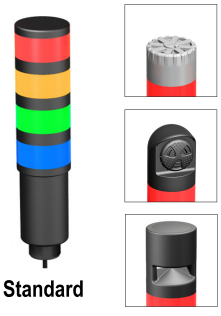
# TL50Z Universal AC Voltage Tower Light

## Features

*Multi-Color General-Purpose or Audible Indicators*




- 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
- 100 V AC to 240 V AC operation
- No assembly required

## Non-Audible Models

| Model[1] | # of LED Colors | LED Colors[2] | Connection[3] | Inputs |
|---|---|---|---|---|
| TL50ZR | 1 | Red | 4-wire PVC cable | 100 V AC to 240 V AC |
| TL50ZGR | 2 | Green, Red | | |
| TL50ZGYR | 3 | Green, Yellow, Red | | |
| TL50ZBGYR | 4 | Blue, Green, Yellow, Red | 5-wire PVC cable | |
| TL50ZWBGYR | 5 | White, Blue, Green, Yellow, Red | 6-wire PVC cable | |

## Audible Models

*Standard Audible Models*

| Models[1] | # of LED Colors | LED Colors[2] | Connection[3] | Inputs |
|---|---|---|---|---|
| TL50ZRA | 1 | Red | 4-wire PVC cable | 100 V AC to 240 V AC |
| TL50ZGRA | 2 | Green, Red | | |
| TL50ZGYRA | 3 | Green, Yellow, Red | 5-wire PVC cable | |
| TL50ZBGYRA | 4 | Blue, Green, Yellow, Red | 6-wire PVC cable | |

*Sealed Audible Models*

| Models[1] | | | # of LED Colors | LED Colors[2] | Connection[3] | Inputs |
|---|---|---|---|---|---|---|
| Continuous | Pulsed at 1.6 Hz | Staccato | | | | |
| TL50ZRALS | TL50ZRALS3 | TL50ZRALS4 | 1 | Red | 4-wire PVC cable | 100 V AC to 240 V AC |
| TL50ZGRALS | TL50ZGRALS3 | TL50ZGRALS4 | 2 | Green, Red | | |
| TL50ZGYRALS | TL50ZGYRALS3 | TL50ZGYRALS4 | 3 | Green, Yellow, Red | 5-wire PVC cable | |
| TL50ZBGYRALS | TL50ZBGYRALS3 | TL50ZBGYRALS4 | 4 | Blue, Green, Yellow, Red | 6-wire PVC cable | |

*Omni-Directional Sealed Audible Models*

| Models[1] | | | # of LED Colors | LED Colors[2] | Connection [3] | Inputs |
|---|---|---|---|---|---|---|
| Continuous | Pulsed at 1.6 Hz | Staccato | | | | |
| TL50ZRAOS | TL50ZRAOS3 | TL50ZRAOS4 | 1 | Red | 4-wire PVC cable | 100 V AC to 240 V AC |
| TL50ZGRAOS | TL50ZGRAOS3 | TL50ZGRAOS4 | 2 | Green, Red | | |
| TL50ZGYRAOS | TL50ZGYRAOS3 | TL50ZGYRAOS4 | 3 | Green, Yellow, Red | 5-wire PVC cable | |
| TL50ZBGYRAOS | TL50ZBGYRAOS3 | TL50ZBGYRAOS4 | 4 | Blue, Green, Yellow, Red | 6-wire PVC cable | |

[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, TL50ZRC or TL50ZRCQP.
[2] The first color listed is the bottom color, going up in successive order. Other available colors include: Turquoise (T), Orange (O), Violet (V), Sky Blue (S) and Magenta (M). Four color options are only available in audible cabled models. Five color options are only available in non-audible cabled models.
[3]

- To order the 150 mm (6 in) PVC cable model, add the suffix "QP" to the model number. For example, TL50ZRQP.
- Models with a quick-disconnect connector require a mating cordset.

Original Instructions
14-Jul-25

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169421
p/n: 169421 Rev. K

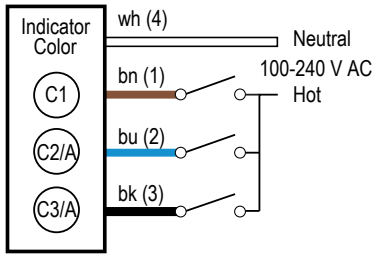
ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

*Omni-Directional Sealed Audible Models with Intensity Adjustments*

| Models[1] | | | # of LED Colors | LED Colors[2] | Connection[3] | Inputs |
|---|---|---|---|---|---|---|
| Continuous | Pulsed at 1.6 Hz | Staccato | | | | |
| TL50ZRAOSI | TL50ZRAOS3I | TL50ZRAOS4I | 1 | Red | 4-wire PVC cable | 100 V AC to 240 V AC |
| TL50ZGRAOSI | TL50ZGRAOS3I | TL50ZGRAOS4I | 2 | Green, Red | | |
| TL50ZGYRAOSI | TL50ZGYRAOS3I | TL50ZGYRAOS4I | 3 | Green, Yellow, Red | 5-wire PVC cable | |
| TL50ZBGYRAOSI | TL50ZBGYRAOS3I | TL50ZBGYRAOS4I | 4 | Blue, Green, Yellow, Red | 6-wire PVC cable | |

