA/UL Type 4X, 13

Construction

Base and covers: polycarbonate

Connections

Integral 4-pin or 5-pin M12 male quick-disconnect connectors (DC models), integral 3-pin 1/2 in-20UNF male quick-disconnect connectors (AC models), or 2 m (6.5 ft) integral PVC-jacketed cable, depending on model

Operating Conditions

–40 °C to +50 °C (–40 °F to +122 °F)
90% at +50 °C maximum relative humidity (non-condensing)

Vibration and Mechanical Shock

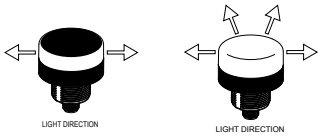
All models meet Mil. Std. 202F requirements method 201A (vibration: 10 to 60 Hz max., double amplitude 0.06 in, maximum acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration, half sine wave.

Indicator Power-up Response Time

DC 1, and 2- color models
ON: 10 ms; OFF: 7 ms
DC 3-color models
ON: 250 ms; OFF: 10 ms
AC models
ON/OFF: 500 µs

Application Note

Light emits 360° from housing sides in K50BL models and housing sides and tops in K50BCL models.



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	2.0	30	0.5

Certifications

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

c UL us LISTED

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.

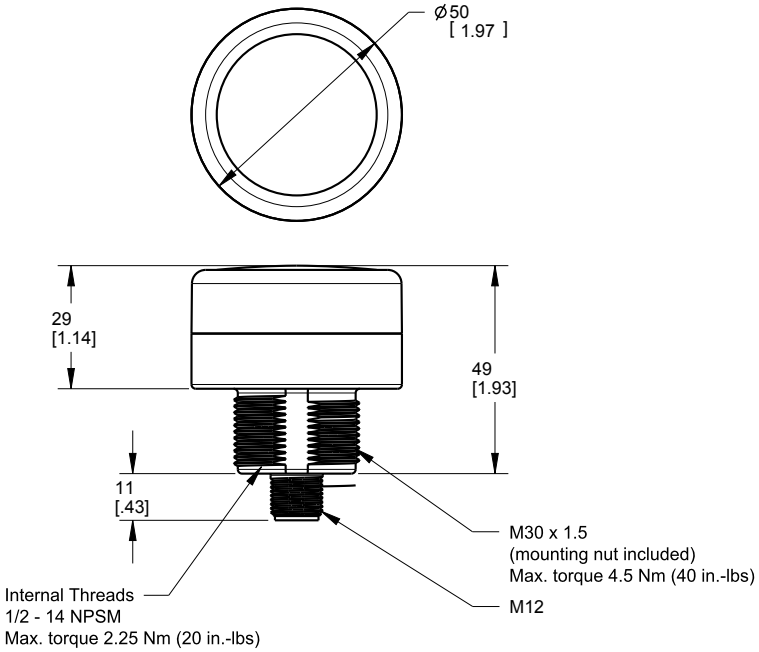
Industry Canada ICES-003(B)

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.

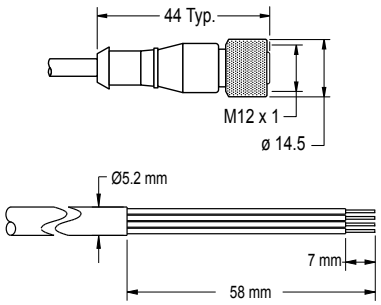
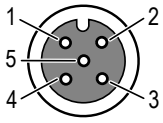
Dimensions

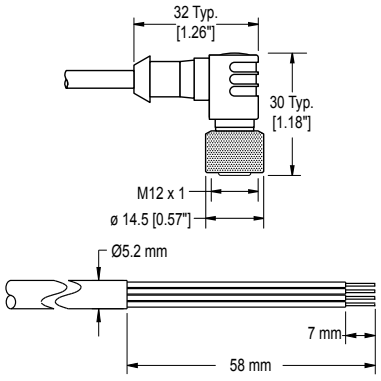
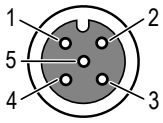
All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

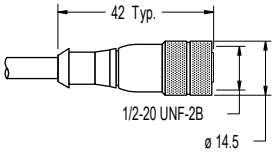
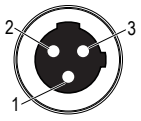
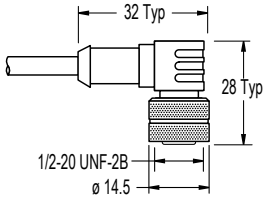


Accessories

Cordsets

4-pin Single-Ended M12 Female Cordsets (datasheet p/n 235937)				
Model	**Length**	**Dimensions (mm)**	**Pinout (Female)**	
BC-M12F4-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused c UL us LISTED
BC-M12F4-22-2	2 m (6.56 ft)			
BC-M12F4-22-5	5 m (16.4 ft)			
BC-M12F4-22-8	8 m (26.25 ft)			
BC-M12F4-22-10	10 m (30.81 ft)			
BC-M12F4-22-15	15 m (49.2 ft)			
BC-M12F4-22-20	20 m (65.61 ft)			
BC-M12F4-22-25	25 m (82.02 ft)			
BC-M12F4-22-30	30 m (98.42 ft)			

