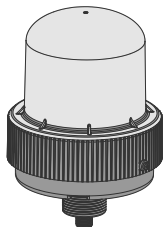


# K100 Pro Daylight Visible Beacon – DC



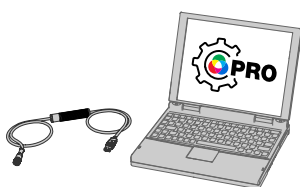
## Datasheet

High Daylight Visibility, Programmable Multicolor Indicator with Optional Audible Alarm for Indoor or Outdoor Use



- Highly visible indicator provides bright, even light in direct sunlight
- Three colors in one device
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- 36 mm threaded polycarbonate base
- Rugged IP66, UL Type 4X housing
- PNP or NPN operation depending on wiring
- Variety of connector options
- Rugged UV-stabilized polycarbonate base and window
- 12 V DC to 48 V DC operating voltage

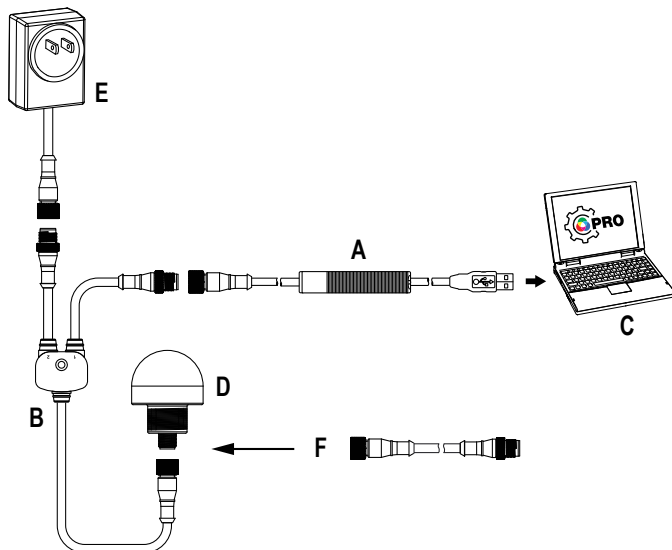
## Pro Editor



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)

The full preview connection must be used for the K100 Pro Beacon.



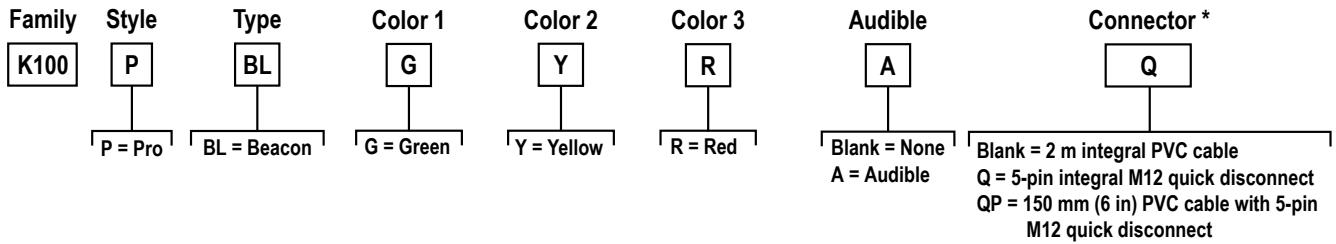
- A = Pro Converter Cable (MQDC-506-USB)
- B = Splitter (CSB-M1251FM1251M)
- C = PC running Pro Editor software
- D = Any Banner Pro Series-enabled device (K50 shown)
- E = Power Supply (PSW-24-1 or PSD-24-4)
- F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-PRO), required for 8-Pin models



## Models

Standard models shown. Contact factory for other options.