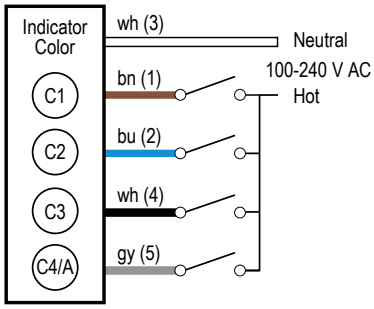
# Wiring

**Models with 1 to 3 Segments: 4-Wire**



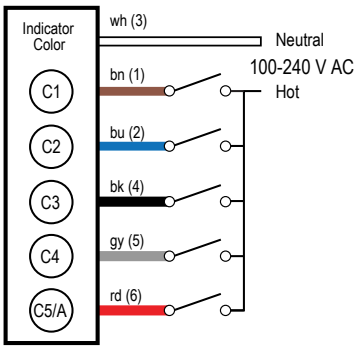

**4-Wire Key:**
C1 = Color 1
C2 = Color 2
C3 = Color 3
A = Audible

**Models with 4 Segments: 5-Wire**




**5-Wire Key:**
C1 = Color 1
C2 = Color 2
C3 = Color 3
C4 = Color 4
C5 = Color 5
A = Audible

**Models with 5 Segments: 6-Wire**




**6-Wire Key:**
C1 = Color 1
C2 = Color 2
C3 = Color 3
C4 = Color 4
C5 = Color 5
A = Audible

# Specifications

**Supply Voltage and Current**

100 V AC to 240 V AC at 50 Hz or 60 Hz

Indicators—maximum current per LED color:

- 35 mA at 100 V AC
- 30 mA at 120 V AC
- 20 mA at 240 V AC

**Standard Audible Alarm:** 30 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: 500 milliseconds maximum

**Leakage Current Immunity**

500 µA

Application Note: The use of relay output PLC is recommended since there is no leakage current. Solid state output PLCs often have leakage current above 1 mA and, therefore, turn the light on in the off state. To counteract the leakage current, a shunt resistor must be used. A resistor must be applied from the neutral wire of the device to the hot wire of each channel of the device.

**Audible Alarm**

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

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

**Omni-Directional Sealed Audible Alarm:** 2.1 kHz ± 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 ± 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

**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.

**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)

90% 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

**Certifications**

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

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

**Connections**

4-wire, 5-wire, or 6-wire 2 m (6.5 ft) integral cable; or 150 mm (6 in) PVC-jacketed cable with a 4-pin or 5-pin M12 male quick-disconnect connector, depending on modell

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)

**Indicators**

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


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### Indicator Characteristics

| Color | Dominant Wavelength (nm) or Color Temperature (CCT) | Color Coordinates[4] | | Lumen Output (Typical at 25 °C) |
|---|---|---|---|---|
| | | x | y | |
| Green | 528 nm | – | – | 23 |
| Red | 625 nm | – | – | 7.5 |
| Yellow | 590 nm | – | – | 5 |
| Blue | 470 nm | – | – | 4 |
| Orange | 608 nm | – | – | 15.5 |
| White | 6000 K | – | – | 21 |
| Turquoise | – | 0.19 | 0.37 | 5.5 |
| Violet | – | 0.2 | 0.08 | 2.5 |
| Magenta | – | 0.35 | 0.15 | 3 |
| Sky Blue | – | 0.19 | 0.26 | 12 |

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

### 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 |

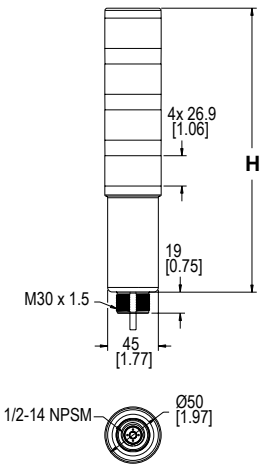
Continued on page 4

Continued from page 2

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

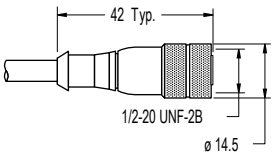
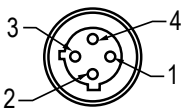
## Dimensions

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

| Dimensions | # of Segments | Tower Height (H) | | | |
|---|---|---|---|---|---|
| | | Non-Audible | Standard Audible[5] | Sealed Audible | Omni-Directional Sealed Audible |
|   | 1 | 130.2 mm (5.1 in) | 161 mm (6.3 in) | 184.1 mm (7.2 in) | 198.1 mm (7.8 in) |
| | 2 | 170.9 mm (6.7 in) | 201.7 mm (7.9 in) | 224.8 mm (8.9 in) | 238.8 mm (9.4 in) |
| | 3 | 211.6 mm (8.3 in) | 242.4 mm (9.5 in) | 265.5 mm (10.5 in) | 279.5 mm (11 in) |
| | 4 | 252.3 mm (9.9 in) | 283.1 mm (11.1 in) | 306.2 mm (12.1 in) | 320.2 mm (12.6 in) |
| | 5 | 293 mm (11.5 in) | - | - | - |

