# TL50 Tower Light



## Datasheet

Multi-Color General-Purpose or Audible Indicators



Standard



Standard Audible



Sealed Audible



Omni-Directional Sealed Audible

- Rugged, cost-effective, and easy-to-install multi-segment indicators
- Illuminated segments provide easy-to-see operator guidance and indication of equipment status
- Up to 7 stacked colors available
- · 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
- Models with 1 to 5 segments, 18 V dc to 30 V dc or 24 V ac operation
- Models with 6 to 7 segments, 12 V dc to 30 V dc or 24 V ac operation
- · No assembly required

## Non-Audible Models

Model <sup>1</sup>	# of LED Colors	LED Colors <sup>2</sup>	Connection <sup>3</sup>	Inputs
TL50RQ	1	Red		
TL50GRQ	2	Green, Red	Integral 4-pin M12/Euro-style quick disconnect	
TL50GYRQ	3	Green, Yellow, Red		Bimodal (NPN or PNP)
TL50BGYRQ	4	Blue, Green, Yellow, Red	Integral 5-pin M12/Euro-style quick disconnect	
TL50WBGYRQ	5	White, Blue, Green, Yellow, Red	Integral 8-pin M12/Euro-style quick disconnect	

## Audible Models

Standard Audible Model <sup>1</sup>	# of LED Colors	LED Colors <sup>2</sup>	Connection 3	Inputs
TL50RAQ	1	Red	Integral 4 pin M40/Firm at de quint, disconnect	
TL50GRAQ	2	Green, Red	Integral 4-pin M12/Euro-style quick disconnect	
TL50GYRAQ	3	Green, Yellow, Red	Integral 5-pin M12/Euro-style quick disconnect	Bimodal (NPN or PNP)
TL50BGYRAQ	4	Blue, Green, Yellow, Red	lateral Chin M10/Franchide suiel discourset	
TL50WBGYRAQ	5	White, Blue, Green, Yellow, Red	Integral 8-pin M12/Euro-style quick disconnect	

	Sealed Audible Model <sup>1</sup>		# of LED	LED Colors <sup>2</sup>	Connection <sup>3</sup>	Inputs
Continuous	Pulsed at 1.6 Hz	Staccato	Colors	LLD GOIGIS	Connection	inputs
TL50RALSQ	TL50RALS3Q	TL50RALS4Q	1	Red	Integral 4-pin M12/Euro-style	Bimodal
TL50GRALSQ	TL50GRALS3Q	TL50GRALS4Q	2	Green, Red	quick disconnect	
TL50GYRALSQ	TL50GYRALS3Q	TL50GYRALS4Q	3	Green, Yellow, Red	Integral 5-pin M12/Euro-style quick disconnect	(NPN or
TL50BGYRALSQ	TL50BGYRALS3Q	TL50BGYRALS4Q	4	Blue, Green, Yellow, Red	Integral 8-pin M12/Euro-style	PNP)
TL50WBGYRALSQ	TL50WBGYRALS3Q	TL50WBGYRALS4Q	5	White, Blue, Green, Yellow, Red	quick disconnect	

Models with black housing are listed. For gray housing, add the suffix "C" at the end of the cabled model number or before the "Q" in quick disconnect model numbers. For example, TL50RAC or TL50RACQ.



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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).

To order the 150 mm (6 in) PVC cable model with a M12/Euro-style quick disconnect, replace the suffix "Q" with "QP" in the model number. For example, TL50RAQP.

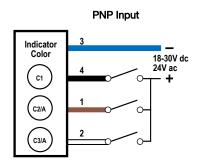
<sup>•</sup> To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, TL50RA.

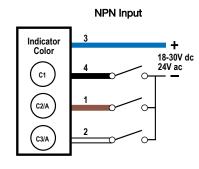
Models with a quick disconnect require a mating cordset.

