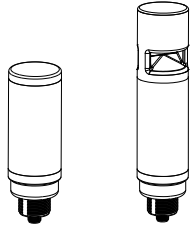


# CL50 Pro Column Light



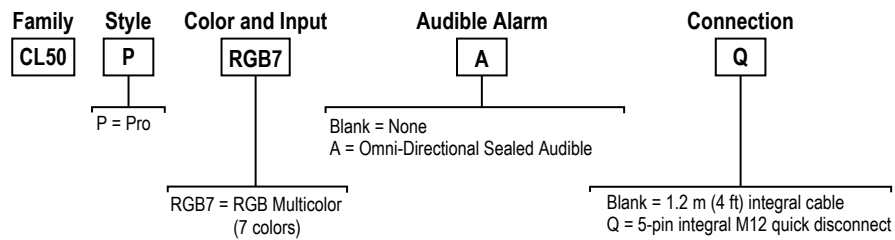
## Datasheet

50 mm Programmable Multicolor RGB Column Light



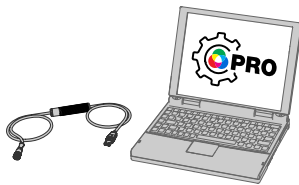
- Rugged, versatile, and easy-to-install multicolor indicators
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- Illumination provides easy-to-see operator guidance and indication of equipment status
- Audible models available with omni-directional audible element
- 12 V DC to 30 V DC operation
- No assembly required

## Models



## Configuration Instructions

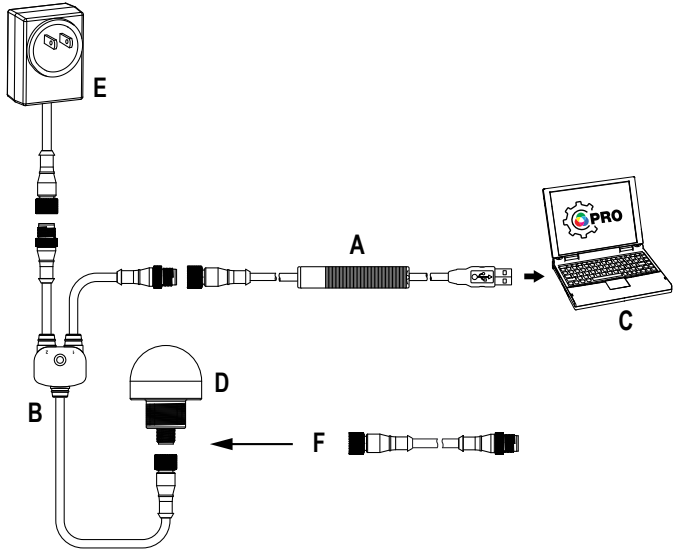
### Pro Editor



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](http://www.bannerengineering.com/proeditor).



Full Preview Connection (Required)



- A = Pro Converter Cable (MQDC-506-USB)
- B = Splitter (CSB-M1251FM1251M)
- C = PC running Pro Editor software
- D = Any Banner Pro Series-enabled device (K50 shown)
- E = Power Supply (PSW-24-1 or PSD-24-4)
- F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-PRO), required for 8-Pin models

Wiring

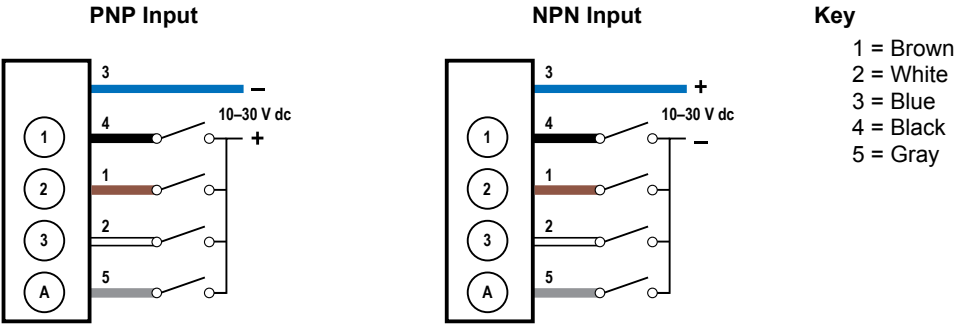


Table 1: Default Color Definition

|         | 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.

Pro Editor Configuration for the CL50 Pro

Banner's Pro Editor software offers an easy way to configure Pro Series-enabled touch and indicator devices, allowing users full control of device states. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications. Pro Editor includes a preview mode that allows users to verify device performance before writing a configuration to a device. Configure any Pro Series-enabled device using the free Pro Editor software, available for download at [www.bannerengineering.com/proeditor](http://www.bannerengineering.com/proeditor).