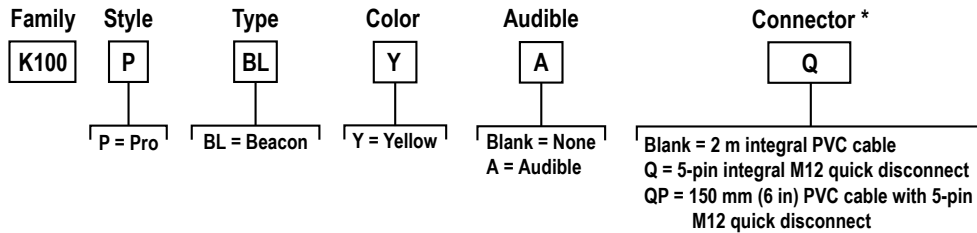
Figure 1. Three Color Models



\* Models with a quick disconnect require a mating cordset

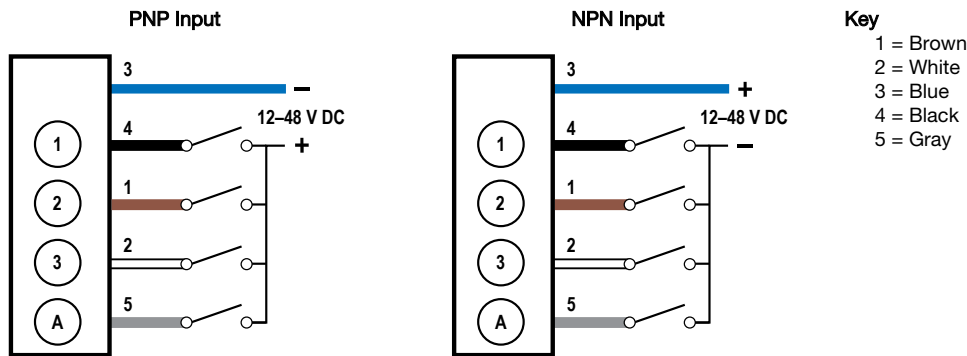
Other available, optional colors for the three color models are: Green, Yellow, Red, Blue, and White.

Figure 2. One Color Models



\* Models with a quick disconnect require a mating cordset

## Wiring Diagrams



An "X" denotes an active input.

For example: When Input 1 and Input 3 are both active, the indicator will be Color 1 Flashing at 1 Hz.

Table 1: Default Configuration: Three Color Models

| Wiring          |                 |                 |                | Operating Mode/Function  |  |
|-----------------|-----------------|-----------------|----------------|--------------------------|--|
| Black (Input 1) | Brown (Input 2) | White (Input 3) | Gray (Input 4) | Non-Audible              | Audible  |
| X               |                 |                 |                | Color 1 Steady           | Color 1 Steady   |
|                 | X               |                 |                | Color 2 Steady           | Color 2 Steady   |
|                 |                 | X               |                | Color 3 Steady           | Color 3 Steady   |
| X               |                 | X               |                | Color 1 Flashing at 1 Hz | Color 1 Flashing at 1 Hz   |
| X               | X               |                 |                | Color 2 Flashing at 1 Hz | Color 2 Flashing at 1 Hz   |
|                 | X               | X               |                | Color 3 Flashing at 1 Hz | Color 3 Flashing at 1 Hz   |
| X               | X               | X               |                | Color 3, 3-pulse Strobe  | Color 3, 3-pulse Strobe  |
|                 |                 |                 | X              | Off                      | Audible Steady, Frequency 2.5 KHz, Volume High                           |
| X               |                 |                 | X              | Color 1 Steady           | Color 1 Steady, Audible Steady, Frequency 2.5 KHz, Volume High           |
|                 | X               |                 | X              | Color 2 Steady           | Color 2 Steady, Audible Steady, Frequency 2.5 KHz, Volume High           |
|                 |                 | X               | X              | Color 3 Steady           | Color 3 Steady, Audible Steady, Frequency 2.5 KHz, Volume High           |
| X               |                 | X               | X              | Color 1 Flashing at 1 Hz | Color 1 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High |

| Wiring          |                 |                 |                | Operating Mode/Function  |  |
|-----------------|-----------------|-----------------|----------------|--------------------------|--|
| Black (Input 1) | Brown (Input 2) | White (Input 3) | Gray (Input 4) | Non-Audible              | Audible  |
| X               | X               |                 | X              | Color 2 Flashing at 1 Hz | Color 2 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High |
|                 | X               | X               | X              | Color 3 Flashing at 1 Hz | Color 3 Flashing at 1 Hz, Audible Steady, Frequency 2.5 KHz, Volume High |
| X               | X               | X               | X              | Color 3, 3-pulse Strobe  | Color 3, 3-pulse Strobe, Audible Steady, Frequency 2.5 KHz, Volume High  |

