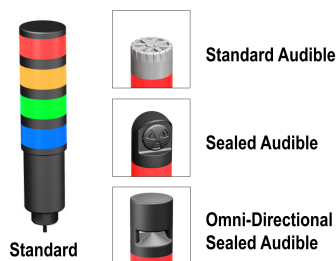


# EZ-LIGHT® TL50 Universal AC Voltage Tower Light



## Datasheet

*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
- 85 to 264 V ac operation
- No assembly required

## Non-Audible Models

| Model <sup>1</sup> | # of LED Colors | LED Function <sup>2</sup>       | Connection <sup>3</sup> | Inputs      |
|--------------------|-----------------|---------------------------------|-------------------------|-------------|
| TL50ZR             | 1               | Red                             | 4-wire PVC cable        | 85-264 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        |             |



NOTE: Audible Models are listed on the next page.

For additional models and colors, visit Banner Engineering website at [www.bannerengineering.com](http://www.bannerengineering.com).

<sup>1</sup> Cabled Black models only are listed. For gray housing, add suffix C at the end of the model number (cabled models) or before the QP (pigtail models), for example, TL50ZRC or TL50ZRCQP.

<sup>2</sup> The first color listed is the bottom color, going up in successive order. Contact the factory for other colors and color combinations. Five color options are only available in non-audible cabled models. Four color options are only available in audible cabled models.

<sup>3</sup> Cabled models only are listed; mating cordset required for pigtail models (see [Cordsets](#) on page 4). For 150 mm (5.9 in) PVC pigtail with QD, add QP to the end of the model number, for example, TL50ZRQP.



## Audible Models

| Standard Audible Models <sup>4</sup> |  | # of LED Colors | LED Function <sup>5</sup> |  | Connection <sup>6</sup> |  | Inputs      |
|--------------------------------------|--|-----------------|---------------------------|--|-------------------------|--|-------------|
| TL50ZRA                              |  | 1               | Red                       |  | 4-wire PVC cable        |  | 85-264 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 <sup>4</sup> |                  |               | # of LED Colors | LED Function <sup>5</sup> | Connection <sup>6</sup> | Inputs      |
|------------------------------------|------------------|---------------|-----------------|---------------------------|-------------------------|-------------|
| Continuous                         | Pulsed at 1.6 Hz | Staccato      |                 |                           |                         |             |
| TL50ZRALS                          | TL50ZRALS3       | TL50ZRALS4    | 1               | Red                       | 4-wire PVC cable        | 85-264 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 <sup>4</sup> |                  |               | # of LED Colors | LED Function <sup>5</sup> | Connection <sup>6</sup> | Inputs      |
|-----------------------------------------------------|------------------|---------------|-----------------|---------------------------|-------------------------|-------------|
| Continuous                                          | Pulsed at 1.6 Hz | Staccato      |                 |                           |                         |             |
| TL50ZRAOS                                           | TL50ZRAOS3       | TL50ZRAOS4    | 1               | Red                       | 4-wire PVC cable        | 85-264 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        |             |

| Omni-Directional Sealed Audible Models with Intensity Adjustment <sup>4</sup> |                  |                | # of LED Colors | LED Function <sup>5</sup> | Connection <sup>6</sup> | Inputs      |
|-------------------------------------------------------------------------------|------------------|----------------|-----------------|---------------------------|-------------------------|-------------|
| Continuous                                                                    | Pulsed at 1.6 Hz | Staccato       |                 |                           |                         |             |
| TL50ZRAOSI                                                                    | TL50ZRAOS3I      | TL50ZRAOS4I    | 1               | Red                       | 4-wire PVC cable        | 85-264 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        |             |

<sup>4</sup> Cabled Black models only are listed. For gray housing, add suffix C at the end of the model number (cabled models) or before the QP (pigtail models), for example, TL50ZRC or TL50ZRCQP.

<sup>5</sup> The first color listed is the bottom color, going up in successive order. Contact the factory for other colors and color combinations. Five color options are only available in non-audible cabled models. Four color options are only available in audible cabled models.

<sup>6</sup> Cabled models only are listed; mating cordset required for pigtail models (see [Cordsets](#) on page 4). For 150 mm (5.9 in) PVC pigtail with QD, add QP to the end of the model number, for example, TL50ZRQP.

