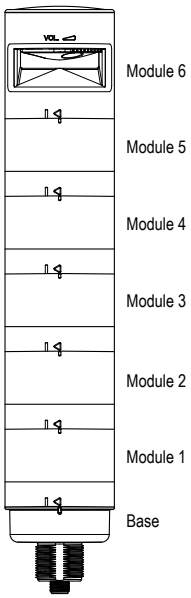
TL70 Modular Tower Light

Quick Start Guide

This guide is designed to help you set up and install the TL70 Modular Tower Light. For complete information on programming, performance, troubleshooting, dimensions, and accessories, please refer to the Instruction Manual at *www.bannerengineering.com*. Search for p/n 182214 to view the Instruction Manual. Use of this document assumes familiarity with pertinent industry standards and practices.

Configuring the Modules

Turn on the appropriate DIP switch to set the order of the components, counting up from the tower light's base.

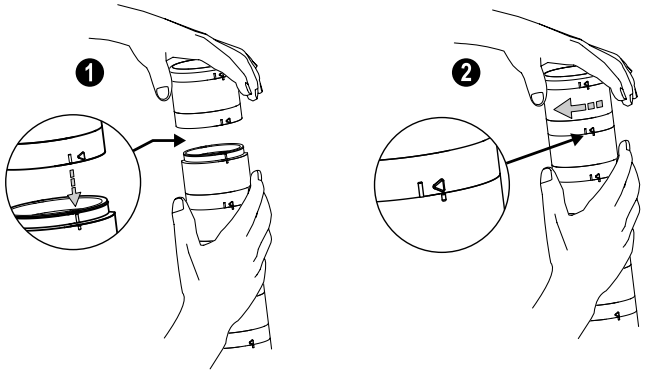


Assembly **Options**		DIP Switches							
		1	2	3	4	5	6	7	8
Light and Standard Audible Components	Module 1	ON							
	Module 2		ON						
	Module 3			ON					
	Module 4				ON				
	Module 5					ON			
	Module 6						ON		
Light Module Flash Rate	3 Hz							ON	OFF
	1.5 Hz							ON	ON
	Solid On*							OFF	OFF
Standard Audible Module Settings	Pulse 1.5 Hz							ON	OFF
	Chirp Alarm							ON	ON
	Siren Alarm							OFF	ON
	Continuous Alarm*							OFF	OFF

Assembly **Options**		DIP Switches									
		1	2	3	4	5	6	7	8	9	10
Loud Audible Module Settings	Pulse 1.5 Hz							ON	OFF		
	Chirp Alarm							ON	ON		
	Siren Alarm							OFF	ON		
	Continuous Alarm*							OFF	OFF		
	Low Intensity									OFF	OFF
	Med. Intensity									ON	OFF
	Med./Loud Intensity									OFF	ON
	Loud Intensity									ON	ON

* Factory default setting

Assembling the Modules

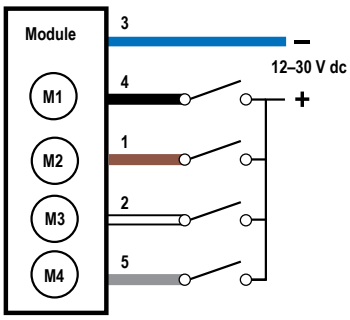


To assemble the modules:

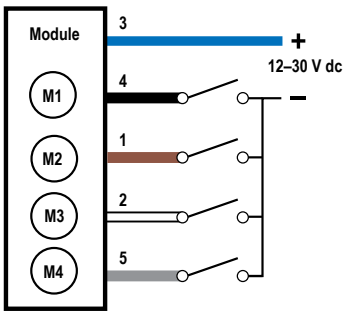
1. Align the notches on each module and press together.
2. Rotate the top module clockwise to lock into place (notches shown in the locked position).

Wiring Diagrams

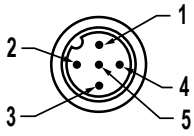
PNP Input



NPN Input



Euro-style Male Pinouts

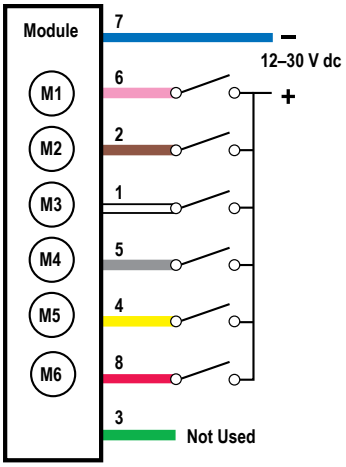


Key

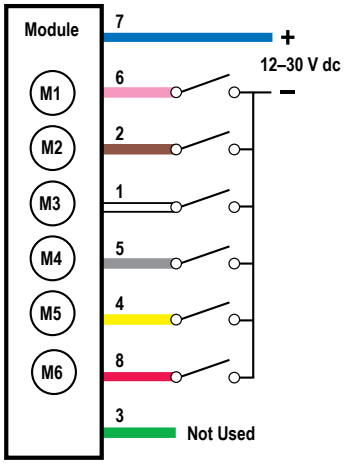
1 = brown
2 = white
3 = blue
4 = black
5 = gray