Table 2: Default Configuration: One Color Models

| Wiring          |                 |                 |                | Operating Mode/Function    |  |
|-----------------|-----------------|-----------------|----------------|----------------------------|--|
| Black (Input 1) | Brown (Input 2) | White (Input 3) | Gray (Input 4) | Non-Audible                | Audible  |
| X               |                 |                 |                | Color 1 Flashing at 1 Hz   | Color 1 Flashing at 1 Hz   |
|                 | X               |                 |                | Color 1 Steady             | Color 1 Steady   |
|                 |                 | X               |                | Color 1 Rotate             | Color 1 Rotate   |
| X               |                 | X               |                | Color 1 Flashing at 5 Hz   | Color 1 Flashing at 5 Hz   |
| X               | X               |                 |                | Color 1 Flashing at 0.5 Hz | Color 1 Flashing at 0.5 Hz   |
|                 | X               | X               |                | Color 1 Strobe             | Color 1 Strobe   |
| X               | X               | X               |                | Color 1, 3-pulse Strobe    | Color 1, 3-pulse Strobe  |
|                 |                 |                 | X              | Off                        | Audible Steady, Frequency 2.5 KHz, Volume High                             |
| X               |                 |                 | X              | Color 1 Flashing at 1 Hz   | Color 1 Flashing, Audible Steady, Frequency 2.5 KHz, Volume High           |
|                 | X               |                 | X              | Color 1 Steady             | Color 1 Steady, Audible Steady, Frequency 2.5 KHz, Volume High             |
|                 |                 | X               | X              | Color 1 Rotate             | Color 1 Rotate, Audible Steady, Frequency 2.5 KHz, Volume High             |
| X               |                 | X               | X              | Color 1 Flashing at 5 Hz   | Color 1 Flashing at 5 Hz, Audible Steady, Frequency 2.5 KHz, Volume High   |
| X               | X               |                 | X              | Color 1 Flashing at 0.5 Hz | Color 1 Flashing at 0.5 Hz, Audible Steady, Frequency 2.5 KHz, Volume High |
|                 | X               | X               | X              | Color 1 Strobe             | Color 1 Strobe, Audible Steady, Frequency 2.5 KHz, Volume High             |
| X               | X               | X               | X              | Color 1, 3-pulse Strobe    | Color 1, 3-pulse Strobe, Audible Steady, Frequency 2.5 KHz, Volume High    |

## Specifications

### Supply Voltage and Current

12 V DC to 48 V DC  
 Product approved with usage of Class 1 or Class 3 Power Supply to achieve Class 2  
 Power Supply status  
 Use only with a suitable Class 2 power supply (North America)  
 Current:

| Voltage | Operating Mode/Function                  |                 |            |                 |
|---------|--|-----------------|------------|-----------------|
|         | Steady On, Flash, or Strobe <sup>1</sup> |                 | Rotate     |                 |
|         | Light Only                               | Light & Audible | Light Only | Light & Audible |
| 12      | 760                                      | 820             | 365        | 435             |
| 18      | 495                                      | 530             | 235        | 275             |
| 24      | 395                                      | 425             | 185        | 220             |
| 30      | 340                                      | 365             | 165        | 195             |
| 36      | 305                                      | 330             | 150        | 180             |
| 42      | 280                                      | 305             | 145        | 170             |
| 48      | 260                                      | 285             | 140        | 165             |

### Supply Protection Circuitry

Protected against reverse polarity and transient voltages

### Leakage Current Immunity

400 µA

### Indicator Response Time

On response: 325 ms (max)  
 Off response: 20 ms (max)

### Connections

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

### Mounting

M36 by 2.0 threaded base, maximum torque 5.0 N-m (44 inch-lbf)  
 Interior 3/4-14 NPT Thread  
 Mounting nut included

### Adjacent Unit Mounting Separation Distance

Minimum: 0 in (mounted with unit flanges touching)

### Environmental Rating

IP66, UL Type 4X

### LED Lifetime

Lumen maintenance L<sub>70</sub>  
 When operating within specifications, output decreases less than 30% after 42,000 hours

### Pro Editor Configuration

Connection to Pro Editor software enables control of:

- Animation: On, Flash, Rotate, Two Color Flash, Two Color Cycle, Intensity Sweep
- Color: Green, Yellow, Red, Blue, White
- Wiring: See [Wiring Diagrams](#) on page 2
- Intensity: Low, Medium, High
- Speed: Slow, Standard, Fast
  - Slow Flash: 0.5 Hz
  - Standard Flash: 1.0 Hz
  - Fast Flash: 5.0 Hz
- Slow Rotate: 80 rpm
- Standard Rotate: 120 rpm
- Fast Rotate: 160 rpm

- Audible Tones: Pulse, Wobble, Strobe, Whoop, Staccato, Siren, Continuous 1, Continuous 2, Jingle, Melody 1, Melody 2, Melody 3

