EZ-LIGHT K90L

BANNER®
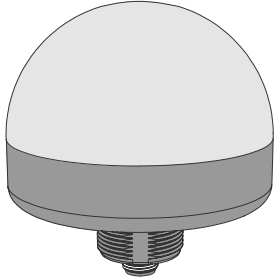*more sensors, more solutions*

Datasheet

Large one to five color indicator with flashing input control

- Bright, uniform indicator light
- All models have flashing input control
- Models are available with up to five colors in one device
- Rugged IP67-rated design
- 12 V DC to 30 V DC operation

Models

Model	No. of Colors	Colors	Input	Connection
K90LGPQ		Green		
K90LRPQ		Red		
K90LYPQ		Yellow	PNP	
K90LBPQ		Blue		
K90LWPQ	1	White		5-pin M12 Quick Disconnect
K90LGNQ		Green		
K90LRNQ		Red		
K90LYNQ		Yellow	NPN	
K90LBNQ		Blue		
K90LWNQ		White		

Model	No. of Colors	Colors	Connection	Input
K90LGRPQ	2	Green, Red	5-pin M12 Quick Disconnect	
K90LGYRPQ	3	Green, Red, Yellow		PNP
K90LBGYRPQ	4	Blue , Green, Yellow, Red	8-pin M12 Quick Disconnect	
K90LWBGYRPQ	5	White, Blue, Green, Yellow, Red		
K90LGRNQ	2	Green, Red	5-pin M12 Quick Disconnect	
K90LGYRNQ	3	Green, Red, Yellow		NPN
K90LBGYRNQ	4	Blue , Green, Yellow, Red	8-pin M12 Quick Disconnect	
K90LWBGYRNQ	5	White, Blue, Green, Yellow, Red		

Integral quick disconnect models are listed; a mating cordset is required (see Accessories on page 4).

- To order the 150 mm (5.9 in) PVC cable with quick disconnect models, replace **Q** with **QP** in the model number, for example, K90LGYRQP.
- To order the 2 m (6.5 ft) cable models, omit the suffix **Q** in the model number, for example, K90LGYR.
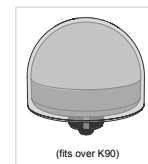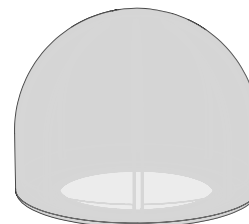
Washdown Silicone Cover WC-K90

Washdown Cover Model	Description
WC-K90	FDA-grade silicone cover

Installing the Silicone Cover

To properly install the FDA-grade silicone cover and achieve an IP69 rating, follow these instructions.

1. Turn the cover inside-out.
2. Place the cover on top of the indicator.
3. Roll the cover onto the indicator.
4. Continue rolling the cover down, around the base of the indicator, until the entire light is covered.
5. Mount the indicator and cover assembly to a bracket wide enough to cover the base of the assembly. The cover should be clamped firmly between the indicator and the bracket.

(fits over K90)

Note: The FDA-grade silicone cover withstands high pressure, high temperature washdown, and increases the product rating to IEC IP69. The cover is ECOLAB® certified to withstand aggressive cleaning procedures with chemicals used in the food processing industry.

Specifications

Supply Voltage and Current
12 V DC to 30 V DC
475 mA maximum at 12 V DC
175 mA maximum at 30 V DC

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

Input Response Time
75 ms maximum

Adjustments
1.6 Hz flash rate via flash input wire

Connections
Integral 5-pin M12 male quick-disconnect connector; Integral 8-pin M12 male quick-disconnect connector; 150 mm (6 in) PVC-jacketed cable with a 5-pin M12 male quick-disconnect connector; 150 mm (6 in) PVC-jacketed cable with an 8-pin M12 male quick-disconnect connector; or 2 m (6.5 ft) unterminated 3-wire PVC-jacketed cable depending on the model

Construction
Base and dome: Polycarbonate

Environmental Rating
IP67; Enclosure UL Type 4X, 13

Vibration and Mechanical Shock
All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G maximum acceleration) requirements. Also meets IEC 60947-5-2 (Shock: 30G 11 ms duration, half sine wave) requirements.