M1 = Module 1
M2 = Module 2
M3 = Module 3
M4 = Module 4

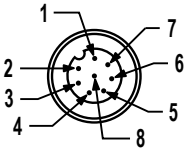
PNP Input



NPN Input



Euro-style Male Pinouts

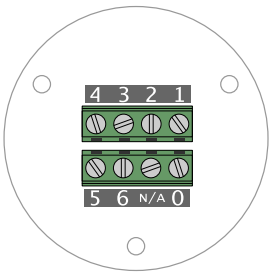


Key

1 = white
2 = brown
3 = green
4 = yellow
5 = gray
6 = pink
7 = blue
8 = red

M1 = Module 1
M2 = Module 2
M3 = Module 3
M4 = Module 4
M5 = Module 5
M6 = Module 6

Wiring Terminal Block



Terminal Block Key
- 0 = dc common
- 1 = Module 1
- 2 = Module 2
- 3 = Module 3
- 4 = Module 4
- 5 = Module 5
- 6 = Module 6

Specifications

Supply Voltage and Current
12 V dc to 30 V dc

Indicator Color or Audible Model	Maximum Current (mA)	
	at 12 V dc	at 30 V dc
Blue, Green, White	420	150
Red, Yellow, Orange	285	120
Standard Audible	30	30
Loud Audible (Intensity 1)	30	25
Loud Audible (Intensity 2)	50	40
Loud Audible (Intensity 3)	165	75
Loud Audible (Intensity 4)	350	120

Supply **Protection** Circuitry
Protected against transient voltages

Indicators
1 to 6 colors depending on model (Green, Red, Yellow, Blue, White, and Orange)
LEDs are independently selected
Flash Rates: 1.5 Hz ±10% and 3 Hz ±10%

Indicator Response Time
Off Response: 150 µs (maximum) at 12 to 30 V dc
On Response: 180 ms (maximum) at 12 V dc; 50 ms (maximum) at 30 V dc

Audible Alarm
Standard Audible: 2.6 kHz ± 250 Hz oscillation frequency; maximum intensity (typical) 92 dB at 1 m (3.3 ft)
Loud Audible: 2.6 kHz ± 250 Hz oscillation frequency; maximum intensity (typical) at 1 m (3.3 ft) (see table)

DIP Switches		Max Intensity (Loud Audible)
9	10	
ON	ON	Intensity 4: 101 dB
OFF	ON	Intensity 3: 99 dB
ON	OFF	Intensity 2: 92 dB
OFF	OFF	Intensity 1: 85 dB

Audible Adjustment
Standard Audible: Rotate the cover until the desired volume is reached
Loud Audible Alarm: Select the desired volume using DIP switches 9 and 10
Typical **Reduction** in Sound Intensity with Audible Adjustment (maximum to minimum):
- Standard Audible: 8 dB
- Loud Audible: 16 dB

Construction
Bases, Segments, Covers: polycarbonate

Indicator **Characteristics**

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates[1]		Lumen Output (Typical at 25 °C)
		x	y	
Green	525 nm	–	–	92
Red	625 nm	–	–	40
Yellow	590 nm	–	–	22
Blue	470 nm	–	–	32
White	5000 K	–	–	125
Orange	–	0.66	0.33	33

Connections

5-pin M12/Euro-style quick disconnect connector, 8-pin M12/Euro-style quick disconnect connector, 150 mm (5.9 in) PVC cable with an M12/Euro-style quick disconnect connector, terminal block, or 2 m (6.5 ft) unterminated cable, depending on model

Terminal Block Models

14 to 28 AWG wire

Operating Conditions

–40 °C to +50 °C (–40 °F to +122 °F)
95% at +50 °C maximum relative humidity (non-condensing)

Environmental **Rating**

IEC IP65

Certifications

Vibration and Mechanical Shock

Vibration 10 Hz to 55 Hz 0.5 mm p-p amplitude per IEC 60068-2-6
Shock 15G 11 ms duration, half sine wave per IEC 60068-2-27

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

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