## Specifications

### Supply Voltage and Current

85 - 264 V ac; 50 or 60 Hz

Indicators: Max. current per LED color:

- at 85 V ac: 35 mA
- at 120 V ac: 30 mA
- at 240 V ac: 20 mA
- at 264 V ac: 18 mA

Standard Audible Alarm: 30 mA max. current

Sealed Audible Alarm: 35 mA max. current

Omni-Directional Sealed Audible Alarm: 45 mA max. current

### Indicators

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

### Supply Protection Circuitry:

Protected against reverse polarity and transient voltages

### Input Response Time

Indicator On/Off: 500 ms (max.)

### Audible Adjustment

Standard Audible Alarm: Unscrew the cover (up to 1.5 turns max.) to adjust the audible intensity. Do not exceed 1.5 turns or the cover may detach during operation. For max. 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.

### Leakage Current Immunity

500µA

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 1mA 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.

### Vibration and Mechanical Shock:

All models meet Mil. Std. 202F requirements method 201A (vibration: 10 to 60 Hz max., double amplitude 0.06 in, maximum acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration, half sine wave.

### 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)

Max. Rel. Humidity: 95% at 50 °C (non-condensing)

### Audible Alarm

Standard Audible Alarm: 2.7 KHz ± 500 Hz oscillation frequency; max. intensity 92 db at 1 m (3.3 ft) (typical)

Sealed Audible Alarm: 2.9 KHz ± 250 Hz oscillation frequency; max. intensity 94 db at 1 m (3.3 ft) (typical)

Omni-Directional Sealed Audible Alarm: 2.1 KHz ± 250 Hz oscillation frequency; max intensity 99 db at 1m (3.3 ft) (typical)

Omni-Directional Sealed Audible Alarm with Intensity

Adjustment: 2.1 KHz ± 250 Hz oscillation frequency; max intensity 95 dB at 1m (3.3 ft) (typical)

### Construction:

Bases and Covers: ABS

Light Segment: Polycarbonate

### Connections

4-wire, 5-wire, or 6-wire 2m (6.5 ft) integral cable; 4-pin or 5-pin 150 mm (5.9 in) PVC pigtail with QD, depending on model

### Environmental Rating

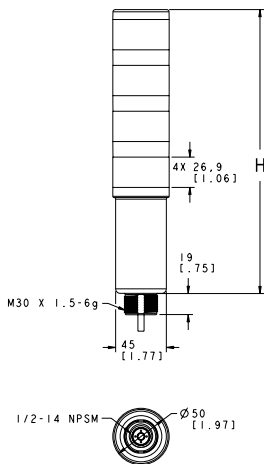
Non-Audible and Sealed Audible: IEC IP67

Standard Audible: IEC IP50

### Certifications



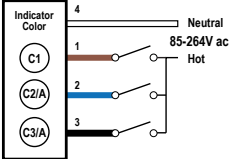
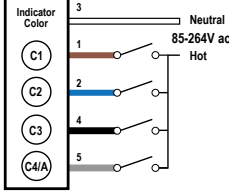
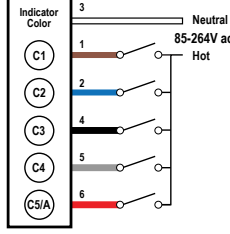
## Dimensions



| # Of Colors | Tower Height (H)   |                    |                    |                                 |
|-------------|--------------------|--------------------|--------------------|---------------------------------|
|             | Non-Audible        | Standard Audible*  | Sealed Audible     | Omni-Directional Sealed Audible |
| 1           | 130.2 mm (5.1 in)  | 161.0 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 (11.0 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           | 293.0 mm (11.5 in) | -                  | -                  | -                               |

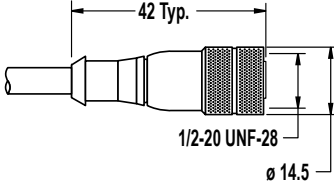
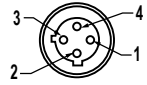
\* Tower height (H) with top unscrewed approximately 3.5 mm to allow sound to escape