Connection to Pro Editor software enables control of:

- Animation: Off, Steady, Two Color Flash, Intensity Sweep
- 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

I/O State – Basic

Four state control. Configurations made in I/O State – Basic assign one wire to one state, with the following override control:

- Pin 1 (Brown) overrides Pin 4 (Black)
- Pin 2 (White) overrides Pins 1 and 4 (Brown and Black)
- Pin 5 (Gray) overrides Pins 1, 2, and 4 (Brown, White, and Black)

I/O State – Advanced

Default I/O state with full 15 state options for maximum configurability. Configurations made in I/O State – Advanced assign binary wiring combinations of all valid inputs to each state.

**I/O State – I/O Block**

Three state control for use with I/O block. Configurations made in I/O State – I/O Block assign states to the black, white, and combination of black and white wires for use with I/O blocks for which power (brown) and common (blue) are always on for five pin connections.

**Specifications**

**Supply Voltage and Current**

12 V DC to 30 V DC  
 255 mA at 12 V DC  
 115 mA at 24 V DC  
 95 mA at 30 V DC  
 Maximum current for Omni-Directional Sealed Audible: 35 mA

**Supply Protection Circuitry**

Protected against reverse polarity and transient voltages

**Input Rating**

Leakage Current Immunity: 400 uA  
 Indicator On/Off Response Time: 250 ms (maximum)

**Connections**

5-pin integral M12 quick disconnect; 1 m (6.5 ft) integral PVC cable, depending on model  
 Models with a quick disconnect require a mating cordset

**Construction**

Bases, Covers, Light Segment: Polycarbonate

**Operating Conditions**

**Non-Audible:** -40 °C to +50 °C (-40 °F to +122 °F)  
**Audible:** -20 °C to +50 °C (-4 °F to +122 °F)  
 95% at +50 °C maximum relative humidity (non-condensing)

**Certifications**



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



**Turck Banner LTD Blenheim**  
 House, Blenheim Court, Wickford,  
 Essex SS11 8YT, Great Britain



**Environmental Rating**

IP65, UL Type 4X

**Vibration and Mechanical Shock**

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6  
 Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

**Audible Alarm**

3.1 kHz ± 500 Hz oscillation frequency  
 Intensity: 93 dB at 1 m (typical)

**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](http://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                                    |