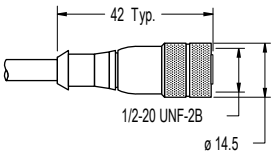
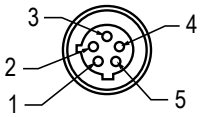
# Accessories

## Cordsets

| 4-Pin Single-Ended 1/2-in Dual Key Female Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** |
| **MQAC2-406** | 2 m (6.56 ft) | Straight |   |   1 = Brown 2 = Blue 3 = Black 4 = White |
| **MQAC2-415** | 5 m (16.4 ft) | | | |
| **MQAC2-430** | 9.14 m (30 ft) | | | |

[5] Tower height (H) with top unscrewed approximately 3.5 mm to allow sound to escape


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| 5-Pin Single-Ended 1/2-in Dual Key Female Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** |
| **MQAC2-506** | 2 m (6.56 ft) | Straight |  |  1 = Brown<br>2 = Blue<br>3 = White<br>4 = Black<br>5 = Gray |
| **MQAC2-515** | 5 m (16.4 ft) | | | |
| **MQAC2-530** | 9.14 m (30 ft) | | | |

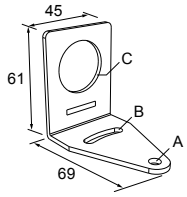
## Mounting Brackets

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

**SMB30A**

- 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

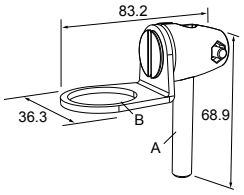
**Hole center spacing:** A to B=40
**Hole size:** A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5




**SMB30FA**

- 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

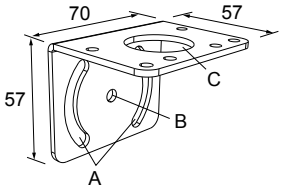
**Bolt thread:** SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50
**Hole size:** B= ø 30.1




**SMB30MM**

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

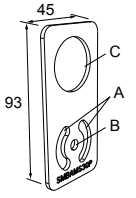
**Hole center spacing:** A = 51, A to B = 25.4
**Hole size:** A = 42.6 × 7, B = ø 6.4, C = ø 30.1




**SMBAMS30P**

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

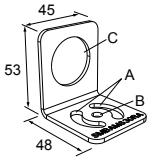
**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 × 7.0, B=ø 6.5, C=ø 31.0




**SMBAMS30RA**

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

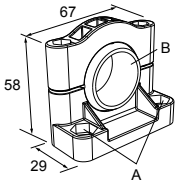
**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 × 7.0, B=ø 6.5, C=ø 31.0




**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



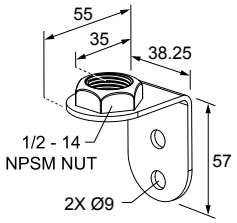


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**LMBE12RA35**

- 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

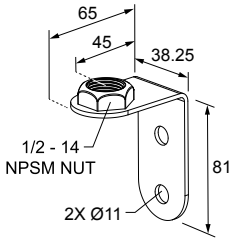
**Hole center spacing:** 20.0




**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

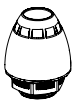
**Hole center spacing:** 35.0




## LMB Sealed Right-Angle Bracket

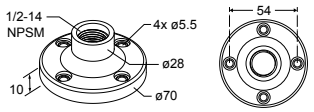
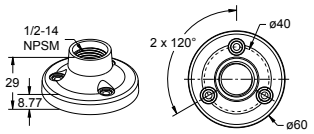
| Model | Description | |
|---|---|---|
| **LMB30RA** - Black polycarbonate<br>**LMB30RAC** - Gray polycarbonate | • **Direct-Mount Models**<br>• Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets. |  |
| **LMBE12RA** - Black polycarbonate<br>**LMBE12RAC** - Gray polycarbonate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

## Elevated Mount System

| Model | | | Description | Components |
|---|---|---|---|---|
| **SA-M30TE12** - Black Acetal | | | • 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 |  |
| **SA-M30TE12C** - White UHMW | | | | |
| **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: one end screws into the internal threads of the light's base, and one end screws into the mounting base adapter/cover<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 | | | • 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 |  |
| **SA-E12M30C** - White UHMW | | | | |


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## Pipe Mounting Flange

| Pipe Mounting Flange | | | |
|---|---|---|---|
| **Model** | **Description** | **Construction** | |
| **SA-F12** | • Elevated-use stand-off pipes (½ in, NPSM/ DN15)<br>• M5 mounting hardware and nitrile gasket included | Die-cast zinc base with black paint |  |
| **SA-F12-3** | • Elevated-use stand-off pipes (½ in, NPSM/ DN15)<br>• M4 mounting hardware and nitrile blend gasket included | Black Polycarbonate |  |

# Banner Engineering Corp Limited Warranty

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