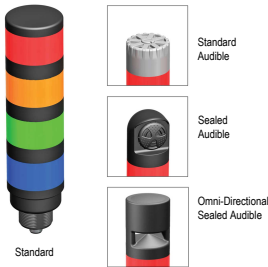


Features

Multi-Color General-Purpose or Audible Indicators



- Similar in design and construction to standard TL50 Tower Lights, but more than 4 times brighter, improving visibility in areas with high levels of ambient light
- Rugged, cost-effective, and easy-to-install multi-segment indicators
- Illuminated segments provide easy-to-see operator guidance and indication of equipment status
- Displays up to 5 colors
- Available in black or light gray housing
- Audible models available with standard, sealed, or omni-directional audible element
- Compact devices are completely self-contained, no controller needed
- 18 V DC to 30 V DC or 24 V AC operation
- No assembly required

Non-Audible Models

| Model ⁽¹⁾ | # of LED Colors | LED Colors ⁽²⁾ | Connection ⁽³⁾ | Inputs |
|----------------------|-----------------|---------------------------------|--|----------------------|
| TL50HRQ | 1 | Red | Integral 4-pin M12 male quick-disconnect connector | Bimodal (NPN or PNP) |
| TL50HGRQ | 2 | Green, Red | | |
| TL50HGYRQ | 3 | Green, Yellow, Red | | |
| TL50HBGYRQ | 4 | Blue, Green, Yellow, Red | Integral 5-pin M12 male quick-disconnect connector | |
| TL50HWBGYRQ | 5 | White, Blue, Green, Yellow, Red | Integral 8-pin M12 male quick-disconnect connector | |

Audible Models

Standard Audible Models⁽¹⁾

| Model | # of LED Colors | LED Colors ⁽²⁾ | Connection ⁽³⁾ | Inputs |
|-------------|-----------------|---------------------------|--|----------------------|
| TL50HRAQ | 1 | Red | Integral 4-pin M12 male quick-disconnect connector | Bimodal (NPN or PNP) |
| TL50HGRAQ | 2 | Green, Red | | |
| TL50HGYRAQ | 3 | Green, Yellow, Red | Integral 5-pin M12 male quick-disconnect connector | |
| TL50HBGYRAQ | 4 | Blue, Green, Yellow, Red | Integral 8-pin M12 male quick-disconnect connector | |

Sealed Audible Models⁽¹⁾

| Continuous | Pulsed at 1.6 Hz | Staccato | # of LED Colors | LED Colors ⁽²⁾ | Connection ⁽³⁾ | Inputs |
|---------------|------------------|----------------|-----------------|---------------------------|--|----------------------|
| TL50HRALSQ | TL50HRALS3Q | TL50HRALS4Q | 1 | Red | Integral 4-pin M12 male quick-disconnect connector | Bimodal (NPN or PNP) |
| TL50HGRALSQ | TL50HGRALS3Q | TL50HGRALS4Q | 2 | Green, Red | | |
| TL50HGYRALSQ | TL50HGYRALS3Q | TL50HGYRALS4Q | 3 | Green, Yellow, Red | Integral 5-pin M12 male quick-disconnect connector | |
| TL50HBGYRALSQ | TL50HBGYRALS3Q | TL50HBGYRALS4Q | 4 | Blue, Green, Yellow, Red | Integral 8-pin M12 male quick-disconnect connector | |

Omni-Directional Sealed Audible Models⁽¹⁾

| Continuous | Pulsed at 1.6 Hz | Staccato | # of LED Colors | LED Colors ⁽²⁾ | Connection ⁽³⁾ | Inputs |
|---------------|------------------|----------------|-----------------|---------------------------|--|----------------------|
| TL50HRAOSQ | TL50HRAOS3Q | TL50HRAOS4Q | 1 | Red | Integral 4-pin M12 male quick-disconnect connector | Bimodal (NPN or PNP) |
| TL50HGRAOSQ | TL50HGRAOS3Q | TL50HGRAOS4Q | 2 | Green, Red | | |
| TL50HGYRAOSQ | TL50HGYRAOS3Q | TL50HGYRAOS4Q | 3 | Green, Yellow, Red | Integral 5-pin M12 male quick-disconnect connector | |
| TL50HBGYRAOSQ | TL50HBGYRAOS3Q | TL50HBGYRAOS4Q | 4 | Blue, Green, Yellow, Red | Integral 8-pin M12 male quick-disconnect connector | |

⁽¹⁾ Models with black housing are listed. For gray housing, add the suffix "C" at the end of the cabled model number or before the "QP" in 150 mm (6 in) PVC cable model numbers. For example, TL50HRC or TL50HRCQ.

