



TL50 Tower Light Product Manual

Original Instructions

p/n: 249229 Rev. C

22-Aug-25

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Contents

Chapter 1 Features 3
Models 3

Chapter 2 Wiring Diagram 5

Chapter 3 Audible Adjustment 6

Chapter 4 Specifications 7
Dimensions 8

Chapter 5 Accessories..... 9
Cordsets 9
Mounting Brackets11
LMB Sealed Right Angle Bracket 12
Elevated Mount System 12
Pipe Mounting Flange 13

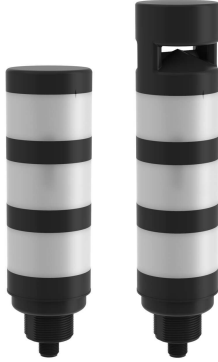
Chapter 6 Product Support and Maintenance 14
Clean with Mild Detergent and Warm Water 14
Repairs 14
Contact Us..... 14
Banner Engineering Corp Limited Warranty 14

Chapter Contents

Models 3

Chapter 1 Features

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
- Models available with or without audible element
- 18 V DC to 30 V DC
- No assembly required

Models

3-Segment Models

Model	Audible	LED Colors ⁽¹⁾	Connection ⁽²⁾	Inputs
TL50GYR	No	Green, Yellow, Red	2 m (6.5 ft) integral PVC-jacketed cable	Bimodal (NPN or PNP)
TL50GYRA	Yes			
TL50GYRQ	No		Integral 4-pin M12 male quick-disconnect connector	
TL50GYRAQ	Yes		Integral 5-pin M12 male quick-disconnect connector	
TL50GBRQ	No	Green, Blue, Red		
TL50GBRAQ	Yes		Integral 8-pin M12 male quick-disconnect connector	
TL50BYRQ	No	Blue, Yellow, Red	Integral 4-pin M12 male quick-disconnect connector	
TL50GRYQ	No	Green, Red, Yellow	Integral 4-pin M12 male quick-disconnect connector	
TL50GRBQ	No	Green, Red, Blue	Integral 4-pin M12 male quick-disconnect connector	
TL50RYGQ	No	Red, Yellow, Green	Integral 4-pin M12 male quick-disconnect connector	

⁽¹⁾ The first color listed is the bottom color, going up in successive order.

⁽²⁾ Models with a quick-disconnect connector require a mating cordset.

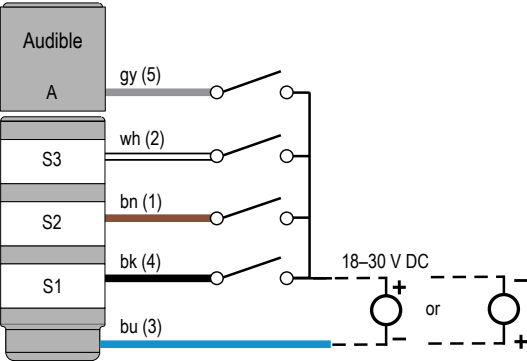
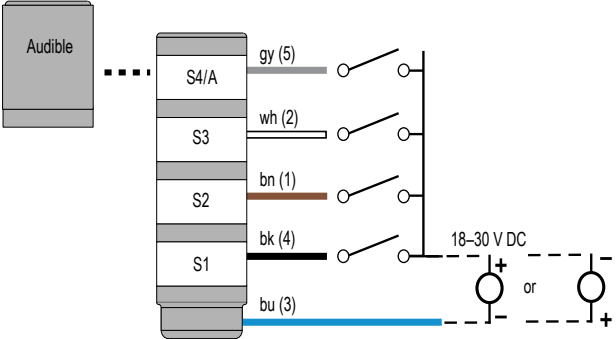
4-Segment Models

Model	Audible	LED Colors ⁽¹⁾	Connection ⁽²⁾	Inputs
TL50BGYRQ	No	Blue, Green, Yellow, Red	Integral 5-pin M12 male quick-disconnect connector	Bimodal (NPN or PNP)
TL50BGYRAQ	Yes		Integral 8-pin M12 male quick-disconnect connector	
TL50GBYRQ	No	Green, Blue, Yellow, Red	Integral 5-pin M12 male quick-disconnect connector	
TL50GBYRAQ	Yes		Integral 8-pin M12 male quick-disconnect connector	
TL50GYBRQ	No	Green, Yellow, Blue, Red	Integral 5-pin M12 male quick-disconnect connector	
TL50GWRQ	No	Green, White, Red, Yellow	Integral 5-pin M12 male quick-disconnect connector	
TL50BGRQ	No	Blue, Green, Red, Yellow	Integral 5-pin M12 male quick-disconnect connector	
TL50WBYRQ	No	White, Blue, Yellow, Red	Integral 5-pin M12 male quick-disconnect connector	
TL50GYRBQ	No	Green, Yellow, Red, Blue	Integral 5-pin M12 male quick-disconnect connector	
TL50WGYRQ	No	White, Green, Yellow, Red	Integral 5-pin M12 male quick-disconnect connector	