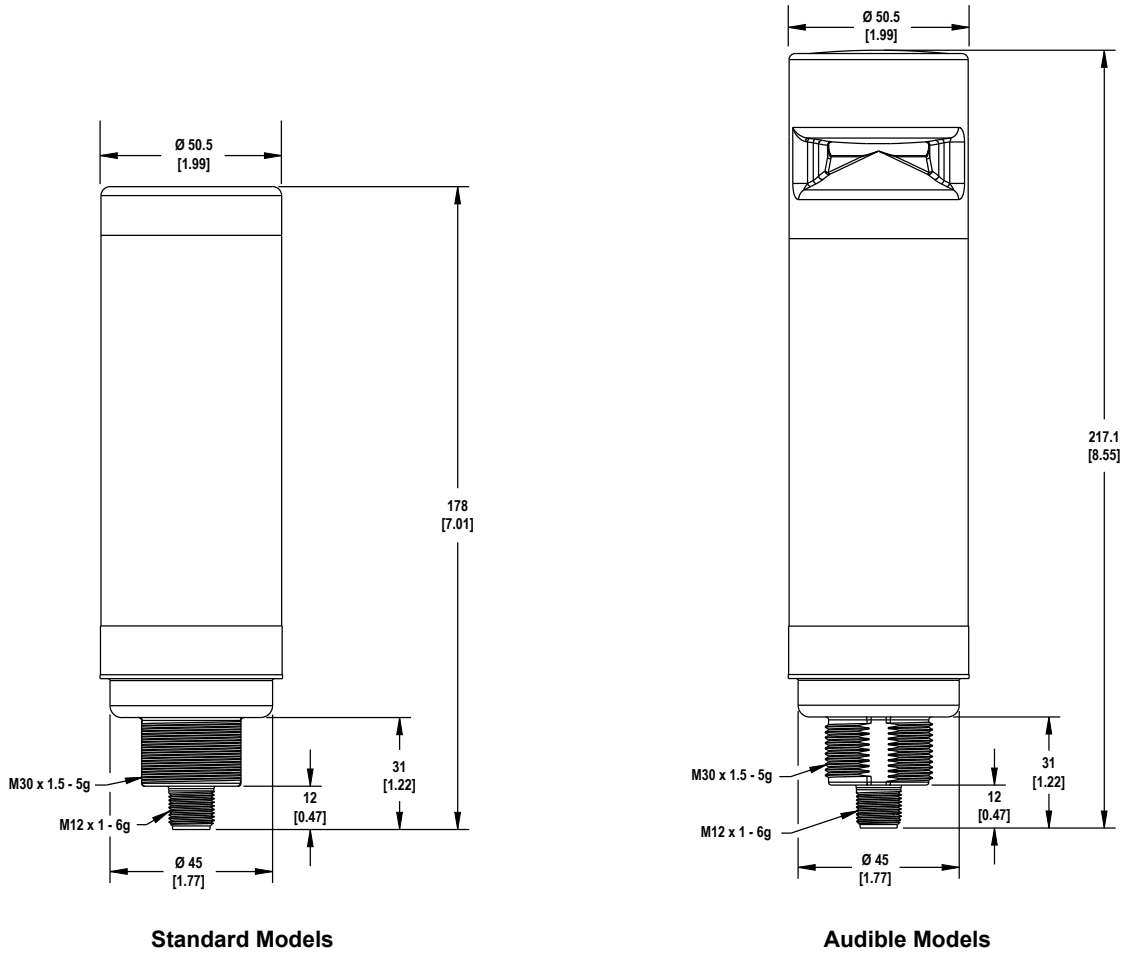
**Indicator Characteristics**

| Color        | Dominant Wavelength (nm) or Color Temperature (CCT) | Color Coordinates <sup>1</sup> |       | Lumen Output Per Segment (Typical at 25 °C) |
|--------------|---|--------------------------------|-------|---|
|              |   | X                              | Y     |   |
| Amber        | 589   | 0.539                          | 0.431 | 57.2  |
| Blue         | 466   | 0.139                          | 0.083 | 11.6  |
| Cyan         | 493   | 0.163                          | 0.352 | 57.9  |
| Green        | 522   | 0.195                          | 0.710 | 52.2  |
| Lime Green   | 562   | 0.367                          | 0.567 | 64.0  |
| Magenta      | -   | 0.370                          | 0.185 | 36.7  |
| Orange       | 599   | 0.600                          | 0.382 | 43.6  |
| Red          | 620   | 0.668                          | 0.318 | 29.1  |
| Rose         | -   | 0.494                          | 0.238 | 30.3  |
| Sky Blue     | 486   | 0.153                          | 0.262 | 56.5  |
| Spring Green | 508   | 0.180                          | 0.520 | 53.2  |
| Violet       | -   | 0.223                          | 0.119 | 19.9  |
| White        | 5700 K  | 0.326                          | 0.347 | 79.4  |
| Yellow       | 576   | 0.455                          | 0.500 | 75.9  |

<sup>1</sup> 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.



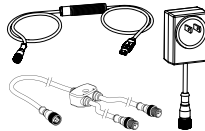
## Accessories

### Pro Editor Hardware

#### PRO-KIT

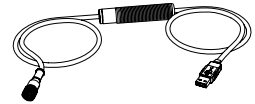
Includes:

- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



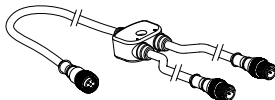
#### MQDC-506-USB

- Pro Converter Cable
- 1.83 m (6 ft) length 5-pin M12 quick disconnect to Device and USB to PC
- Required for connection to Pro Editor



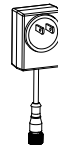
#### CSB-M1251FM1251M

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



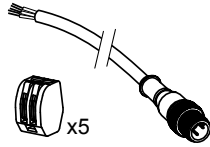
#### PSW-24-1

- 24 V DC, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12 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 quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models and screw terminal models to Pro Converter Cable, sold separately



**Cordsets**

| 5-Pin Threaded M12 Cordsets—Single Ended |                |             |            |  |
|--|----------------|-------------|------------|--|
| Model                                    | Length         | Style       | Dimensions | Pinout (Female)  |
| MQDC1-501.5                              | 0.5 m (1.5 ft) | Straight    |            | <p>1 = Brown<br/>2 = White<br/>3 = Blue<br/>4 = Black<br/>5 = Gray</p> |
| 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)  |             |            |  |