Omni-I	Omni-Directional $^4$ Sealed Audible Model $^1$		# of LED	LED Colors <sup>2</sup>	Connection <sup>3</sup>	Inputs
Continuous	Pulsed at 1.6 Hz	Staccato	Colors	LED COIOIS =	Connection	inputs
TL50RAOSQ	TL50RAOS3Q	TL50RAOS4Q	1	Red	Integral 4-pin M12/Euro-style	
TL50GRAOSQ	TL50GRAOS3Q	TL50GRAOS4Q	2	Green, Red	quick disconnect	Bimodal
TL50GYRAOSQ	TL50GYRAOS3Q	TL50GYRAOS4Q	3	Green, Yellow, Red	Integral 5-pin M12/Euro-style quick disconnect	(NPN or
TL50BGYRAOSQ	TL50BGYRAOS3Q	TL50BGYRAOS4Q	4	Blue, Green, Yellow, Red	Integral 8-pin M12/Euro-style	PNP)
TL50WBGYRAOSQ	TL50WBGYRAOS3Q	TL50WBGYRAOS4Q	5	White, Blue, Green, Yellow, Red	quick disconnect	

Omni-Directional $^4$ Sealed Audible Model with Intensity Adjustment $^1$		# of LED	LED Colors <sup>2</sup>	Connection <sup>3</sup>	Inputs	
Continuous	Pulsed at 1.6 Hz	Staccato	Colors	LLD GOIOIS	Oomiecuon =	прав
TL50RAOSIQ	TL50RAOS3IQ	TL50RAOS4IQ	1	Red	Integral 4-pin M12/Euro-style	Bimodal
TL50GRAOSIQ	TL50GRAOS3IQ	TL50GRAOS4IQ	2	Green, Red	quick disconnect	
TL50GYRAOSIQ	TL50GYRAOS3IQ	TL50GYRAOS4IQ	3	Green, Yellow, Red	Integral 5-pin M12/Euro-style quick disconnect	(NPN or
TL50BGYRAOSIQ	TL50BGYRAOS3IQ	TL50BGYRAOS4IQ	4	Blue, Green, Yellow, Red	Integral 8-pin M12/Euro-style	PNP)
TL50WBGYRAOSIQ	TL50WBGYRAOS3IQ	TL50WBGYRAOS4IQ	5	White, Blue, Green, Yellow, Red	quick disconnect	

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



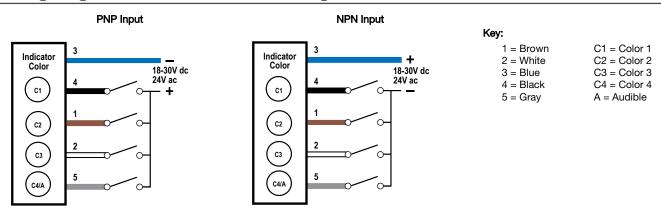


### Key:

1 = Brown 2 = White 3 = Blue 4 = Black C1 = Color 1 C2 = Color 2 A = Color 3 A = Audible

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

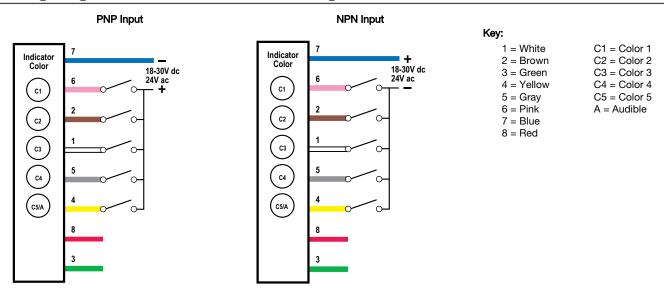
## Wiring Diagram - 5-Pin Models with 4 Segments



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

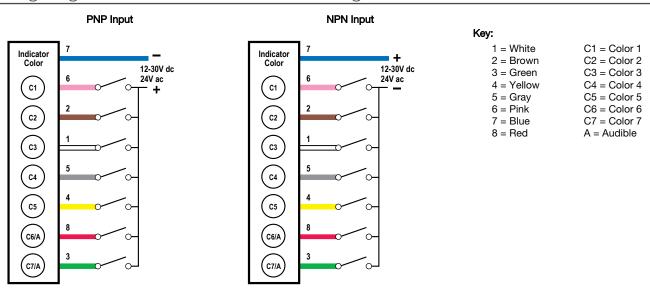
<sup>4</sup> Sound exits at 45°.

## Wiring Diagram — 8-Pin Models with 5 Segments



Pin 4 can activate the corresponding color or the audible function, if available. Pins 3 and 8 are not used.

