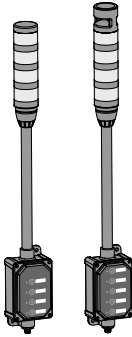




Features

Multi-Color and Audible Andon Indicators



- Rugged, cost-effective, and easy-to-install Andon indicators
- Illuminated tower light segments and Andon box indicators provide easy-to-see status
- Model options for 3 or 4 color segments, with or without audible
- Omnidirectional audible option available
- 4 available colors: blue, green, yellow, and red
- Integral 3-to-5 capacitive touch button controller with status LEDs
- Steady or flashing status capability
- 3 pre-assembled stand-off pipe lengths: 300 mm, 600 mm, or 900 mm

Models

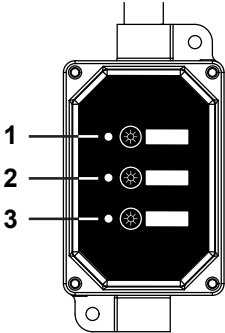
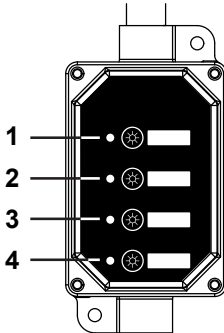
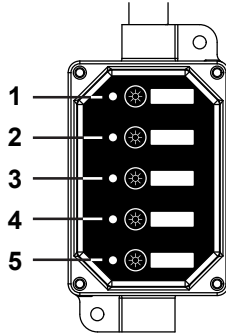
Model Key

Family	Activation Method	Number of Touch Inputs	—	Tower Light Model	LED Colors <sup>(1)</sup>	Audible	Stand-off Length (mm)	Connector
LCA130	T	3	—	TL50	GYR		300	Q
	T = Touch	3 = 3 Buttons 4 = 4 Buttons 5 = 5 Buttons			GYR = Green, Yellow, Red  BGYR = Blue, Green, Yellow, Red	Blank = None  A = Audible  AJ = Audible Joined <sup>(1)</sup>	300 = 300 mm 600 = 600 mm 900 = 900 mm	Q = Integral 4-pin M12 male quick-disconnect connector

Switch Diagrams

The control box status LED mimics the tower light status in color and animation.

Tap one of the buttons to turn the corresponding status LED on or off. Hold the button to activate the flashing function.

3-Button Switch Control	4-Button Switch Control	5-Button Switch Control
		
<b>LED Key:</b> 1 = Red or Red & Audible 2 = Yellow 3 = Green	<b>LED Key:</b> 1 = Red, Audible, or Red & Audible 2 = Yellow or Red 3 = Green or Yellow 4 = Blue or Green	<b>LED Key:</b> 1 = Audible 2 = Red 3 = Yellow 4 = Green 5 = Blue

<sup>(1)</sup> Audible is activated along with segment 1, the top segment

## Input Pinout - All Models

5-pin M12 Male Connector	Pin	Wire Color	Wiring Description
	1	Brown (bn)	18 V DC to 30 V DC
	2	White (wh)	Not used
	3	Blue (bu)	DC common (GND)
	4	Black (bk)	Not used
	5	Gray (gy)	Not used

## Specifications

## Supply Voltage and Current

18 V DC to 30 V DC

Segments—maximum current per LED segment: 45 mA at 18 V DC to 30 V DC

Omni-Directional Audible Alarm: 25 mA maximum current

## Supply Protection Circuitry

Protected against transient voltages

## Input Response Time

Indicator On/Off: 10 milliseconds maximum

## Operating Frequency

2.7 kHz  $\pm$  500 Hz oscillation frequency

Audible Intensity: 92 dB at 1 m (typical)

## Connections

Integral 5-pin M12 quick-disconnect connector

Models with a quick disconnect require a mating cordset

## Construction

Bases and Covers: Polycarbonate

Light Segment: Polycarbonate

## Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 0.5 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)

## Operating Conditions

Non-Audible:  $-40^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  ( $-40^{\circ}\text{F}$  to  $+122^{\circ}\text{F}$ )Audible:  $-20^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $+122^{\circ}\text{F}$ )95% at  $+50^{\circ}\text{C}$  maximum relative humidity (non-condensing)

