# K50 Pro Beacon

**BANNER**®
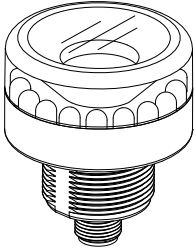*more sensors, more solutions*

## Datasheet

*Daylight-Visible, Programmable Multicolor RGB Indicator for Indoor or Outdoor Use*

- Bright even light
- Seven default colors in one device (Green, Red, Yellow, Blue, White, Cyan, Magenta)
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- 30 mm threaded polycarbonate base
- Rugged IEC IP67, IP69K per DIN 40050-9 and UL Type 4X and UL Type 13 design
- Bimodal inputs (PNP/NPN), depending on source wiring
- Variety of connector options
- Intense levels of light output for areas with high ambient light including outdoors
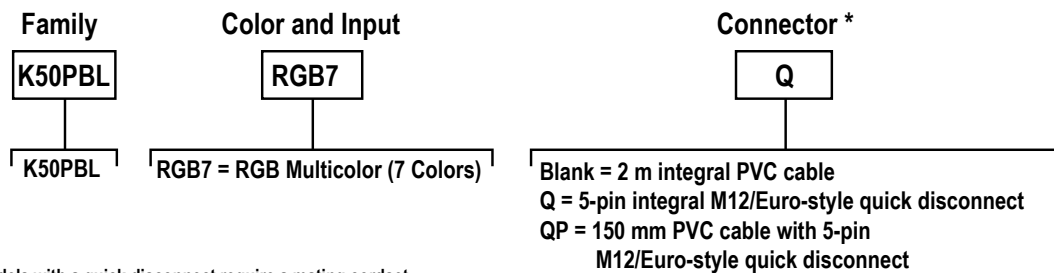
## Pro Editor
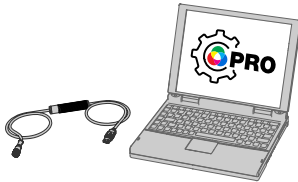
Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations.

For more information visit www.bannerengineering.com/proeditor.

## Models

| Family | Color and Input | Connector * |
|---|---|---|
| **K50PBL** | **RGB7** | **Q** |
| K50PBL | RGB7 = RGB Multicolor (7 Colors) | Blank = 2 m integral PVC cable<br>Q = 5-pin integral M12/Euro-style quick disconnect<br>QP = 150 mm PVC cable with 5-pin M12/Euro-style quick disconnect |

**\* Models with a quick disconnect require a mating cordset**

## Wiring Diagrams



**PNP Input**

**NPN Input**

**Key**

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

*Flash input
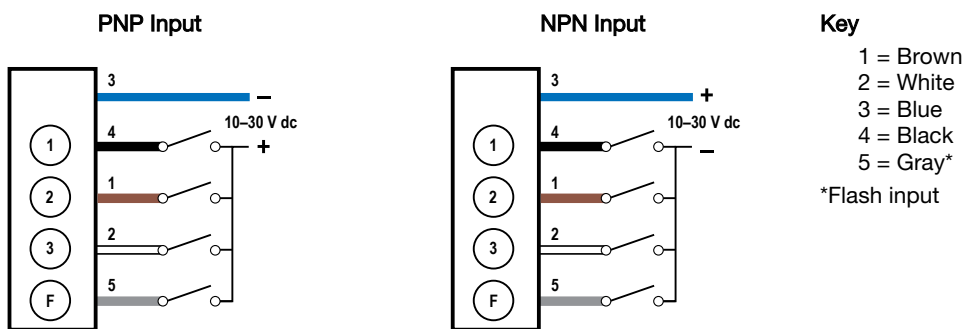
*Table 1: Default Color Definition*

|  | Red | Yellow | Green | Cyan | Blue | Magenta | White |
|---|---|---|---|---|---|---|---|
| Input 1 | X | X |  |  |  | X | X |
| Input 2 |  | X | X | X |  |  | X |
| Input 3 |  |  |  | X | X | X | X |

An "X" denotes an active input, for example when Input 1 and Input 3 are active, the indicator will show Magenta.