**Splitter Cables for Use with IO-Blocks**

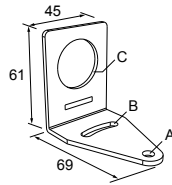
| 5-Pin Threaded M12 to 4-Pin Threaded M12 Combiner Cordset with Flat Junction |  |  |  |       |          |          |           |        |        |           |           |          |          |          |          |           |           |           |          |  |  |
|--|--|--|--|-------|----------|----------|-----------|--------|--------|-----------|-----------|----------|----------|----------|----------|-----------|-----------|-----------|----------|--|--|
| Model  | Branches (Male)                              | Trunk (Female)                           | Pinout   |       |          |          |           |        |        |           |           |          |          |          |          |           |           |           |          |  |  |
| CSF-M12F51M12M41   | 4-pin Quick Disconnect, 2 × 0.31 m (1.02 ft) | 5-pin Quick Disconnect, 0.31 m (1.02 ft) | <p>Female</p> <p>Male</p>  |       |          |          |           |        |        |           |           |          |          |          |          |           |           |           |          |  |  |
|  |  |  | <table border="1"> <thead> <tr> <th>Trunk</th> <th>Branch 1</th> <th>Branch 2</th> </tr> </thead> <tbody> <tr> <td>1 = Brown</td> <td>1 = NC</td> <td>1 = NC</td> </tr> <tr> <td>2 = White</td> <td>2 = Brown</td> <td>2 = Gray</td> </tr> <tr> <td>3 = Blue</td> <td>3 = Blue</td> <td>3 = Blue</td> </tr> <tr> <td>4 = Black</td> <td>4 = Black</td> <td>4 = White</td> </tr> <tr> <td>5 = Gray</td> <td></td> <td></td> </tr> </tbody> </table> | 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 |  |  |
| 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   |  |  |  |       |          |          |           |        |        |           |           |          |          |          |          |           |           |           |          |  |  |

## Mounting Brackets

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

### 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

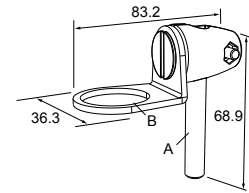


**Hole center spacing:** A to B=40

**Hole size:** A=∅ 6.3, B= 27.1 x 6.3, C=∅ 30.5

### 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

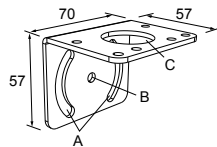


**Bolt thread:** SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50

**Hole size:** B= ∅ 30.1

### 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

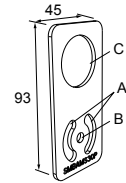


**Hole center spacing:** A = 51, A to B = 25.4

**Hole size:** A = 42.6 x 7, B = ∅ 6.4, C = ∅ 30.1

### SMBAMS30P

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

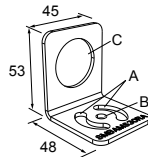


**Hole center spacing:** A=26.0, A to B=13.0

**Hole size:** A=26.8 x 7.0, B=∅ 6.5, C=∅ 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

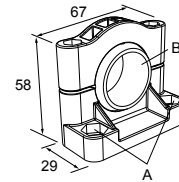


**Hole center spacing:** A=26.0, A to B=13.0

**Hole size:** A=26.8 x 7.0, B=∅ 6.5, C=∅ 31.0

### SMB30SC

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



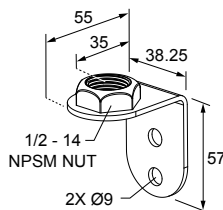
**Hole center spacing:** A=∅ 50.8

**Hole size:** A=∅ 7.0, B=∅ 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

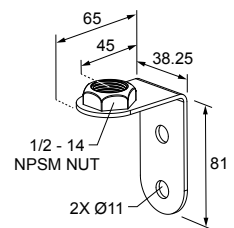
Hole center spacing: 20.0



### 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



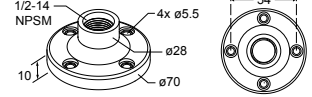
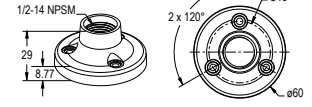
## LMB Sealed Right-Angle Bracket

| Model     | Description   | Construction        |  |
|-----------|---|---------------------|--|
| LMB30RA   | <b>Direct-Mount Models:</b> Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.   | Black polycarbonate |  |
| LMB30RAC  |   | Gray polycarbonate  |  |
| LMBE12RA  | <b>Pipe-Mount Models:</b> 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  |  |