4-pin Single-Ended M12 Female Right-Angle Cordsets (datasheet p/n 235937)				
Model	**Length**	**Dimensions (mm)**	**Pinout (Female)**	
BC-M12F4A-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused c UL us LISTED
BC-M12F4A-22-2	2 m (6.56 ft)			
BC-M12F4A-22-5	5 m (16.4 ft)			
BC-M12F4A-22-8	8 m (26.25 ft)			
BC-M12F4A-22-10	10 m (30.81 ft)			
BC-M12F4A-22-15	15 m (49.2 ft)			

3-pin Single-Ended 1/2-in Dual Key Female Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-306	2 m (6.56 ft)	Straight		 1 = Green 2 = Red/Black 3 = Red/White
MQDC-315	5 m (16.40 ft)			
MQDC-330	9 m (29.53 ft)			
MQDC-306RA	1.83 m (6 ft)	Right-Angle		
MQDC-315RA	4.57 m (15 ft)			
MQDC-330RA	9.14 m (30 ft)			

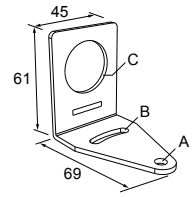
Mounting Brackets

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

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
- CAD Files: DXF, PDF, IGS, STP

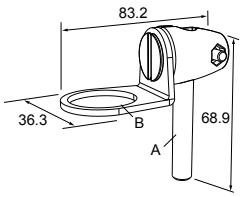
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5



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
- CAD Files: DXF, PDF, IGS, STP

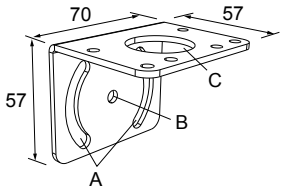
Bolt thread: SMB30FA, A=3/8 - 16 × 2 in; SMB30FAM10, A=M10 - 1.5 × 50
Hole size: B=ø 30.1



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
- CAD Files: DXF, PDF, IGS, STP

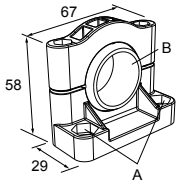
Hole center spacing: A=51, A to B=25.4
Hole size: A=42.6 × 7, B=ø 6.4, C=ø 30.1



SMB30SC

- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included
- CAD Files: DXF, PDF, IGS, STP

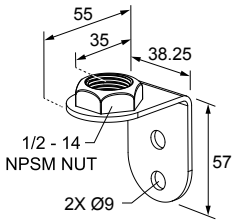
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0



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
- CAD Files: DXF, PDF, IGS, STP

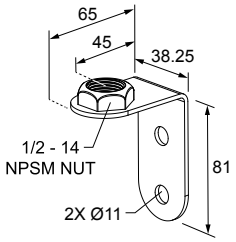
Hole center spacing: 20.0



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
- CAD Files: DXF, PDF, IGS, STP

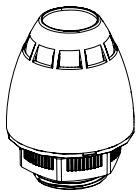
Hole center spacing: 35.0



Elevated Mount System

Adapter/Cover Model	Description	
SA-M30E12	• Streamlined black acetal stand-off pipe adapter/cover • Adapter from 30 mm light base to ½ in. NPSM/DN15 pipe • Typically used for the TL50 Tower Light and K50 series • Mounting hardware included • CAD files: DXF, PDF, IGS, STP	

Black Anodized Aluminum, ½ in. NPT Pipe Models	Clear Anodized Aluminum, ½ in. NPT Pipe Models	Description
SOP-E12-150A, 150 mm (6 in) long	**SOP-E12-150AC**, 150 mm (6 in) long	• Elevated-use stand-off pipe • Threaded at both ends • Compatible with most industrial environments • CAD Files: ◦ **SOP-E12-150A**: DXF, PDF, IGS, STP ◦ **SOP-E12-300A**: DXF, PDF, IGS, STP ◦ **SOP-E12-600A**: DXF, PDF, IGS, STP ◦ **SOP-E12-900A**: DXF, PDF, IGS, STP
SOP-E12-300A, 300 mm (12 in) long	**SOP-E12-300AC**, 300 mm (12 in) long	
SOP-E12-600A, 600 mm (24 in) long	-	
SOP-E12-900A, 900 mm (36 in) long	**SOP-E12-900AC**, 900 mm (36 in) long	

Mounting Base Model	Description	
SA-E12M30 - Black acetal	• Streamlined black acetal or white UHMW mounting base adapter/cover • Adapter from ½ in. NPSM/DN15 pipe to 30 mm (1-3/16 in) drilled hole • Mounting hardware included • CAD files: DXF, PDF, IGS, STP	
SA-E12M30C - White UHMW		

Other Pipes:

304 Stainless Steel, ½ in. NPT Pipe Models	Description
SOP-E12-150SS, 150 mm (6 in) long	• Elevated-use stand-off pipe • Threaded at both ends • Compatible with most industrial environments • CAD Files: ◦ **SOP-E12-150x**: DXF, PDF, IGS, STP ◦ **SOP-E12-300x**: DXF, PDF, IGS, STP ◦ **SOP-E12-600x**: DXF, PDF, IGS, STP ◦ **SOP-E12-900x**: DXF, PDF, IGS, STP
SOP-E12-300SS, 300 mm (12 in) long	
SOP-E12-600SS, 600 mm (24 in) long	
SOP-E12-900SS, 900 mm (36 in) long	

Banner Engineering Corp Limited Warranty

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