## Specifications

**Supply Voltage and Current**

10 V DC to 30 V DC
- 220 mA at 10 V DC
- 190 mA at 12 V DC
- 115 mA at 24 V DC
- 100 mA at 30 V DC

**Supply Protection Circuitry**

Protected against reverse polarity and transient voltages

**Leakage Current Immunity**

400 µA

**Input Response Time**

250 milliseconds maximum

**Flash**

Default 1.5 Hz flash rate using flash input wire

**Connections**

Integral 5-pin M12/Euro-style male quick disconnect, 150 mm (6 in) PVC cable with a M12/Euro-style quick disconnect, or 2 m (6.5 ft) integral PVC cable, depending on model
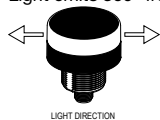Models with a quick disconnect require a mating cordset

**Mounting**

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

**Application Note**

Light emits 360° from housing sides in K50PBL models



LIGHT DIRECTION

**Pro Editor Configuration**

Connection to Pro Editor software enables control of:
- Animation: On, Flash, Two Color Flash, 50/50, 50/50 Rotate, Chase, Intensity Sweep, Demo
- Color: Green, Red, Yellow, Blue, White, Cyan, Magenta, Amber, Rose, Lime Green, Orange, Sky Blue, Violet, Spring Green
- Intensity: Low, Medium, High
- Speed: Slow, Standard, Fast

Pro Converter Cable required to interface between PC and indicator, see accessories

**Default Indicator Characteristics**

| Color | Dominant Wavelength (nm) or Color Temperature (CCT) | Color Coordinates [1] | | 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 |
| White | 5950 K | 0.338 | 0.336 | 20.9 |
| Cyan | – | 0.159 | 0.337 | 17 |
| Magenta | – | 0.399 | 0.189 | 8.6 |

[1] Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.

### Construction
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)

### 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
IEC IP67, IP69K per DIN 40050-9
All Cabled Models also meet IP69K per DIN 40050-9 if the cable and cable entrance are protected from high-pressure spray
Meets UL Type 4X and UL Type 13 when mounted in a UL Type 4X or Type 13 enclosure

### 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



Ø 50 [ 1.97 ]

29 [1.14]

49 [1.93]

11 [.43]

Internal Threads
1/2 - 14 NPSM
Max. torque 2.25 Nm (20 in.-lbs)

M30 x 1.5
(mounting nut included)
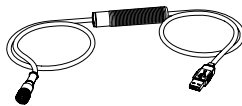Max. torque 4.5 Nm (40 in.-lbs)
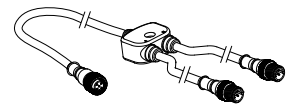
M12
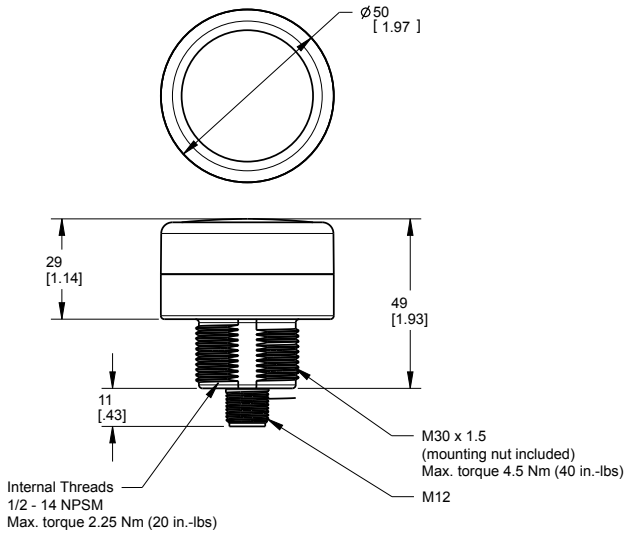
## Accessories