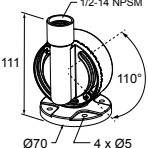
## Elevated Mount System

| Model                                |                                     |                                      | Features  | Components  |
|--------------------------------------|-------------------------------------|--------------------------------------|---|---|
| SA-M30TE12 - Black ABS               |                                     |                                      | <ul style="list-style-type: none"> <li>Streamlined black ABS or white UHMW stand-off pipe adapter/cover</li> <li>Connects between 30 mm light base and ½ in. NPSM/DN15 pipe</li> <li>Mounting hardware included</li> </ul>  |  |
| SA-M30TE12C - White UHMW             |                                     |                                      |   |   |
| Polished 304 Stainless Steel         | Black Anodized Aluminum             | Clear Anodized Aluminum              | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipe (½ in. NPSM/DN15)</li> <li>Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface</li> <li>½ in. NPT thread at both ends</li> <li>Compatible with most industrial environments</li> </ul> |  |
| 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 ABS                |                                     |                                      | <ul style="list-style-type: none"> <li>Streamlined black ABS or white UHMW mounting base adapter/cover</li> <li>Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole</li> <li>Mounting hardware included</li> </ul>   |  |
| SA-E12M30C - White UHMW              |                                     |                                      |   |   |

## Pipe Mounting Flange

| Pipe Mounting Flange |  |                                     |   |
|----------------------|--|-------------------------------------|---|
| Model                | Features   | Construction                        |   |
| SA-F12               | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipes (½ in, NPSM/DN15)</li> <li>M5 mounting hardware and nitrile gasket included</li> </ul>       | Die-cast zinc base with black paint |   |
| SA-F12-3             | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipes (½ in, NPSM/DN15)</li> <li>M4 mounting hardware and nitrile blend gasket included</li> </ul> | Black Polycarbonate                 |  |

## Foldable Mounting Brackets

| Foldable Mounting Brackets |   |                     |   |
|----------------------------|---|---------------------|---|
| Model                      | Features  | Construction        |   |
| SA-FFB12                   | <ul style="list-style-type: none"> <li>For use with 1/2 inch stand-off pipes</li> <li>Stainless steel hardware</li> </ul> | Black polycarbonate |  |
| SA-FFB12C                  |   | Gray polycarbonate  |   |

## Banner Engineering Corp. Limited Warranty

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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.**

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[www.bannerengineering.com](http://www.bannerengineering.com).

For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

## FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and 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.

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 and CAN ICES-3 (B)/NMB-3(B). 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 manufacturer.



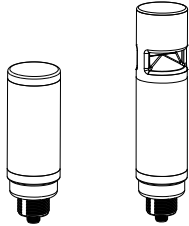


# CL50 Pro Column Light with IO-Link



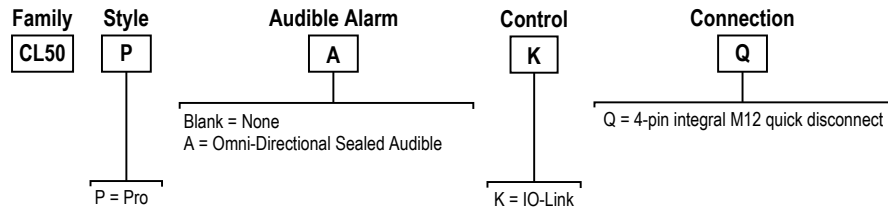
## Datasheet

50 mm IO-Link Controlled Multicolor RGB Column Light

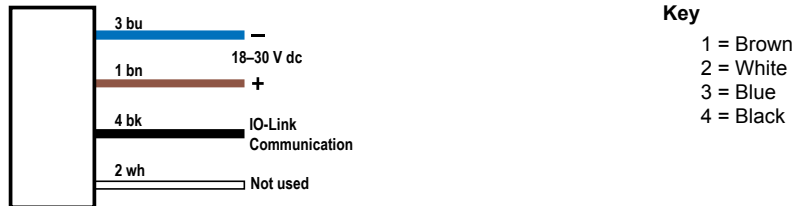


- Rugged, versatile, and easy-to-install multicolor indicators
- IO-Link gives full access to color, flashing, and dimming settings, as well as advanced animations which provide dynamic response to changing machine conditions
- Illumination provides easy-to-see operator guidance and indication of equipment status
- Audible models available with omni-directional audible element
- Audible models available with omni-directional audible element
- 18 V DC to 30 V DC operation
- No assembly required

## Models



## Wiring Diagram



## IO-Link Process Data Out (Master to Device)

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 process data. For the latest IO-LINK protocol and specifications, please visit [www.io-link.com](http://www.io-link.com).

For the latest IODD files, please refer to the Banner Engineering Corp website at: [www.bannerengineering.com](http://www.bannerengineering.com).