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

### Default Indicator Characteristics

At 12 V DC

| Color  | Dominant Wavelength (nm) or Color Temperature (CCT) | Color Coordinates <sup>2</sup> |        | Lumen Output (Typical at 25 °C) |
|--------|---|--------------------------------|--------|---------------------------------|
|        |   | x                              | y      |                                 |
| Green  | 528 nm  | 0.1603                         | 0.6973 | 360                             |
| Yellow | 589 nm  | 0.5557                         | 0.4276 | 525                             |
| Red    | 625 nm  | 0.6999                         | 0.2982 | 155                             |
| Blue   | 475 nm  | 0.1167                         | 0.1121 | 165                             |
| White  | 5500K ± 250   | 0.3320                         | 0.3433 | 600                             |

Lumen Output decreases by 15% at 48 V DC

Internal temperature compensation circuitry: Reduces the Lumen Output to decrease the unit internal operating temperature. The amount of reduction is dependent on the ambient operating temperature, supply voltage, color, and/or audible functions being utilized.

<sup>1</sup> Flash or Strobe Mode: Peak current, operating at 50% duty cycle or less.

<sup>2</sup> Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.

**Audible Characteristics**

Sound Intensity at 2.5 KHz, at 1 m (typical):  
 Low volume setting: 93 dB  
 Medium volume setting: 96 dB  
 High volume setting: 101 dB

**Construction**

Base, Dome, and Nut: Polycarbonate

**Operating Conditions**

-40 °C to +60 °C (-40 °F to +140 °F)  
 90% at +50 °C maximum relative humidity (non-condensing)  
 Storage Temperature: -40 °C to +70 °C (-40 °F to +158 °F)

**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)  
 Impact: IK10 (60068-2-75)

**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                                    |

**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



**Photometric Data**

Multiply the values shown in the chart by the maximum candela values in the Max. Candela table:

**Polar Candela Distribution**

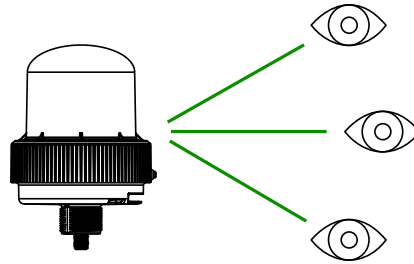
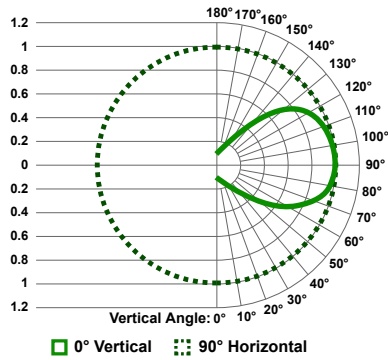


Table 3: Base Candela

|        |    |
|--------|----|
| Green  | 46 |
| Yellow | 67 |
| Red    | 20 |
| Blue   | 21 |
| White  | 75 |

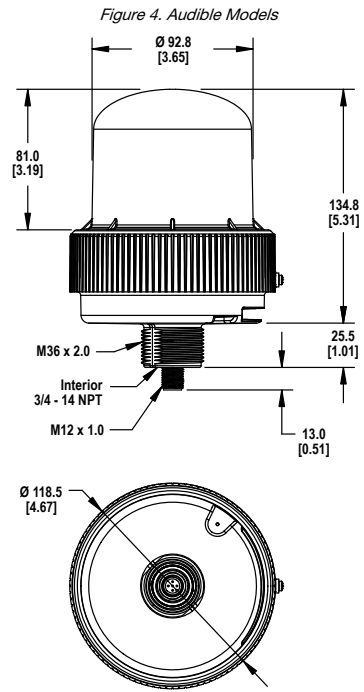
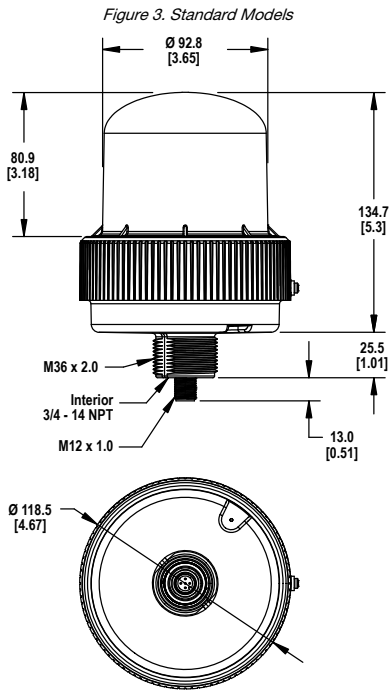
Table 4: Candela Viewing Angle Example – Red

| Angle            | Factor | Base <sup>3</sup> | Candela |
|------------------|--------|-------------------|---------|
| 120 (top view)   | 0.7    | 20                | 14      |
| 90 (side view)   | 1      | 20                | 20      |
| 60 (bottom view) | 0.7    | 20                | 14      |

<sup>3</sup> Red shown. See Base Candela table.