Operating Conditions
–40 °C to +50 °C (–40 °F to +122 °F)

Certifications

CE   UL LISTED

Light Characteristics

Color	Typical Wavelength or Color Temperature	Typical Intensity
Red	625 nm	65 lumens
Yellow	590 nm	35 lumens
Green	525 nm	150 lumens
Blue	470 nm	55 lumens
White	6000–7100 K	200 lumens

Indicators
1 to 5 colors, depending on the model
Only one color can be on at a time. The higher color number overrides the lower color number.

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.
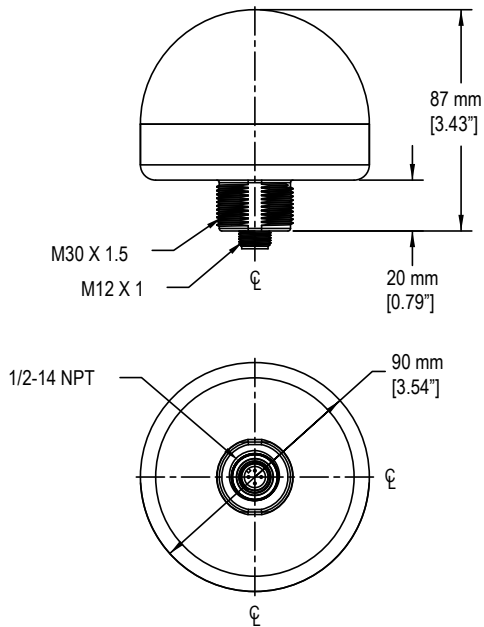Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to www.bannerengineering.com.

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

Dimensions

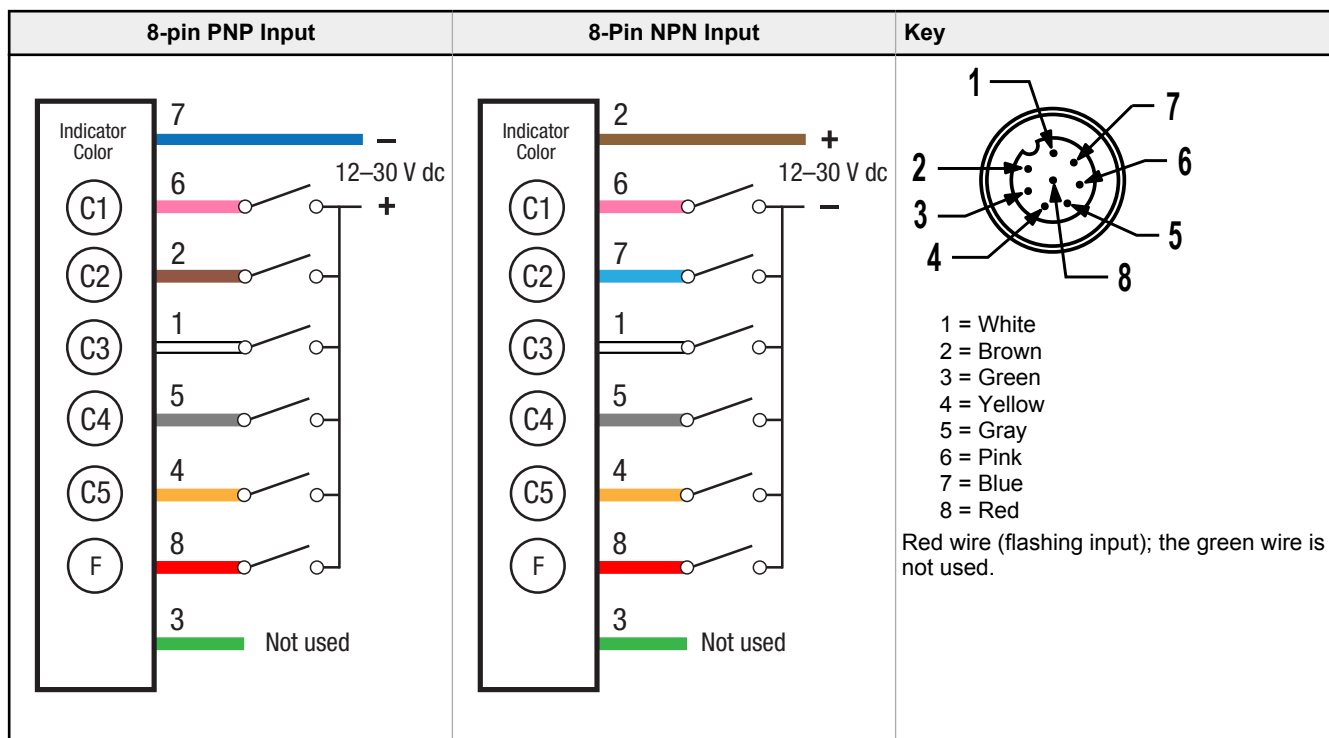All measurements are listed in millimeters [inches], unless noted otherwise.