## Pro Editor Hardware

### MQDC-506-USB
- Pro Converter Cable
- 1.83 m (6 ft) M12/Euro-style quick disconnect to Device and USB to PC
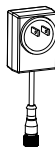- Required for connection to Pro Editor



### CSB-M1251FM1251M
- 5-pin parallel Y splitter (Male-Male-Female)
- For full Pro Editor preview capability
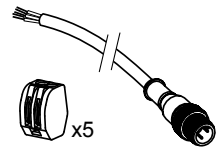- Requires external power supply, sold separately



### PSW-24-1
- 24 V dc, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12/Euro-style quick disconnect
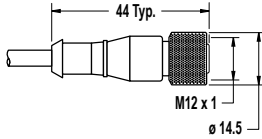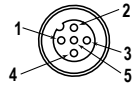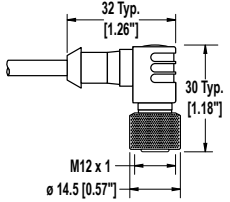- Provides external power with splitter cable, sold separately
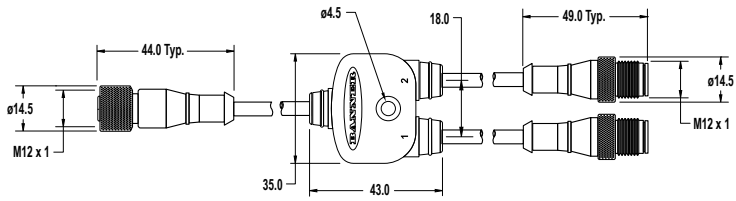


### ACC-PRO-CABLE5
- Mating accessory for cabled and terminal models
- 150 mm (6 inch) PVC cable with M12/Euro-style quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models to Pro Converter Cable, sold separately



x5

## Cordsets

| 5-Pin Threaded M12/Euro-Style Cordsets—Single Ended | | | | |
|---|---|---|---|---|
| Model | Length | Style | Dimensions | Pinout (Female) |
| MQDC1-501.5 | 0.5 m (1.5 ft) | Straight | | |
| MQDC1-506 | 2 m (6.5 ft) | | | |
| MQDC1-515 | 5 m (16.4 ft) | | | |
| MQDC1-530 | 9 m (29.5 ft) | | | |
| MQDC1-506RA | 2 m (6.5 ft) | Right-Angle | | |
| MQDC1-515RA | 5 m (16.4 ft) | | | |
| MQDC1-530RA | 9 m (29.5 ft) | | | |

Dimensions (Straight): 44 Typ., M12 x 1, ø 14.5

Dimensions (Right-Angle): 32 Typ. [1.26"], 30 Typ. [1.18"], M12 x 1, ø 14.5 [0.57"]

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

## Splitter Cables for Use with IO-Blocks

| 5-Pin Threaded M12/Euro-Style to 4-Pin Threaded M12/Euro Style Combiner Cordset with Flat Junction | | | |
|---|---|---|---|
| Model | Branches (Male) | Trunk (Female) | Pinout |
| CSF-M12F51M12M41 | 4-pin Euro Quick Disconnect, 2 × 0.31 m (1.02 ft) | 5-pin Euro Quick Disconnect, 0.31 m (1.02 ft) | Female / Male |

Dimensions: 44.0 Typ., ø14.5, M12 x 1, ø4.5, 18.0, 35.0, 43.0, 49.0 Typ., ø14.5, M12 x 1

Pinout:

| | Trunk | Branch 1 | Branch 2 |
|---|---|---|---|
| | 1 = Brown | 1 = NC | 1 = NC |
| | 2 = White | 2 = Brown | 2 = Gray |
| | 3 = Blue | 3 = Blue | 3 = Blue |
| | 4 = Black | 4 = Black | 4 = White |
| | 5 = Gray | | |