Use process data to select color, intensity, flash and animations. Use parameter data to create custom colors, intensity, and flash speeds.

| Name              | Values  |
|-------------------|---|
| Color 1           | Green, Red, Orange, Amber, Yellow, Lime Green, Spring Green, Cyan, Sky Blue, Blue, Violet, Magenta, Rose, White, Custom 1, Custom 2 |
| Color 2           | Green, Red, Orange, Amber, Yellow, Lime Green, Spring Green, Cyan, Sky Blue, Blue, Violet, Magenta, Rose, White, Custom 1, Custom 2 |
| Animation         | Off, Steady, Flash, Two Color Flash, Intensity Sweep  |
| Pulse Pattern     | Normal, Strobe, Three Pulse, SOS, Random  |
| Speed             | Medium, Fast, Slow  |
| Color 1 Intensity | High, Low, Medium, Off, Custom  |
| Color 2 Intensity | High, Low, Medium, Off, Custom  |
| Audible State     | Off, On, Pulsed, SOS Pulse  |



| Animation              | Description  |
|------------------------|--|
| <b>Off</b>             | Column is off  |
| <b>Steady</b>          | Color 1 is solid on at defined intensity   |
| <b>Flash</b>           | Color 1 flashes at defined speed, color intensity, and pattern (normal, strobe, three pulse, SOS, or random)                         |
| <b>Two Color Flash</b> | Color 1 and Color 2 flash alternately at defined speed, color intensities, and pattern (normal, strobe, three pulse, SOS, or random) |
| <b>Intensity Sweep</b> | Color 1 repeatedly increases and decreases intensity between 0% to 100% at defined speed and color intensity                         |

## Specifications

### Supply Voltage and Current

18 V DC to 30 V DC

130 mA at 18 V DC

95 mA at 24 V DC

80 mA at 30 V DC

Maximum current for Omni-Directional Sealed Audible: 25 mA

Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

### Supply Protection Circuitry

Protected against reverse polarity and transient voltages

### Input Rating

Indicator On/Off Response Time: 20 ms (maximum)

### Connections

Integral 4-pin M12 male quick-disconnect connector

Models with a quick disconnect require a mating cordset

### Construction

Bases, Covers, Light Segment: Polycarbonate

### Certifications



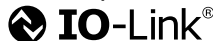
**Banner Engineering Europe**  
Park Lane, Culliganlaan 2F bus 3,  
1831 Diegem, BELGIUM



**Turck Banner LTD** Blenheim  
House, Blenheim Court, Wickford,  
Essex SS11 8YT, Great Britain



### Advanced Capabilities



### Environmental Rating

IP65, UL Type 4X

### Vibration and Mechanical Shock

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6

Shock: 30G 11 ms duration, half sine wave per IEC 60068-2-27

### Operating Conditions

**Non-Audible:** -40 °C to +50 °C (-40 °F to +122 °F)

**Audible:** -20 °C to +50 °C (-4 °F to +122 °F)

95% at +50 °C maximum relative humidity (non-condensing)

### Audible Alarm

3.1 kHz ± 500 Hz oscillation frequency

Intensity: 93 dB at 1 m (typical)

### 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](http://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                                    |