## Environmental Rating

Assembly: IP54

Stand-alone tower light: IP65

## Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Lumen Output (Typical at 25 °C)
Green	525 nm	16.5
Red	625 nm	6
Yellow	590 nm	15
Blue	465 nm	4

## Radio Range

900 MHz (500 mW): Up to 1.6 km (1 mile) (internal antenna)

2.4 GHz (65 mW): Up to 1000 m (3280 ft) with line of sight (internal antenna)

## Antenna Minimum Separation Distance

900 MHz (500 mW): 4.57 m (15 ft)

2.4 GHz (65 mW): 0.3 m (1 ft)

## 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](http://www.bannerengineering.com).

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

## 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



## Radio Transmit Power

900 MHz Conducted: 27 dBm (500 mW); EIRP with the supplied 4 dB antenna: 31 dBm (1260 mW)

2.4 GHz Conducted: < 18 dBm (65 mW); EIRP with the supplied 2 dB antenna: < 20 dBm (100 mW)

## Spread Spectrum Technology

FHSS (Frequency Hopping Spread Spectrum)

900 MHz Compliance (RM7023 Radio Module)

Radio module is indicated by the product label marking  
Contains FCC ID: UE3RM7023: FCC Part 15, Subpart C,  
15.247  
Contains IC: 7044A-RM7023



900 MHz Compliance (RM7023 Radio Module)

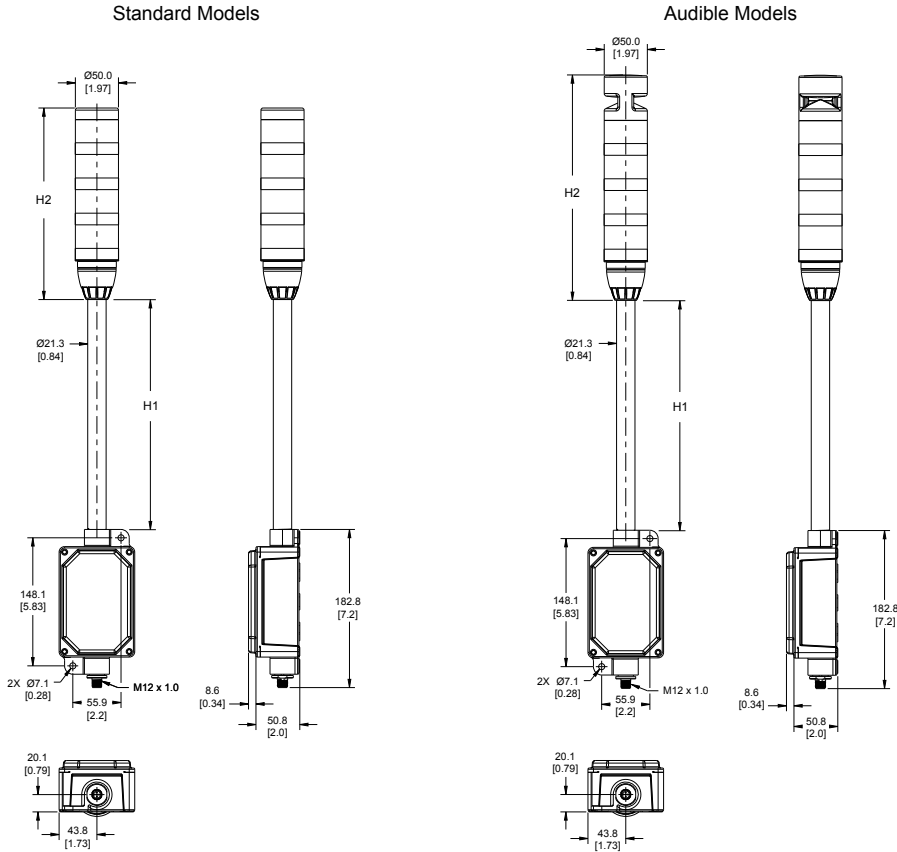
Radio module is indicated by the product label marking  
Contains FCC ID: UE3RM7023: FCC Part 15, Subpart C,  
15.247  
Contains IC: 7044A-RM7023

2.4 GHz Compliance (SX243 Radio Module)

Radio module is indicated by the product label marking  
Contains FCC ID: UE3SX243: FCC Part 15, Subpart C,  
15.247  
Radio Equipment Directive (RED) 2014/53/EU  
ETSI/EN: EN 300 328 V2.2.2 (2019-07) [RED HarmStds]  
Contains IC: 7044A-SX243