## Wiring Diagram — 8-Pin Models with 6 to 7 Segments



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

## Specifications

### Supply Voltage and Current

Models with 1 to 5 segments: 18 V dc to 30 V dc; or 24 V ac (± 3 V) at 50 Hz Models with 1 to 5 segments: 18 V dc to 30 V dc; or 24 V dc (£ 3 V) at 30 Hz to 60 Hz (both lights and audible alarms are counted as segments) Indicators—maximum current per LED color: 45 mA at 18 V to 30 V dc

Models with 6 to 7 segments: 12 V dc to 30 V dc or 24 V ac (± 3 V) at 50 Hz to 60 Hz (both lights and audible alarms are counted as segments) Indicators - maximum current per LED color:

- 135 mA at 12 V dc 45 mA at 30 V dc 60 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 ± 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

Sealed Audibie Alarm; 2.9 km2 ± 250 m2 oscillation requestly, maximum intensity 94 dB at 1 m (3.3 ft) (typical)

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

Omni-Directional Sealed Audibie Alarm with Intensity Adjustment; 2.1 kHz ± 250 Hz oscillation frequency; maximum intensity 95 dB at 1 m (3.3 ft)

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

Omni-Directional Sealed Audible Alarm: No adjustment.

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

Models with a quick disconnect 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

### **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: IEC IP67 Standard Audible: IEC IP50

Certifications





### Indicators

LEDs are independently selected; 1 to 7 colors depending on model

### Indicator Characteristics

Color	Dominant Wavelength (nm) or Color	Co Coordi	lor nates <sup>5</sup>	Lumen Output	
	Temperature (CCT)	x	у	(Typical at 25 °C)	
Green	528 nm	_	_	23.0	
Red	625 nm	-	-	7.5	
Yellow	590 nm	_	-	5.0	
Blue	470 nm	-	-	4.0	
Orange	608 nm	_	-	15.5	
White	6000 K	-	-	21.0	
Turquoise	-	0.19	0.37	5.5	
Violet	-	0.20	0.08	2.5	
Magenta	-	0.35	0.15	3.0	
Sky Blue	-	0.19	0.26	12.0	

### 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.

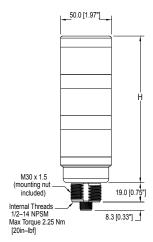
Supply wiring leads < 24 AWG shall not be spliced.

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

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

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

## Dimensions



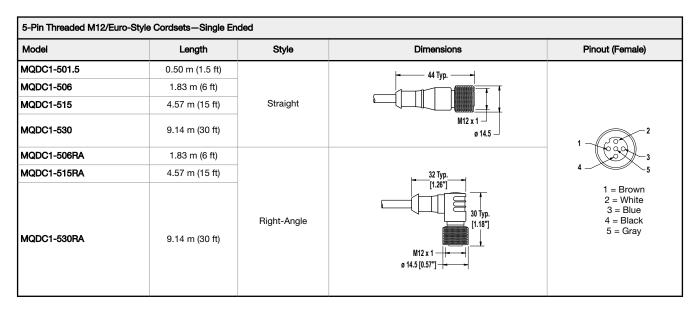
# of - Colors	Tower Height (H)							
	Non-Audible	Standard Audible*	Sealed Audible	Omni-Directional Sealed Audible				
1	61.2 mm (2.4 in)	92.0 mm (3.6 in)	115.1 mm (4.5 in)	129.1 mm (5.1 in)				
2	101.9 mm (4.0 in)	132.7 mm (5.2 in)	155.8 mm (6.1 in)	169.8 mm (6.7 in)				
3	142.6 mm (5.6 in)	173.4 mm (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)	254.8 mm (10.0 in)	277.9 mm (10.9 in)	291.1 mm (11.5 in)				
6	264.7 mm (10.4 in)	298.5 mm (11.8 in)	318.6 mm (12.5 in)	332.6 mm (13.1 in)				
7	305.4 mm (12.0 in)	-	_	_				

All measurements are listed in millimeters [inches], unless noted otherwise.