## Brackets

**SMB30A**
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
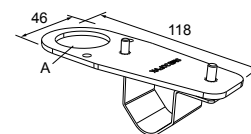- Mounting hole for 30 mm sensor
- 12-ga. stainless steel

Dimensions: 45, 61, 69, A, B, C
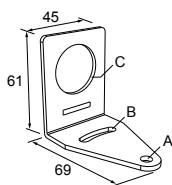
**Hole center spacing:** A to B=40
**Hole size:** A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

**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

Dimensions: 46, 118, A

**Hole size:** A= ø 31

## SMB30RAVK

- 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
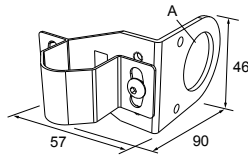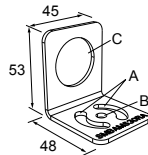
**Hole size:** A = ø 30.5

## SMBAMS30P

- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel
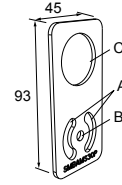
**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

## SMBAMS30RA

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

**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

## SMB30MM

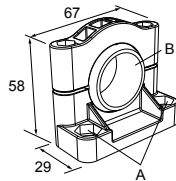- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
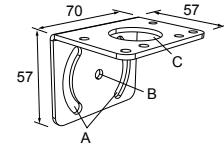
**Hole center spacing:** A = 51, A to B = 25.4
**Hole size:** A = 42.6 x 7, B = ø 6.4, C = ø 30.1

## 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-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
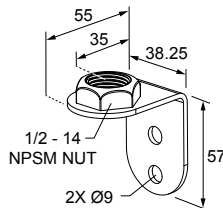- Metric and inch size bolt available
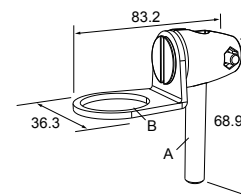
**Bolt thread:** SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
**Hole size:** B= ø 30.1

## 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
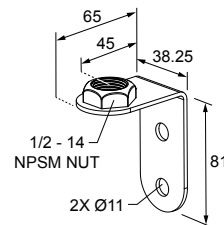- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 45 mm

Hole center spacing: 35.0
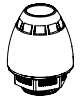
All measurements are listed in millimeters [inches], unless noted otherwise.

## Elevated Mount System

| Model | Features | Components |
|---|---|---|
| **SA-M30TE12** - Black Acetal<br><br>**SA-M30TE12C** - White UHMW | • Streamlined black acetal or white UHMW stand-off pipe adapter/cover<br>• Connects between 30 mm light base and ½ in. NPSM/DN15 pipe<br>• Mounting hardware included | |

| Model | | | Features | Components |
|---|---|---|---|---|
| **Polished 304 Stainless Steel** | **Black Anodized Aluminum** | **Clear Anodized Aluminum** | • Elevated-use stand-off pipe (½ in. NPSM/DN15)<br>• Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface<br>• ½ in. NPT thread at both ends<br>• Compatible with most industrial environments |  |
| **SOP-E12-150SS**<br>150 mm (6 in) long | **SOP-E12-150A**<br>150 mm (6 in) long | **SOP-E12-150AC**<br>150 mm (6 in) long | | |
| **SOP-E12-300SS**<br>300 mm (12 in) long | **SOP-E12-300A**<br>300 mm (12 in) long | **SOP-E12-300AC**<br>300 mm (12 in) long | | |
| **SOP-E12-900SS**<br>900 mm (36 in) long | **SOP-E12-900A**<br>900 mm (36 in) long | **SOP-E12-900AC**<br>900 mm (36 in) long | | |
| **SA-E12M30** - Black Acetal<br><br>**SA-E12M30C** - White UHMW | | | • Streamlined black acetal or white UHMW mounting base adapter/cover<br>• Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole<br>• Mounting hardware included |  |

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