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[1]	# of LED Colors	LED Function[2]	Connection[3]	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*.

1 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.

2 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.

3 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[4]	# of LED Colors	LED Function[5]	Connection[6]	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[4]			# of LED Colors	LED Function[5]	Connection[6]	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[4]			# of LED Colors	LED Function[5]	Connection[6]	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[4]			# of LED Colors	LED Function[5]	Connection[6]	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	

4 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.

5 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.

6 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)

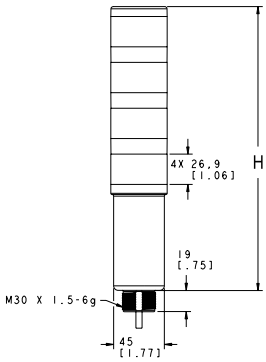
Construction:
Bases and Covers: ABS
Light Segment: Polycarbonate

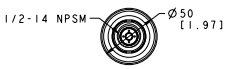
Connections
4-wire, 5-wire, or 6-wire 2m (6.5 ft) integral cable; 4-pin or 5-pin 150 mm (5.9 in) PVC pigtail with QD, depending on model

Environmental Rating
Non-Audible and Sealed Audible: IEC IP67
Standard Audible: IEC IP50

Certifications

Dimensions

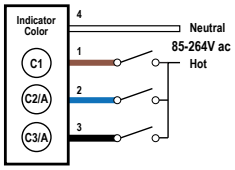
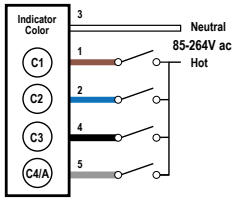
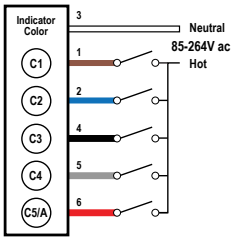




# of Colors	Tower Height (H)			
	Non-Audible	Standard Audible*	Sealed Audible	Omni-Directional Sealed Audible
1	130.2 mm (5.1 in)	161.0 mm (6.3 in)	184.1 mm (7.2 in)	198.1 mm (7.8 in)
2	170.9 mm (6.7 in)	201.7 mm (7.9 in)	224.8 mm (8.9 in)	238.8 mm (9.4 in)
3	211.6 mm (8.3 in)	242.4 mm (9.5 in)	265.5 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)	-	-	-

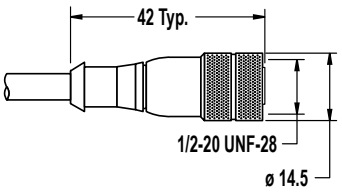
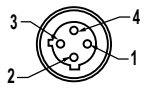
* Tower height (H) with top unscrewed approximately 3.5 mm to allow sound to escape

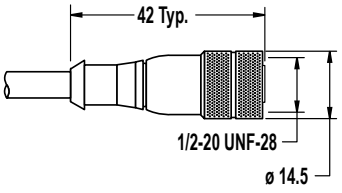
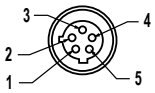
Wiring Diagram

4-wire	5-wire	6-wire
		
1 = Brown 2 = Blue 3 = Black 4 = White C1 = Color 1 C2 = Color 2 C3 = Color 3 A = Audible	1 = Brown 2 = Blue 3 = White 4 = Black 5 = Gray C1 = Color 1 C2 = Color 2 C3 = Color 3 C4 = Color 4 A = Audible	1 = Brown 2 = Blue 3 = White 4 = Black 5 = Gray 6 = Red C1 = Color 1 C2 = Color 2 C3 = Color 3 C4 = Color 4 C5 = Color 5 A = Audible

Accessories

Cordsets

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

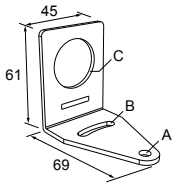
5-Pin Micro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout
MQAC2-506	1.83 m (6 ft)	Straight		 1 = Brown 2 = Blue 3 = White 4 = Black 5 = Gray
MQAC2-515	4.57 m (15 ft)			
MQAC2-530	9.14 m (30 ft)			

Mounting Brackets

All measurements are in mm

SMB30A

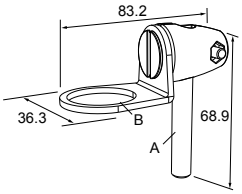
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



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

SMB30FA

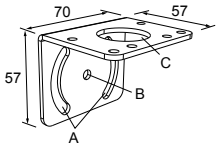
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available



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

SMB30MM

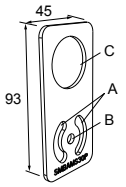
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor



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

SMBAMS30P

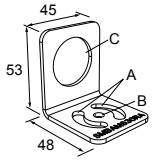
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel



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

SMBAMS30RA

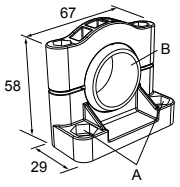
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. (2.6 mm) cold-rolled steel



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

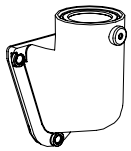
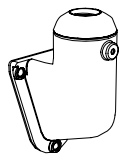
SMB30SC

- 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

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	

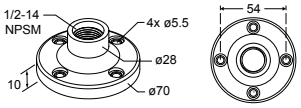
Elevated Mount System

<table>
<tr><th colspan="3">Model</th><th>Features</th><th>Components</th></tr>
<tr><td colspan="3">SA-M30TE12 - Black Acetal</td><td rowspan="2">• Streamlined black acetal or white UHMW stand-off pipe adapter/cover
• Connects between 30 mm light base and ½ in. NPSM/DN15 pipe
• Mounting hardware included</td><td rowspan="2"></td></tr>
<tr><td colspan="3">SA-M30TE12C - White UHMW</td></tr>
<tr><td>Polished 304 Stainless Steel</td><td>Black Anodized Aluminum</td><td>Clear Anodized Aluminum</td><td rowspan="4">• Elevated-use stand-off pipe (½ in. NPSM/DN15)
• Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface
• ½ in. NPT thread at both ends
• Compatible with most industrial environments</td><td rowspan="4"></td></tr>
<tr><td>SOP-E12-150SS
150 mm (6 in) long</td><td>SOP-E12-150A
150 mm (6 in) long</td><td>SOP-E12-150AC
150 mm (6 in) long</td></tr>
<tr><td>SOP-E12-300SS
300 mm (12 in) long</td><td>SOP-E12-300A
300 mm (12 in) long</td><td>SOP-E12-300AC
300 mm (12 in) long</td></tr>
<tr><td>SOP-E12-900SS
900 mm (36 in) long</td><td>SOP-E12-900A
900 mm (36 in) long</td><td>SOP-E12-900AC
900 mm (36 in) long</td></tr>
<tr><td colspan="3">SA-E12M30 - Black Acetal</td><td rowspan="2">• Streamlined black acetal or white UHMW mounting base adapter/cover
• Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole
• Mounting hardware included</td><td rowspan="2"></td></tr>
<tr><td colspan="3">SA-E12M30C - White UHMW</td></tr>
</table>

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



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