## Accessories

## Cordsets

4-Pin Threaded M12/Euro-Style Cordsets—Single Ended					
Model	Length	Style	Dimensions	Pinout (Female)	
MQDC-406	1.83 m (6 ft)				
MQDC-415	4.57 m (15 ft)		<del> </del> 44 Typ <del> </del>	2	
MQDC-430	9.14 m (30 ft)		44 1yp.	1 (60)	
MQDC-450	15.2 m (50 ft)	Straight	M12 x 1	1 = Brown 2 = White 3 = Blue 4 = Black	



Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806	1.83 m (6 ft)			
MQDC2S-815	4.57 m (15 ft)		44 Typ. ———	
MQDC2S-830	9.14 m (30 ft)			
MQDC2S-850	15.2 m (50 ft)	Straight • • • • • • • • • • • • • • • • • • •	M12 x 1	2 3 1 6 3 4 7 6 3 5 5
MQDC2S-806RA	1.83 m (6 ft)			6 - 8 - 3
MQDC2S-815RA	4.57 m (15 ft)	32 Typ. [1.26"]		
MQDC2S-830RA	9.14 m (30 ft)		1 = White 2 = Brown	
MQDC2S-850RA	15.2 m (50 ft)	Right-Angle	30 Typ. [1.18"]  ## 14.5 [0.57"]	3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red

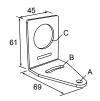
## Mounting Brackets

All measurements are listed in millimeters [inches], unless noted otherwise.

### SMB30A

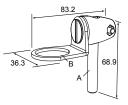
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel

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



**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
- hardware
- Mounting hole for 30 mm sensor



### 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

Hole center spacing: A = 51, A to B = 25.4

**Hole size:**  $A = 42.6 \times 7$ ,  $B = \emptyset 6.4$ ,  $C = \emptyset 30.1$ 

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

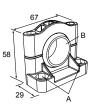
Hole center spacing: A=26.0, A to B=13.0 Hole size: A=26.8 x 7.0, B=Ø 6.5, C=Ø 31.0



## SMB30SC

- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included

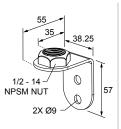




## LMBE12RA35

- 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

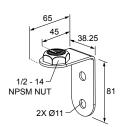
Hole center spacing: 20.0



## 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	Construction	
LMB30RA		Black polycarbonate	
LMB30RAC	<b>Direct-Mount Models:</b> Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.	Gray polycarbonate	
LMBE12RA	Pipe-Mount Models: Bracket kit with base, ½-14 pipe	Black polycarbonate	
LMBE12RAC	adapter, set screw, fasteners, O-rings, and gaskets. For use with stand-off pipe (listed and sold separately).	Gray polycarbonate	

## **Elevated Mount System**

Model  SA-M30TE12 - Black Acetal  SA-M30TE12C - White UHMW			Features	Components
			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		11
<b>SOP-E12-150SS</b> 150 mm (6 in) long	<b>SOP-E12-150A</b> 150 mm (6 in) long	<b>SOP-E12-150AC</b> 150 mm (6 in) long	<ul> <li>Elevated-use stand-off pipe (½ in. NPSM/DN15)</li> <li>Polished 304 stainless steel, black anodized</li> </ul>	
<b>SOP-E12-300SS</b> 300 mm (12 in) long	<b>SOP-E12-300A</b> 300 mm (12 in) long	<b>SOP-E12-300AC</b> 300 mm (12 in) long	<ul> <li>aluminum, or clear anodized aluminum surface</li> <li>½ in. NPT thread at both ends</li> <li>Compatible with most industrial environments</li> </ul>	
<b>SOP-E12-900SS</b> 900 mm (36 in) long	<b>SOP-E12-900A</b> 900 mm (36 in) long	<b>SOP-E12-900AC</b> 900 mm (36 in) long		
SA-E12M30 - Black Acetal SA-E12M30C - White UHMW			Streamlined black acetal or white UHMW mounting base adapter/cover	طله
			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	Elevated-use stand-off pipes (½ in, NPSM/DN15)     M5 mounting hardware and nitrile gasket included	Die-cast zinc base with black paint	1/2-14 NPSM 10 	

Pipe Mounting Flange				
Model	Features	Construction		
SA-F12-3	Elevated-use stand-off pipes (½ in, NPSM/DN15)     M4 mounting hardware and nitrile blend gasket included	Black Polycarbonate	1/2-14 NPSM 2 x 120 e60	

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