EZ-LIGHT® TL50H High Brightness Tower Light

Datasheet

Multi-Color General-Purpose or Audible Indicators

Standard Audible

Sealed Audible

Omni-Directional Sealed Audible

Standard

- 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 to 30 V dc or 24 V ac operation
- No assembly required

Non-Audible Models

Model[1]	# of LED Colors	LED Function[2]	Connection[3]	Inputs
TL50HRQ	1	Red	4-pin Euro integral QD connector	Bimodal (NPN or PNP)
TL50HGRQ	2	Green, Red		
TL50HGYRQ	3	Green, Yellow, Red		
TL50HBGYRQ	4	Blue, Green, Yellow, Red	5-pin Euro integral QD connector	
TL50HWBGYRQ	5	White, Blue, Green, Yellow, Red	8-pin Euro integral QD connector	

NOTE: Audible Models are listed on the next page.

For additional models and colors, visit Banner Engineering website at *www.bannerengineering.com*.

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[1] Models with black housing are listed. For gray housing, add suffix C at the end of the model number (cabled models) or before the Q (QD models), for example, TL50HRC or TL50HRCQ.
[2] The first color listed is the bottom color, going up in successive order. Contact the factory for other colors and color combinations
[3] Integral QD models only are listed; mating cordset required (see *Cordsets* on page 5).
- For 150 mm (5.9 in) PVC pigtail with QD, replace Q with QP in the model number, for example, TL50HRQP.
- For 2 m (6.5 ft) cable, omit suffix Q from the model number, for example, TL50HR.

Audible Models

Standard Audible Models[4]	# of LED Colors	LED Function[5]	Connection[6]	Inputs
TL50HRAQ	1	Red	4-pin Euro integral QD connector	Bimodal (NPN or PNP)
TL50HGRAQ	2	Green, Red		
TL50HGYRAQ	3	Green, Yellow, Red	5-pin Euro integral QD connector	
TL50HBGYRAQ	4	Blue, Green, Yellow, Red	8-pin Euro integral QD connector	

Sealed Audible Models[4]			# of LED Colors	LED Function[5]	Connection[6]	Inputs
Continuous	Pulsed at 1.6 Hz	Staccato				
TL50HRALSQ	TL50HRALS3Q	TL50HRALS4Q	1	Red	4-pin Euro integral QD connector	Bimodal (NPN or PNP)
TL50HGRALSQ	TL50HGRALS3Q	TL50HGRALS4Q	2	Green, Red		
TL50HGYRALSQ	TL50HGYRALS3Q	TL50HGYRALS4Q	3	Green, Yellow, Red	5-pin Euro integral QD connector	
TL50HBGYRALSQ	TL50HBGYRALS3Q	TL50HBGYRALS4Q	4	Blue, Green, Yellow, Red	8-pin Euro integral QD connector	

Omni-Directional Sealed Audible Models[4]			# of LED Colors	LED Function[5]	Connection[6]	Inputs
Continuous	Pulsed at 1.6 Hz	Staccato				
TL50HRAOSQ	TL50HRAOS3Q	TL50HRAOS4Q	1	Red	4-pin Euro integral QD connector	Bimodal (NPN or PNP)
TL50HGRAOSQ	TL50HGRAOS3Q	TL50HGRAOS4Q	2	Green, Red		
TL50HGYRAOSQ	TL50HGYRAOS3Q	TL50HGYRAOS4Q	3	Green, Yellow, Red	5-pin Euro integral QD connector	
TL50HBGYRAOSQ	TL50HBGYRAOS3Q	TL50HBGYRAOS4Q	4	Blue, Green, Yellow, Red	8-pin Euro integral QD connector	

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				
TL50HRAOSIQ	TL50HRAOS3IQ	TL50HRAOS4IQ	1	Red	4-pin Euro integral QD connector	Bimodal (NPN or PNP)
TL50HGRAOSIQ	TL50HGRAOS3IQ	TL50HGRAOS4IQ	2	Green, Red		
TL50HGYRAOSIQ	TL50HGYRAOS3IQ	TL50HGYRAOS4IQ	3	Green, Yellow, Red	5-pin Euro integral QD connector	
TL50HBGYRAOSIQ	TL50HBGYRAOS3IQ	TL50HBGYRAOS4IQ	4	Blue, Green, Yellow, Red	8-pin Euro integral QD connector	

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[4] Models with black housing are listed. For gray housing, add suffix C at the end of the model number (cabled models) or before the Q (QD models), for example, TL50HRC or TL50HRCQ.
[5] The first color listed is the bottom color, going up in successive order. Contact the factory for other colors and color combinations
[6] Integral QD models only are listed; mating cordset required (see *Cordsets* on page 5).
- For 150 mm (5.9 in) PVC pigtail with QD, replace Q with QP in the model number, for example, TL50HRQP.
- For 2 m (6.5 ft) cable, omit suffix Q from the model number, for example, TL50HR.