⁽²⁾ The first color listed is the bottom color, going up in successive order.

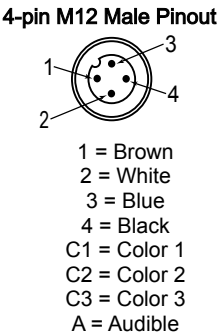
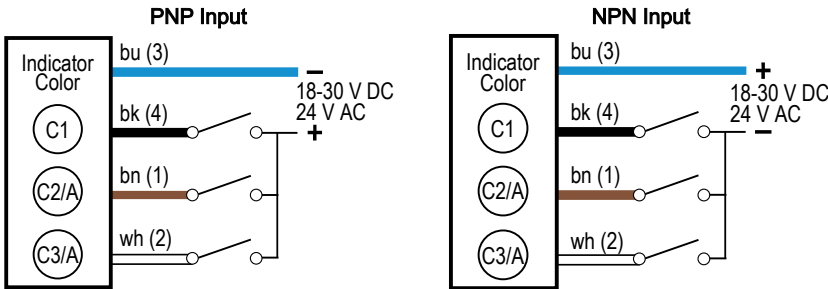
⁽³⁾

- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, TL50HR.
- To order the 150 mm (6 in) PVC cable model, replace the suffix "Q" with "QP" in the model number. For example, TL50HRQP.
- Models with a quick-disconnect connector require a mating cordset.

Omni-Directional Sealed Audible Models with Intensity Adjustment⁽¹⁾

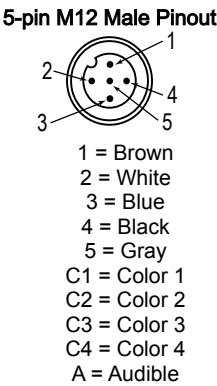
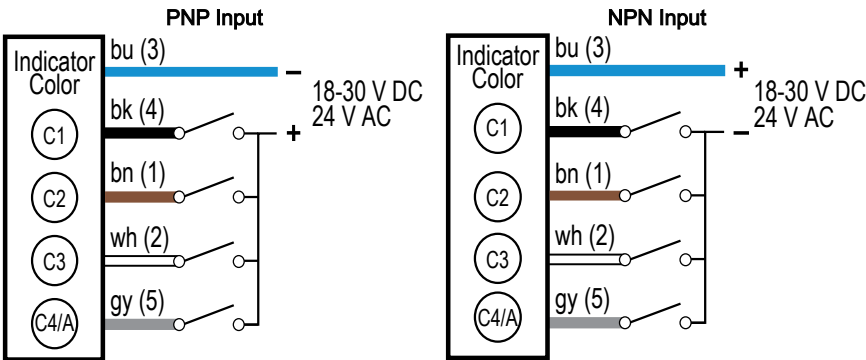
| Continuous | Pulsed at 1.6 Hz | Staccato | # of LED Colors | LED Colors ⁽²⁾ | Connection ⁽³⁾ | Inputs |
|----------------|------------------|-----------------|-----------------|---------------------------|--|----------------------|
| TL50HRAOSIQ | TL50HRAOS3IQ | TL50HRAOS4IQ | 1 | Red | Integral 4-pin M12 male quick-disconnect connector | Bimodal (NPN or PNP) |
| TL50HGRAOSIQ | TL50HGRAOS3IQ | TL50HGRAOS4IQ | 2 | Green, Red | | |
| TL50HGYRAOSIQ | TL50HGYRAOS3IQ | TL50HGYRAOS4IQ | 3 | Green, Yellow, Red | Integral 5-pin M12 male quick-disconnect connector | |
| TL50HBGYRAOSIQ | TL50HBGYRAOS3IQ | TL50HBGYRAOS4IQ | 4 | Blue, Green, Yellow, Red | Integral 8-pin M12 male quick-disconnect connector | |