## Dimensions

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

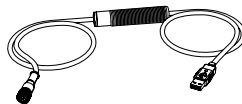


## Accessories

### Pro Editor Hardware

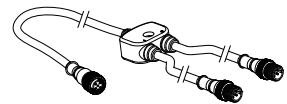
#### MQDC-506-USB

- 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



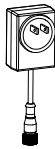
#### CSB-M1251FM1251M

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



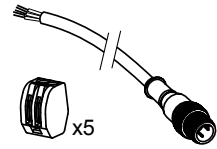
#### PSW-24-1

- 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 |            |                 |
| MQDC1-503                                | 0.9 m (2.9 ft) |          |            |                 |
| MQDC1-506                                | 2 m (6.5 ft)   |          |            |                 |
| MQDC1-515                                | 5 m (16.4 ft)  |          |            |                 |
| MQDC1-530                                | 9 m (29.5 ft)  |          |            |                 |
| MQDC1-560                                | 18 m (59 ft)   |          |            |                 |

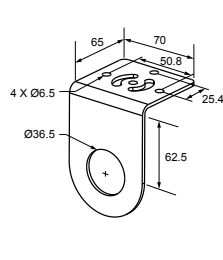
1 = Brown  
2 = White  
3 = Blue  
4 = Black  
5 = Gray

| 5-Pin Threaded M12 Cordsets—Single Ended |                |             |            |                 |
|--|----------------|-------------|------------|-----------------|
| Model                                    | Length         | Style       | Dimensions | Pinout (Female) |
| MQDC1-506RA                              | 2 m (6.5 ft)   | Right-Angle |            |                 |
| MQDC1-515RA                              | 5 m (16.4 ft)  |             |            |                 |
| MQDC1-530RA                              | 9 m (29.5 ft)  |             |            |                 |
| MQDC1-560RA                              | 19 m (62.3 ft) |             |            |                 |

### Brackets

#### LMB36RA

- Indicator light right-angle mounting
- 36 mm mounting hole
- Stainless steel



### Elevated Mount System

| Model                             |                                   |                                   | Features   | Components |
|-----------------------------------|-----------------------------------|-----------------------------------|--|------------|
| Black Anodized Aluminum ¼ in. NPT | Black Anodized Aluminum ½ in. NPT | Clear Anodized Aluminum ½ in. NPT |  |            |
| SOP-E34-150A 150 mm (6 in) long   | SOP-E12-150A 150 mm (6 in) long   | SOP-E12-150AC 150 mm (6 in) long  | <ul style="list-style-type: none"> <li>• Elevated-use stand-off pipe</li> <li>• Black anodized aluminum or clear anodized aluminum surface</li> <li>• Threaded at both ends</li> <li>• Compatible with most industrial environments</li> </ul> |            |
| SOP-E34-300A 300 mm (12 in) long  | SOP-E12-300A 300 mm (12 in) long  | SOP-E12-300AC 300 mm (12 in) long |  |            |
| SOP-E34-600A 600 mm (24 in) long  | SOP-E12-600A 600 mm (24 in) long  | —                                 |  |            |
| SOP-E34-900A 900 mm (36 in) long  | SOP-E12-900A 900 mm (36 in) long  | SOP-E12-900AC 900 mm (36 in) long |  |            |
| SA-M36E12                         |                                   |                                   | <ul style="list-style-type: none"> <li>• Adapter from M36 thread to 12-14 NPSM thread</li> <li>• Streamlined black plastic mounting base adapter/cover</li> <li>• Drilled hole</li> </ul>  |            |
| SA-M36SOP                         |                                   |                                   | <ul style="list-style-type: none"> <li>• M36 thread adapter with clearance for ¾ pipe mount</li> <li>• Streamlined black plastic mounting base adapter/cover</li> <li>• Drilled hole</li> </ul>  |            |

| 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 |  |

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