Specifications

Supply Voltage and Current
18–30 V dc (10% maximum ripple); or 21–27 V ac
Indicators—maximum current per LED color:

100 mA at 18 V dc
60 mA at 30 V dc
80 mA at 21 V ac
70 mA at 27 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 reverse polarity and transient voltages

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

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

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

Certifications

CE

c(UL)us LISTED

Connections
Integral 4-pin, 5-pin, or 8-pin M12/Euro-style QD, 150 mm (6 in) PVC pigtail with QD, or 2 m (6.5 ft) integral cable, depending on model

Indicators
LEDs are independently selected; 1 to 5 colors (Green, Red, Yellow, Blue, White) depending on model

Input Response Time
Indicator On/Off: 10 ms (maximum)

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)

Construction
Bases and Covers: ABS
Light Segment: Polycarbonate

Required Overcurrent Protection

⚠ WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.
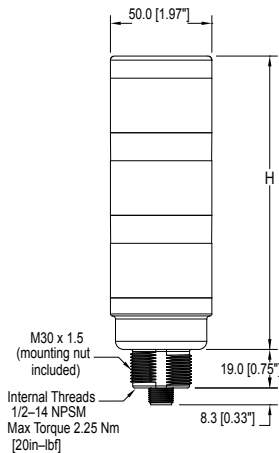
Overcurrent protection is required to be provided by end product application per the supplied table.
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to *http://www.bannerengineering.com*.

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

50.0 [1.97"]

H

M30 x 1.5 (mounting nut included)

19.0 [0.75"]

Internal Threads 1/2–14 NPSM Max Torque 2.25 Nm [20in–lbf]

8.3 [0.33"]

| # of Colors	Tower Height (H)			
	Non-Audible	Standard Audible*	Sealed Audible	Omni-Directional Sealed Audible
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)	-	-	-
* Tower height (H) with top unscrewed approximately 3.5 mm to allow sound to escape				

Wiring Diagram – 4-Pin Models
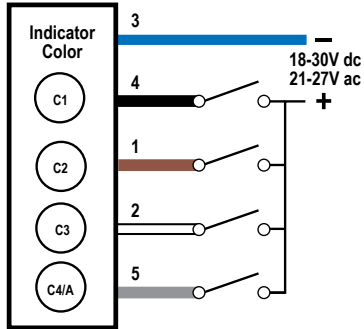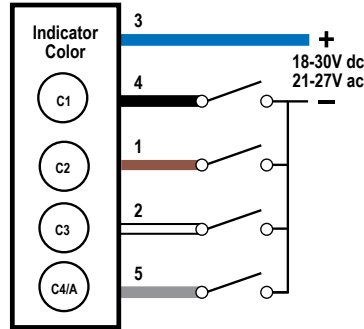
Sourcing (PNP) Input
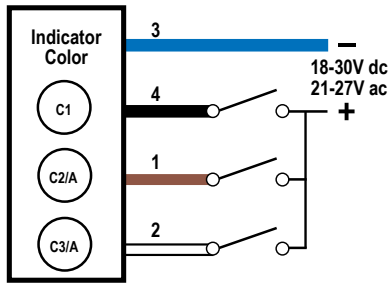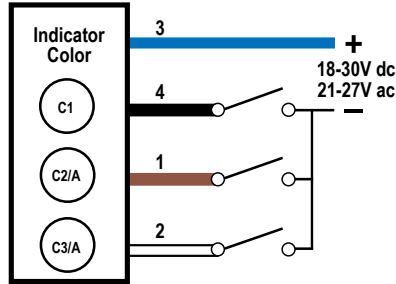
Sinking (NPN) Input

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

Wiring Diagram – 5-Pin Models

Sourcing (PNP) Input
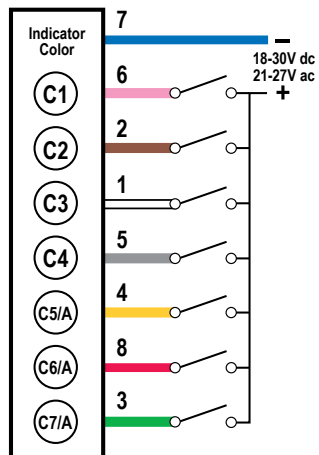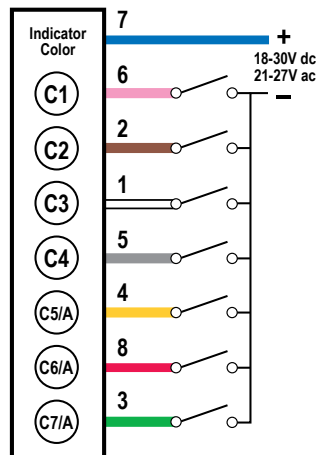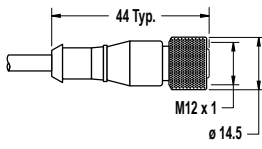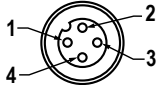
Sinking (NPN) Input

Key:

1 = Brown   C1 = Color 1
2 = White   C2 = Color 2
3 = Blue   C3 = Color 3
4 = Black   C4 = Color 4
5 = Gray   A = Audible

Pin 5 can activate the corresponding color or the audible function, if available.