Wiring Diagram — 4-Pin Models with 1 to 3 Segments

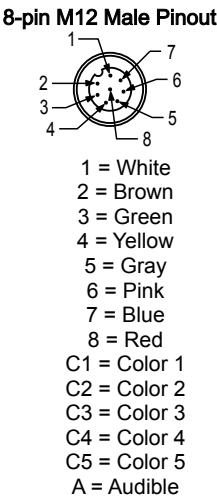
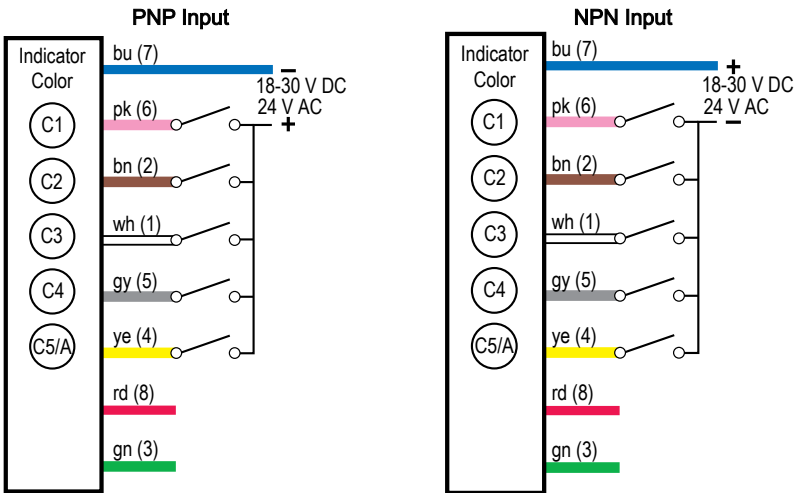


Pins 1 and 2 can activate the corresponding color or the audible function, if available.

Wiring Diagram — 5-Pin Models with 4 Segments



Wiring Diagram — 8-Pin Models with 5 Segments



Pins 3 and 8 are not used.

Specifications

Supply Voltage and Current

18 V DC to 30 V DC; or 24 V AC (± 3 V) at 50 Hz to 60 Hz

Indicators—maximum current per LED color:

- 100 mA at 18 V DC
- 60 mA at 30 V DC
- 75 mA at 24 V AC

Standard Audible Alarm: 25 mA maximum current

Sealed Audible Alarm: 35 mA maximum current

Omni-Directional Sealed Audible Alarm: 45 mA maximum current

Supply Protection Circuitry

Protected against transient voltages

Input Response Time

Indicator On/Off: 10 milliseconds maximum

Audible Alarm

Standard Audible Alarm: 2.7 kHz \pm 500 Hz oscillation frequency; maximum intensity 92 dB at 1 m (3.3 ft) (typical)

Sealed Audible Alarm: 2.9 kHz \pm 250 Hz oscillation frequency; maximum intensity 94 dB at 1 m (3.3 ft) (typical)

Omni-Directional Sealed Audible Alarm: 2.1 kHz \pm 250 Hz oscillation frequency; maximum intensity 99 dB at 1 m (3.3 ft) (typical)

Omni-Directional Sealed Audible Alarm with Intensity Adjustment: 2.1 kHz \pm 250 Hz oscillation frequency; maximum intensity 95 dB at 1 m (3.3 ft) (typical)

Typical Reduction in Sound Intensity with Audible Adjustment (maximum to minimum)

- **Standard Audible:** 30 dB
- **Sealed Audible:** 20 dB
- **Omni-Directional Sealed Audible:** 12 dB

Indicators

LEDs are independently selected; 1 to 5 colors depending on model

Indicator Characteristics

| Color | Dominant Wavelength (nm) or Color Temperature (CCT) | Lumen Output (Typical at 25 °C) |
|--------|---|---------------------------------|
| Green | 525 nm | 60 |
| Red | 625 nm | 32 |
| Yellow | 590 nm | 23 |
| Blue | 475 nm | 23 |
| White | 5000 K | 50 |

Operating Conditions

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

Standard and Sealed Audible: -20 °C to +50 °C (-4 °F to +122 °F)

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

Environmental Rating

UL Type 4X Indoor and UL Type 13

Non-Audible and Sealed Audible: IP67

Standard Audible: IP50

Audible Adjustment

Standard Audible Alarm: Unscrew the cover (up to 1.5 turns maximum) to adjust the audible intensity. (Do not exceed 1.5 turns or the cover may detach during operation.) For maximum intensity, rotate the center plug 180° counterclockwise to remove it.

Sealed Audible Alarm and Omni-Directional Sealed Audible Alarm with Intensity Adjustment: Rotate the front cover until the desired intensity is reached.

Omni-Directional Sealed Audible Alarm: No adjustment.

Connections

Integral 4-pin, 5-pin, or 8-pin M12 male quick-disconnect connector, 150 mm (6 in) PVC-jacketed cable with an M12 male quick-disconnect connector, or 2 m (6.5 ft) integral PVC-jacketed cable, depending on model

Models with a quick-disconnect connector require a mating cordset

Construction

Bases and Covers: ABS

Light Segment: 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)

Certifications



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



Required Overcurrent Protection



WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table. Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.

Supply wiring leads < 24 AWG shall not be spliced.

For additional product support, go to www.bannerengineering.com.