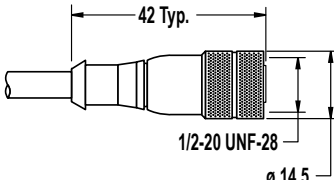
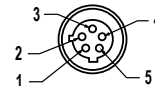
## Wiring Diagram

| 4-wire                                                                                                                                                                                                            | 5-wire                                                                                                                                                                                                                                          | 6-wire                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <p>1 = Brown<br/>2 = Blue<br/>3 = Black<br/>4 = White</p> <p>C1 = Color 1<br/>C2 = Color 2<br/>C3 = Color 3<br/>A = Audible</p> |  <p>1 = Brown<br/>2 = Blue<br/>3 = White<br/>4 = Black<br/>5 = Gray</p> <p>C1 = Color 1<br/>C2 = Color 2<br/>C3 = Color 3<br/>C4 = Color 4<br/>A = Audible</p> |  <p>1 = Brown<br/>2 = Blue<br/>3 = White<br/>4 = Black<br/>5 = Gray<br/>6 = Red</p> <p>C1 = Color 1<br/>C2 = Color 2<br/>C3 = Color 3<br/>C4 = Color 4<br/>C5 = Color 5<br/>A = Audible</p> |

## Accessories

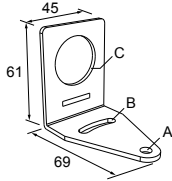
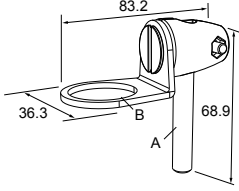
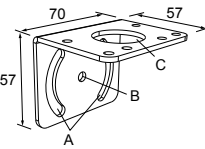
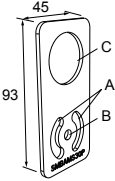
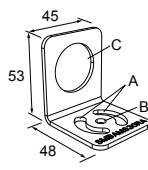
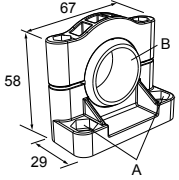
### Cordsets

| 4-Pin Micro-Style Cordsets |                |          |                                                                                      |                                                                                                                                                 |
|----------------------------|----------------|----------|--------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                      | Length         | Style    | Dimensions                                                                           | Pinout                                                                                                                                          |
| MQAC2-406                  | 1.83 m (6 ft)  | Straight |  |  <p>1 = Brown<br/>2 = Blue<br/>3 = Black<br/>4 = White</p> |
| MQAC2-415                  | 4.57 m (15 ft) |          |                                                                                      |                                                                                                                                                 |
| MQAC2-430                  | 9.14 m (30 ft) |          |                                                                                      |                                                                                                                                                 |

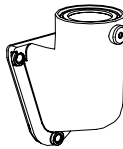
| 5-Pin Micro-Style Cordsets |                |          |                                                                                      |                                                                                                                                                              |
|----------------------------|----------------|----------|--------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model                      | Length         | Style    | Dimensions                                                                           | Pinout                                                                                                                                                       |
| MQAC2-506                  | 1.83 m (6 ft)  | Straight |  |  <p>1 = Brown<br/>2 = Blue<br/>3 = White<br/>4 = Black<br/>5 = Gray</p> |
| MQAC2-515                  | 4.57 m (15 ft) |          |                                                                                      |                                                                                                                                                              |
| MQAC2-530                  | 9.14 m (30 ft) |          |                                                                                      |                                                                                                                                                              |

## Mounting Brackets

All measurements are in mm

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

## LMB Sealed Right-Angle Bracket

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

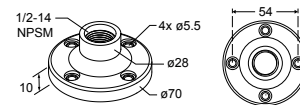
## Elevated Mount System

| Model                                |                                     |                                      | Features                                                                                                                                                                                                                                                                                   | Components                                                                          |
|--------------------------------------|-------------------------------------|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| SA-M30TE12 - Black Acetal            |                                     |                                      | <ul style="list-style-type: none"><li>Streamlined black acetal 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 Acetal             |                                     |                                      | <ul style="list-style-type: none"><li>Streamlined black acetal 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

### SA-F12

- Die-cast zinc base with black paint
- For use elevated stand-off pipes (½ in. NPSM/DN15)
- M5 mounting hardware and nitrile gasket included



## Banner Engineering Corp. Limited Warranty

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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