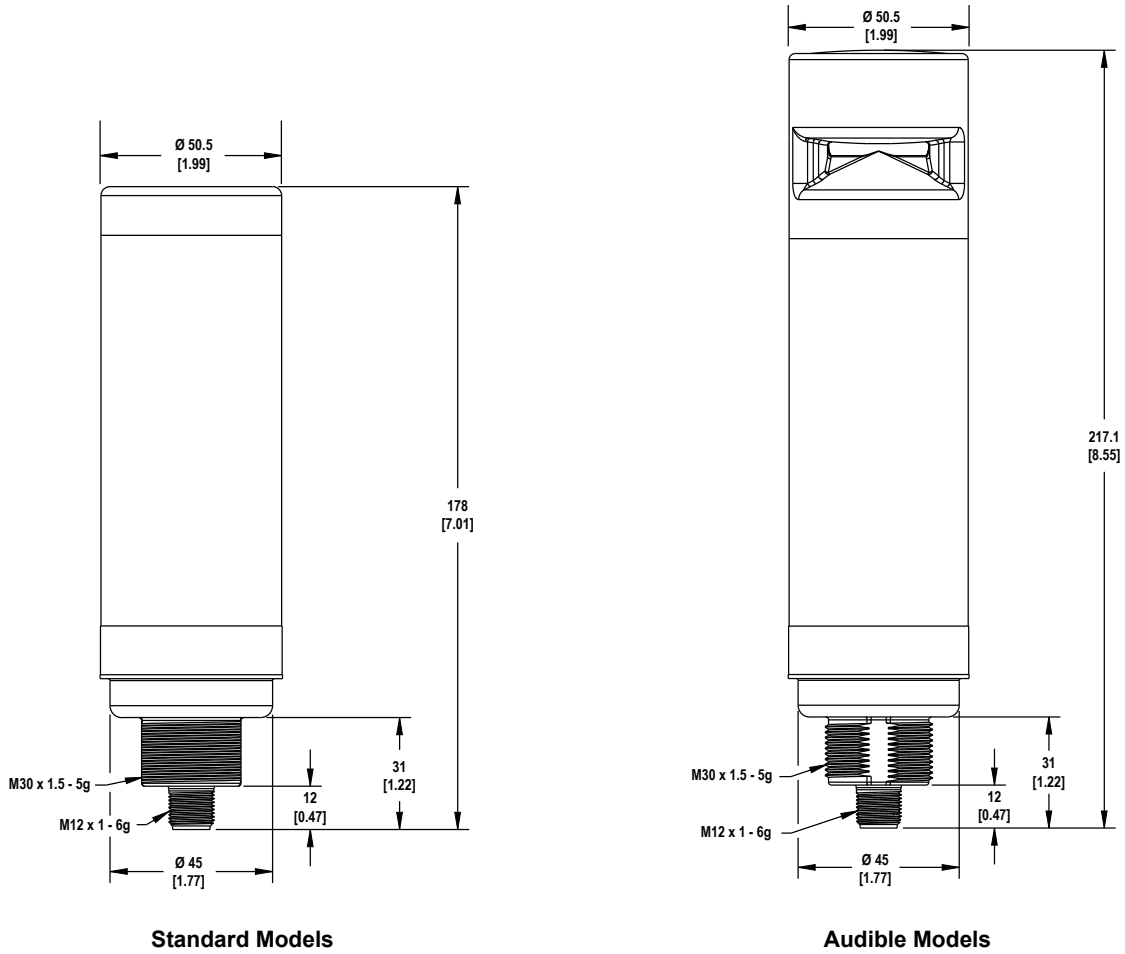
### Indicator Characteristics

| Color        | Dominant Wavelength (nm) or Color Temperature (CCT) | Color Coordinates <sup>1</sup> |       | Lumen Output Per Segment (Typical at 25 °C) |
|--------------|---|--------------------------------|-------|---|
|              |   | X                              | Y     |   |
| Amber        | 589   | 0.539                          | 0.431 | 57.2  |
| Blue         | 466   | 0.139                          | 0.083 | 11.6  |
| Cyan         | 493   | 0.163                          | 0.352 | 57.9  |
| Green        | 522   | 0.195                          | 0.710 | 52.2  |
| Lime Green   | 562   | 0.367                          | 0.567 | 64.0  |
| Magenta      | –   | 0.370                          | 0.185 | 36.7  |
| Orange       | 599   | 0.600                          | 0.382 | 43.6  |
| Red          | 620   | 0.668                          | 0.318 | 29.1  |
| Rose         | –   | 0.494                          | 0.238 | 30.3  |
| Sky Blue     | 486   | 0.153                          | 0.262 | 56.5  |
| Spring Green | 508   | 0.180                          | 0.520 | 53.2  |
| Violet       | –   | 0.223                          | 0.119 | 19.9  |
| White        | 5700 K  | 0.326                          | 0.347 | 79.4  |
| Yellow       | 576   | 0.455                          | 0.500 | 75.9  |

<sup>1</sup> 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.



## Accessories

### Cordsets

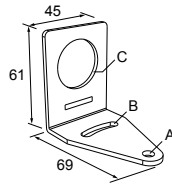
| 4-Pin Threaded M12 Cordsets—Double Ended |                  |                                   |            |        |
|--|------------------|-----------------------------------|------------|--------|
| Model                                    | Length           | Style                             | Dimensions | Pinout |
| MQDEC-401SS                              | 0.31 m (1 ft)    | Male Straight/<br>Female Straight |            | Female |
| MQDEC-403SS                              | 0.91 m (2.99 ft) |                                   |            |        |
| MQDEC-406SS                              | 1.83 m (6 ft)    |                                   |            | Male   |
| MQDEC-412SS                              | 3.66 m (12 ft)   |                                   |            |        |
| MQDEC-420SS                              | 6.10 m (20 ft)   |                                   |            |        |
| MQDEC-430SS                              | 9.14 m (30.2 ft) |                                   |            |        |
| MQDEC-450SS                              | 15.2 m (49.9 ft) |                                   |            |        |