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

Dimensions

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

| Dimensions | # of Colors | Tower Height (H) | | | |
|---|-------------|-------------------|---------------------------------|-------------------|---------------------------------|
| | | Non-Audible | Standard Audible ⁽⁴⁾ | Sealed Audible | Omni-Directional Sealed Audible |
| <p>50 [1.97"]</p> <p>19 [0.75"]</p> <p>8.3 [0.33"]</p> <p>M30 x 1.5 (mounting nut included)</p> <p>Internal Threads 1/2-14 NPSM Max Torque 2.25 Nm [20in-lbf]</p> | 1 | 61.2 mm (2.4 in) | 92.0 mm (3.6 in) | 115.1 mm (4.5 in) | 129.1 mm (5.1 in) |
| | 2 | 101.9 mm (4.0 in) | 132.7 mm (5.2 in) | 155.8 mm (6.1 in) | 169.8 mm (6.7 in) |
| | 3 | 142.6 mm (5.6 in) | 173.4 mm (6.8 in) | 196.5 mm (7.7 in) | 210.5 mm (8.3 in) |
| | 4 | 183.3 mm (7.2 in) | 214.1 mm (8.4 in) | 237.2 mm (9.3 in) | 251.2 mm (9.9 in) |
| | 5 | 224.0 mm (8.8 in) | - | - | - |

⁽⁴⁾ Tower height (H) with top unscrewed approximately 3.5 mm (0.18 in) to allow sound to escape

Accessories

Cordsets

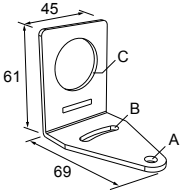
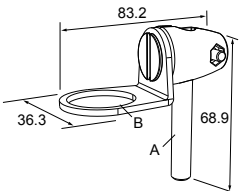
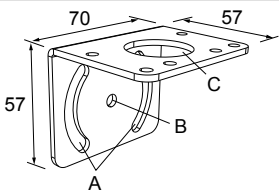
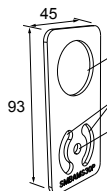
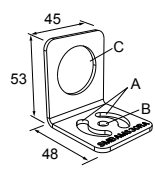
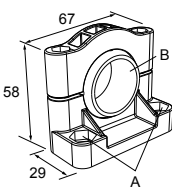
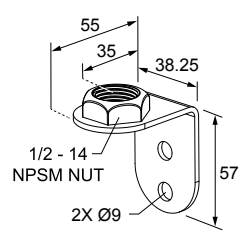
| 4-Pin Single-Ended M12 Female Cordsets | | | | |
|--|-----------------|----------|------------|-----------------|
| Model | Length | Style | Dimensions | Pinout (Female) |
| MQDC-403 | 1 m (3.28 ft) | Straight | | |
| MQDC-406 | 2 m (6.56 ft) | | | |
| MQDC-410 | 3 m (9.8 ft) | | | |
| MQDC-415 | 5 m (16.4 ft) | | | |
| MQDC-430 | 9 m (29.5 ft) | | | |
| MQDC-450 | 15 m (49.2 ft) | | | |
| MQDC-460 | 18.3 m (60 ft) | | | |
| MQDC-470 | 21 m (68.9 ft) | | | |
| MQDC-4100 | 30 m (98.43 ft) | | | |

| 5-Pin Single-Ended M12 Female Cordsets | | | | |
|--|-----------------|-------------|------------|-----------------|
| 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) | | | |
| MQDC1-5100 | 31 m (101.7 ft) | Right-Angle | | |
| MQDC1-506RA | 2 m (6.5 ft) | | | |
| MQDC1-515RA | 5 m (16.4 ft) | | | |
| MQDC1-530RA | 9 m (29.5 ft) | | | |
| MQDC1-560RA | 19 m (62.3 ft) | | | |

| 8-Pin Single-Ended M12 Female Open-Shielded Cordsets | | | | |
|--|--------------------|-------------|------------|-----------------|
| Model | Length | Style | Dimensions | Pinout (Female) |
| MQDC2S-806 | 2.04 m (6.7 ft) | Straight | | |
| MQDC2S-815 | 5.04 m (16.54 ft) | | | |
| MQDC2S-830 | 10.04 m (32.95 ft) | | | |
| MQDC2S-850 | 16 m (52.49 ft) | Right-Angle | | |
| MQDC2S-806RA | 2 m (6.56 ft) | | | |
| MQDC2S-815RA | 5 m (16.4 ft) | | | |
| MQDC2S-830RA | 10 m (32.81 ft) | | | |
| MQDC2S-850RA | 16 m (52.49 ft) | | | |