Dimensions

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



Stand-Off Pole Height (H1)


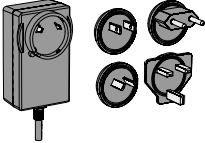
Model	Stand-Off
LCA..TL50..300	300 mm (11.81 in)
LCA..TL50..600	600 mm (23.62 in)
LCA..TL50..900	900 mm (35.43 in)

Tower Light Height (H2)

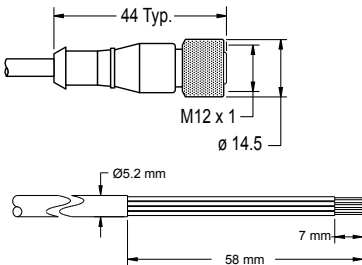
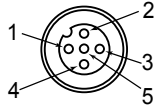
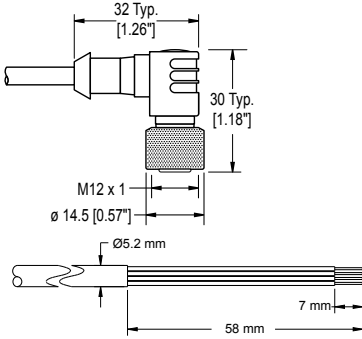
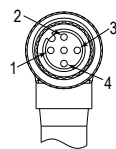
# of Segments	Standard	Audible
3	180.9 mm (7.12 in)	220.0 mm (8.66 in)
4	221.6 mm (8.72 in)	260.7 mm (10.26 in)

Accessories

Power Supplies

<p><b>PSW-24-1</b></p> <ul style="list-style-type: none"><li>• 24 V DC, 1 A Class 2 UL Listed power supply</li><li>• 100 V AC to 240 V AC 50/60 Hz input</li><li>• 2 m (6.5 ft) PVC cable with M12 quick disconnect</li><li>• Includes Type A (US, Canada, Japan, Puerto Rico, Taiwan), Type C (Germany, France, South Korea, Netherlands, Poland, Spain, Turkey), Type G (United Kingdom, Ireland, Singapore, Vietnam), and Type I (China, Australia, New Zealand) AC detachable input plugs</li></ul>	
<p><b>PSW-24-2</b></p> <ul style="list-style-type: none"><li>• 24 V DC, 2 A Class 2 UL Listed power supply</li><li>• 100 V AC to 240 V AC 50/60 Hz input</li><li>• 3.5 m (11.5 ft) PVC cable with M12 quick disconnect</li><li>• Includes Type A (US, Canada, Japan, Puerto Rico, Taiwan), Type C (Germany, France, South Korea, Netherlands, Poland, Spain, Turkey), Type G (United Kingdom, Ireland, Singapore, Vietnam), and Type I (China, Australia, New Zealand) AC detachable input plugs</li></ul>	

Cordsets

4-Pin Threaded M12 Cordsets—Single Ended					
Model	Length	Style	Dimensions	Pinout (Female)	
MQDC-406	2 m (6.56 ft)	Straight			<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused</p>
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				
MQDC-406RA	2 m (6.56 ft)	Right-Angle			
MQDC-415RA	5 m (16.4 ft)				
MQDC-430RA	9 m (29.5 ft)				
MQDC-450RA	15 m (49.2 ft)				

4-Pin Threaded M12 Cordsets—Double Ended				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		<p>Female</p> <p>Male</p> <p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30.2 ft)			
MQDEC-450SS	15.2 m (49.9 ft)			
MQDEC-403RS	0.91 m (2.99 ft)	Male Right-Angle/Female Straight		<p>Female</p> <p>Male</p> <p>1 = Brown 2 = White 3 = Blue 4 = Black</p>
MQDEC-406RS	1.83 m (6 ft)			
MQDEC-412RS	3.66 m (12 ft)			
MQDEC-420RS	6.10 m (20 ft)			
MQDEC-430RS	9.14 m (30.2 ft)			
MQDEC-450RS	15.2 m (49.9 ft)			

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For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

Document title: TL50 Basic Andon Tower Light

Part number: 232670

Revision: C

Original Instructions

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