## Mounting Brackets

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

### 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

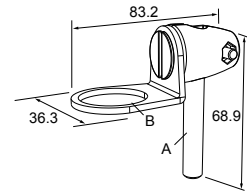


**Hole center spacing:** A to B=40

**Hole size:** A=∅ 6.3, B= 27.1 x 6.3, C=∅ 30.5

### 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

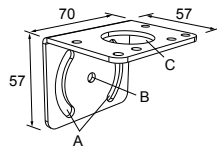


**Bolt thread:** SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50

**Hole size:** B= ∅ 30.1

### 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

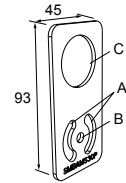


**Hole center spacing:** A = 51, A to B = 25.4

**Hole size:** A = 42.6 x 7, B = ∅ 6.4, C = ∅ 30.1

### SMBAMS30P

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

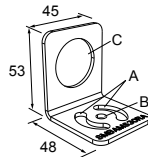


**Hole center spacing:** A=26.0, A to B=13.0

**Hole size:** A=26.8 x 7.0, B=∅ 6.5, C=∅ 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

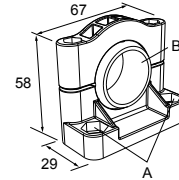


**Hole center spacing:** A=26.0, A to B=13.0

**Hole size:** A=26.8 x 7.0, B=∅ 6.5, C=∅ 31.0

### SMB30SC

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



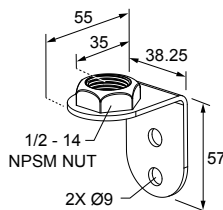
**Hole center spacing:** A=∅ 50.8

**Hole size:** A=∅ 7.0, B=∅ 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

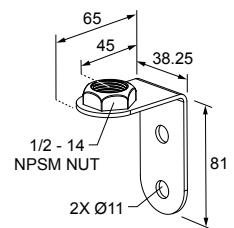
Hole center spacing: 20.0



### 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



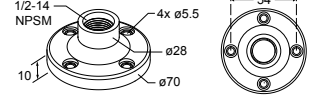
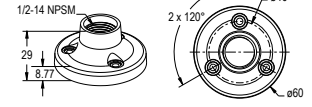
## LMB Sealed Right-Angle Bracket

| Model     | Description   | Construction        |  |
|-----------|---|---------------------|--|
| LMB30RA   | <b>Direct-Mount Models:</b> Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.   | Black polycarbonate |  |
| LMB30RAC  |   | Gray polycarbonate  |  |
| LMBE12RA  | <b>Pipe-Mount Models:</b> 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  |  |

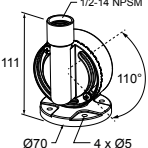
## Elevated Mount System

| Model                                |                                     |                                      | Features  | Components  |
|--------------------------------------|-------------------------------------|--------------------------------------|---|---|
| SA-M30TE12 - Black ABS               |                                     |                                      | <ul style="list-style-type: none"> <li>Streamlined black ABS or white UHMW stand-off pipe adapter/cover</li> <li>Connects between 30 mm light base and ½ in. NPSM/DN15 pipe</li> <li>Mounting hardware included</li> </ul>  |  |
| SA-M30TE12C - White UHMW             |                                     |                                      |   |   |
| Polished 304 Stainless Steel         | Black Anodized Aluminum             | Clear Anodized Aluminum              | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipe (½ in. NPSM/DN15)</li> <li>Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface</li> <li>½ in. NPT thread at both ends</li> <li>Compatible with most industrial environments</li> </ul> |  |
| 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 ABS                |                                     |                                      | <ul style="list-style-type: none"> <li>Streamlined black ABS or white UHMW mounting base adapter/cover</li> <li>Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole</li> <li>Mounting hardware included</li> </ul>   |  |
| SA-E12M30C - White UHMW              |                                     |                                      |   |   |

## Pipe Mounting Flange

| Pipe Mounting Flange |  |                                     |   |
|----------------------|--|-------------------------------------|---|
| Model                | Features   | Construction                        |   |
| SA-F12               | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipes (½ in, NPSM/DN15)</li> <li>M5 mounting hardware and nitrile gasket included</li> </ul>       | Die-cast zinc base with black paint |   |
| SA-F12-3             | <ul style="list-style-type: none"> <li>Elevated-use stand-off pipes (½ in, NPSM/DN15)</li> <li>M4 mounting hardware and nitrile blend gasket included</li> </ul> | Black Polycarbonate                 |  |

## Foldable Mounting Brackets

| Foldable Mounting Brackets |   |                     |   |
|----------------------------|---|---------------------|---|
| Model                      | Features  | Construction        |   |
| SA-FFB12                   | <ul style="list-style-type: none"> <li>For use with 1/2 inch stand-off pipes</li> <li>Stainless steel hardware</li> </ul> | Black polycarbonate |  |
| SA-FFB12C                  |   | Gray polycarbonate  |   |

## Banner Engineering Corp. Limited Warranty

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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.

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[www.bannerengineering.com](http://www.bannerengineering.com).

For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

### FCC Part 15

This device complies with Part 15 of the FCC Rules. 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.

### Industry Canada

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.



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