Mounting Brackets

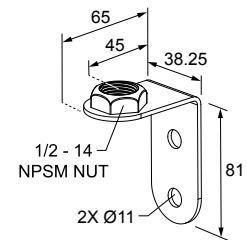
All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

| | |
|--|---|
| <p>SMB30A</p> <ul style="list-style-type: none"> Right-angle bracket with curved slot for versatile orientation Clearance for M6 (¼ in) hardware Mounting hole for 30 mm sensor 12-gauge stainless steel <p>Hole center spacing: A to B=40 Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5</p> |  |
| <p>SMB30FA</p> <ul style="list-style-type: none"> Swivel bracket with tilt and pan movement for precise adjustment Mounting hole for 30 mm sensor 12-gauge 304 stainless steel Easy sensor mounting to extrude rail T-slot Metric- and inch-size bolt available <p>Bolt thread: SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50 Hole size: B= ø 30.1</p> |  |
| <p>SMB30MM</p> <ul style="list-style-type: none"> 12-gauge stainless steel bracket with curved mounting slots for versatile orientation Clearance for M6 (¼ in) hardware Mounting hole for 30 mm sensor <p>Hole center spacing: A = 51, A to B = 25.4 Hole size: A = 42.6 × 7, B = ø 6.4, C = ø 30.1</p> |  |
| <p>SMBAMS30P</p> <ul style="list-style-type: none"> Flat SMBAMS series bracket 30 mm hole for mounting sensors Articulation slots for 90°+ rotation 12-gauge 300 series stainless steel <p>Hole center spacing: A=26.0, A to B=13.0 Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0</p> |  |
| <p>SMBAMS30RA</p> <ul style="list-style-type: none"> Right-angle SMBAMS series bracket 30 mm hole for mounting sensors Articulation slots for 90°+ rotation 12-gauge (2.6 mm) cold-rolled steel <p>Hole center spacing: A=26.0, A to B=13.0 Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0</p> |  |
| <p>SMB30SC</p> <ul style="list-style-type: none"> Swivel bracket with 30 mm mounting hole for sensor Black reinforced thermoplastic polyester Stainless steel mounting and swivel locking hardware included <p>Hole center spacing: A=ø 50.8 Hole size: A=ø 7.0, B=ø 30.0</p> |  |
| <p>LMBE12RA35</p> <ul style="list-style-type: none"> 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 <p>Hole center spacing: 20.0</p> |  |

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 | |
|--|--|--|
| LMB30RA - Black polycarbonate LMB30RAC - Gray polycarbonate | <ul style="list-style-type: none"> • Direct-Mount Models • Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets. | |
| LMBE12RA - Black polycarbonate LMBE12RAC - Gray polycarbonate | <ul style="list-style-type: none"> • Pipe-Mount Models • Bracket kit with base, 1/2-14 pipe adapter, set screw, fasteners, O-rings, and gaskets • For use with stand-off pipe (listed and sold separately) | |

Elevated Mount System

| Model | | | Description | Components |
|--------------------------------------|-------------------------------------|--------------------------------------|---|---|
| SA-M30TE12 - Black Acetal | | | <ul style="list-style-type: none">Streamlined black acetal or white UHMW stand-off pipe adapter/coverConnects between 30 mm light base and ½ in. NPSM/ DN15 pipeMounting hardware included |  |
| SA-M30TE12C - White UHMW | | | | |
| Polished 304 Stainless Steel | Black Anodized Aluminum | Clear Anodized Aluminum | <ul style="list-style-type: none">Elevated-use stand-off pipe (½ in. NPSM/DN15)Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface½ in. NPT thread at both ends: one end screws into the internal threads of the light's base, and one end screws into the mounting base adapter/coverCompatible 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 | | | <ul style="list-style-type: none">Streamlined black acetal or white UHMW mounting base adapter/coverConnects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled holeMounting hardware included |  |
| SA-E12M30C - White UHMW | | | | |

Pipe Mounting Flange

| Pipe Mounting Flange | | | |
|----------------------|--|-------------------------------------|--|
| Model | Description | Construction | |
| SA-F12 | <ul style="list-style-type: none"> • Elevated-use stand-off pipes (1/2 in. NPSM/DN15) • M5 mounting hardware and nitrile gasket included | Die-cast zinc base with black paint | |

Continued on page 7

Continued from page 6

| Pipe Mounting Flange | | | |
|----------------------|---|---------------------|--|
| Model | Description | Construction | |
| SA-F12-3 | <ul style="list-style-type: none"> Elevated-use stand-off pipes (½ in, NPSM/ DN15) M4 mounting hardware and nitrile blend gasket included | Black Polycarbonate | |

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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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