Wiring Diagram – 8-Pin Models

Sourcing (PNP) Input

Sinking (NPN) Input

Key:
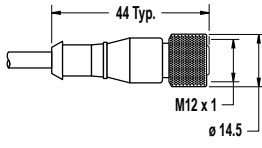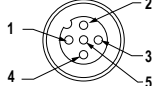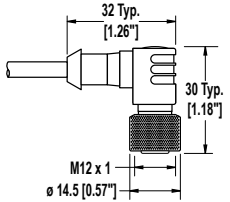
1 = White   C1 = Color 1
2 = Brown   C2 = Color 2
3 = Green   C3 = Color 3
4 = Yellow C4 = Color 4
5 = Gray   C5 = Color 5
6 = Pink   C6 = Color 6
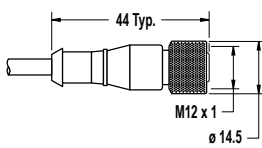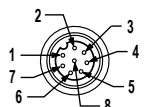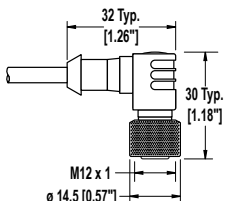7 = Blue   C7 = Color 7
8 = Red   A = Audible

Pins 3, 4 and 8 can activate the corresponding color or the audible function, if available.

Accessories

Cordsets

4-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	1.83 m (6 ft)	Straight		
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			1 = Brown
MQDC-450	15.2 m (50 ft)			2 = White 3 = Blue 4 = Black

5-Pin Threaded M12/Euro-Style Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.50 m (1.5 ft)	Straight		
MQDC1-506	1.83 m (6 ft)			
MQDC1-515	4.57 m (15 ft)			
MQDC1-530	9.14 m (30 ft)			
MQDC1-506RA	1.83 m (6 ft)	Right-Angle		1 = Brown
MQDC1-515RA	4.57 m (15 ft)			2 = White 3 = Blue
MQDC1-530RA	9.14 m (30 ft)			4 = Black 5 = Gray

| 8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806	1.83 m (6 ft)	Straight		
MQDC2S-815	4.57 m (15 ft)			
MQDC2S-830	9.14 m (30 ft)			
MQDC2S-850	15.2 m (50 ft)			1 = White
MQDC2S-806RA	1.83 m (6 ft)	Right-Angle		2 = Brown 3 = Green
MQDC2S-815RA	4.57 m (15 ft)			4 = Yellow 5 = Gray
MQDC2S-830RA	9.14 m (30 ft)			6 = Pink 7 = Blue
MQDC2S-850RA	15.2 m (50 ft)			8 = Red

Mounting Brackets

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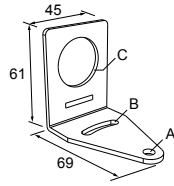
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

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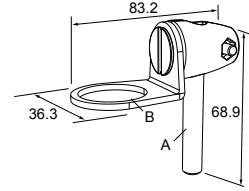
Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 30.1

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
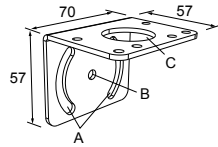
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1
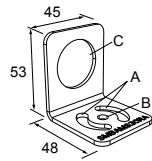
SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90° + rotation
- 12-ga. 300 series stainless steel
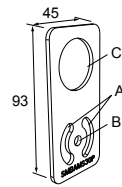
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

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
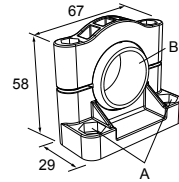
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0

All measurements are listed in millimeters (inches), unless noted otherwise.
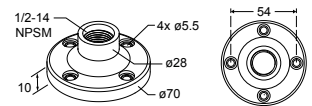
LMB Sealed Right-Angle Bracket

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 SA-M30TE12C - White UHMW			• 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	
Polished 304 Stainless Steel	Black Anodized Aluminum	Clear Anodized Aluminum	• 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	
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 SA-E12M30C - White UHMW			• 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	

Pipe Mounting Flange

Pipe Mounting Flange			
Model	Features	Construction	
SA-F12	• For use elevated stand-off pipes (½ in, NPSM/DN15) • M5 mounting hardware and nitrile gasket included	Die-cast zinc base with black paint	

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.

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