Standard Model

M30 X 1.5
M12 X 1

87 mm
[3.43"]

20 mm
[0.79"]

1/2-14 NPT

90 mm
[3.54"]

Model with Washdown Cover

72.5 mm
[2.85"]

(K90 shown in gray)

Ø 96.5 mm
[3.80"]

Ø 62.0 mm
[2.44"]
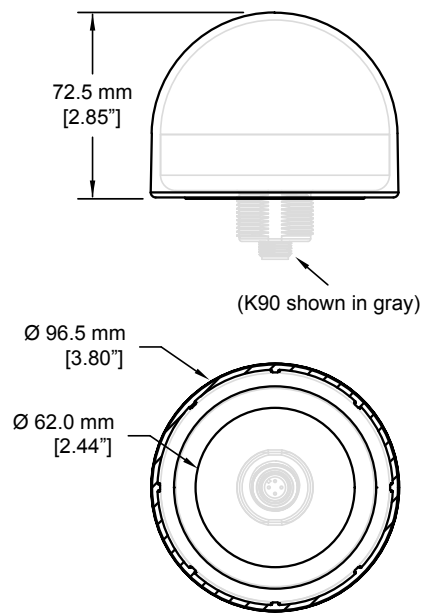
Wiring
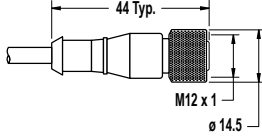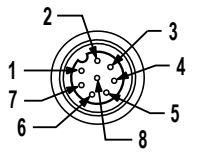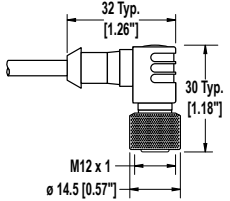
5-pin PNP Input	5-Pin NPN Input	Key

5-pin PNP Input

Indicator Color

C1 — 3 (blue) —
C1 — 4 (black)
12–30 V dc +
C2 — 1 (brown)
C3 — 2
F — 5 (gray)

5-Pin NPN Input

Indicator Color

C1 — 1 (brown) +
C1 — 4 (black)
12–30 V dc −
C2 — 3 (blue)
C3 — 2
F — 5 (gray)

Key

1
2
3
4
5

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

Gray wire (flashing input)

8-pin PNP Input	8-Pin NPN Input	Key

PNP: Indicator Color C1, C2, C3, C4, C5, F
- 7 (Blue) —
- 6 (Pink) — 12–30 V dc +
- 2 (Brown)
- 1 (White)
- 5 (Gray)
- 4 (Yellow)
- 8 (Red)
- 3 (Green) Not used

NPN: Indicator Color C1, C2, C3, C4, C5, F
- 2 (Brown) +
- 6 (Pink) — 12–30 V dc —
- 7 (Blue)
- 1 (White)
- 5 (Gray)
- 4 (Yellow)
- 8 (Red)
- 3 (Green) Not used

Key

1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Pink
7 = Blue
8 = Red

Red wire (flashing input); the green wire is not used.

Accessories
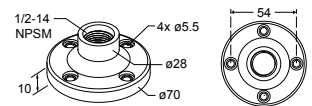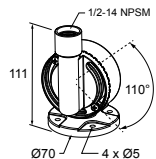
Cordsets

5-Pin Threaded M12 Cordsets—Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC1-501.5	0.5 m (1.5 ft)	Straight		
MQDC1-503	0.9 m (2.9 ft)			
MQDC1-506	2 m (6.5 ft)		44 Typ.	
MQDC1-515	5 m (16.4 ft)		M12 x 1	
MQDC1-530	9 m (29.5 ft)		ø 14.5	
MQDC1-560	18 m (59 ft)			
MQDC1-506RA	2 m (6.5 ft)	Right-Angle		
MQDC1-515RA	5 m (16.4 ft)		32 Typ. [1.26"]	
MQDC1-530RA	9 m (29.5 ft)		30 Typ. [1.18"]	
MQDC1-560RA	19 m (62.3 ft)		M12 x 1 ø 14.5 [0.57"]	

Pinout (Female):
1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

8-Pin Threaded M12 Cordsets with Open-Shield—Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC2S-806	2.04 m (6.7 ft)	Straight	44 Typ. / M12 x 1 / ø 14.5	
MQDC2S-815	5.04 m (16.54 ft)	Straight		
MQDC2S-830	10.04 m (32.95 ft)	Straight		
MQDC2S-850	16 m (52.49 ft)	Straight		1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red
MQDC2S-806RA	2 m (6.56 ft)	Right-Angle	32 Typ. [1.26"] / 30 Typ. [1.18"] / M12 x 1 / ø 14.5 [0.57"]	
MQDC2S-815RA	5 m (16.4 ft)	Right-Angle		
MQDC2S-830RA	10 m (32.81 ft)	Right-Angle		
MQDC2S-850RA	16 m (52.49 ft)	Right-Angle		

Elevated Mount System

Model			Features	Components
SA-M30 - Black Polycarbonate			• Streamlined black PC or Gray PC thread cover • Covers M30 thread on the light base • Mounting hardware included	
SA-M30C - Gray Polycarbonate				
Polished 304 Stainless Steel	**Black Anodized Aluminum**	**Clear Anodized Aluminum**	• Elevated-use stand-off pipe (½ in. NPSM/DN15) • Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface • ½ in. NPT thread at both ends • Compatible 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			• Streamlined black acetal or white UHMW mounting base adapter/cover • Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole • Mounting hardware included	
SA-E12M30C - White UHMW				

Pipe Mounting Flange			
Model	**Features**	**Construction**	
SA-F12	• Elevated-use stand-off pipes (½ in, NPSM/DN15) • M5 mounting hardware and nitrile gasket included	Die-cast zinc base with black paint	1/2-14 NPSM / 4x ø5.5 / 54 / ø28 / 10 / ø70

Foldable Mounting Brackets			
Model	**Features**	**Construction**	
SA-FFB12		Black polycarbonate	1/2-14 NPSM / 111 / 110° / Ø70 / 4 x Ø5
SA-FFB12C	• For use with 1/2 inch stand-off pipes • Stainless steel hardware	Gray polycarbonate	

## LMB Sealed Right-Angle Bracket

Model	Description	Construction	
LMB30RA	**Direct-Mount Models:** Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.	Black polycarbonate	
LMB30RAC		Gray polycarbonate	
LMBE12RA	**Pipe-Mount Models:** Bracket kit with base, ½-14 pipe adapter, set screw, fasteners, O-rings, and gaskets. For use with stand-off pipe (listed and sold separately).	Black polycarbonate	
LMBE12RAC		Gray polycarbonate	

Brackets

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
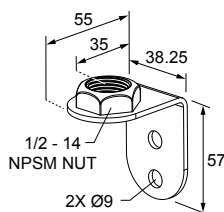
LMBE12RA45

- 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
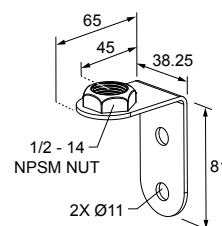
Hole center spacing: 35.0

Sun Shield

K90DS • Use for enhanced visibility in direct sunlight conditions • Polycarbonate	

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