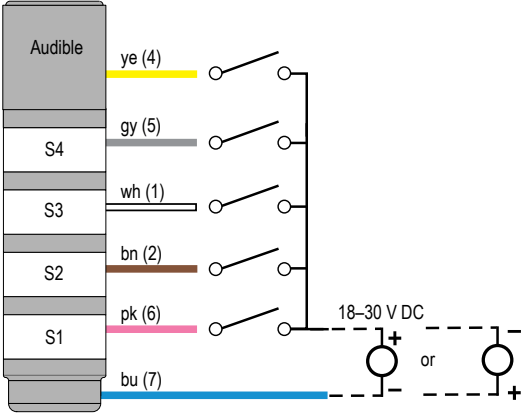
Chapter Contents

Chapter 2 Wiring Diagram

4-Pin and 5-Pin Models

3-Segment	4-Segment
	
Wiring Key	Segment Key
1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray	S1 = Segment 1 S2 = Segment 2 S3 = Segment 3 S4 = Segment 4 A = Audible (optional)

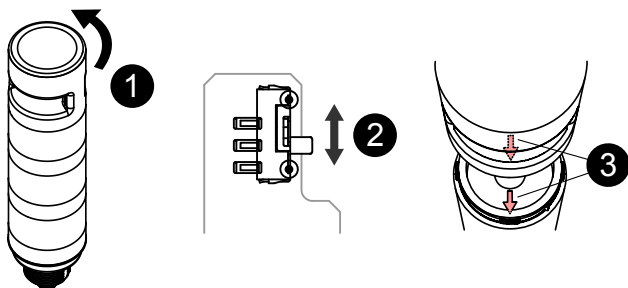
8-Pin Models (4-Segment Models Only)

4-Segment	Wiring Key	Segment Key
	1 = White 2 = Brown 3 = Green (not used) 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red (not used)	S1 = Segment 1 S2 = Segment 2 S3 = Segment 3 S4 = Segment 4 A = Audible

Chapter Contents

Chapter 3 Audible Adjustment

Follow these instructions to adjust the audible module.



1. Remove the top cover by turning counterclockwise.
2. Toggle the switch up for high setting, and down for low setting.
3. To reassemble, align the inner arrows on the audible cover and top segment. Push down gently and turn clockwise.

NOTE: Do not pinch the wires when reassembling.

Chapter Contents

Dimensions 8

Chapter 4 Specifications

Supply Voltage and Current

18 V DC to 30 V DC

Segments—maximum current per LED segment: 26 mA at 18 V DC to 30 V DC

Audible Alarm: 20 mA maximum current

Supply Protection Circuitry

Protected against transient voltages

Input Response Time

Indicator On/Off: 1 milliseconds maximum

Operating Frequency

3.1 kHz \pm 500 Hz oscillation frequency

Intensity:

- High Setting: 93 dB at 1 m (typical)
- Low Setting: 10 dB typical reduction in sound intensity with audible adjustment (maximum to minimum)

Connections

Integral 4-pin, 5-pin, or 8-pin M12 male quick-disconnect connector, or 2 m (6.5 ft) integral PVC-jacketed cable, depending on model

Models with a quick-disconnect connector 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°C to $+50^{\circ}\text{C}$ (-40°F to $+122^{\circ}\text{F}$)**Standard and Sealed Audible:** -20°C to $+50^{\circ}\text{C}$ (-4°F to $+122^{\circ}\text{F}$)95% at $+50^{\circ}\text{C}$ maximum relative humidity (non-condensing)

Input Leakage Current Immunity

400 $\mu\text{A}^{(3)}$

Environmental Rating

Non-Audible: IP67**Audible:** IP65

UL Type 4X

Included Accessories

M30 knurl nut and gasket

Indicators

LEDs are independently selected

⁽³⁾ Any current above this value may activate the TL50.

Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Lumen Output (Typical at 25 °C)
Green	525 nm	17
Red	625 nm	8
Yellow	590 nm	16
Blue	465 nm	4

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

Certifications



Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

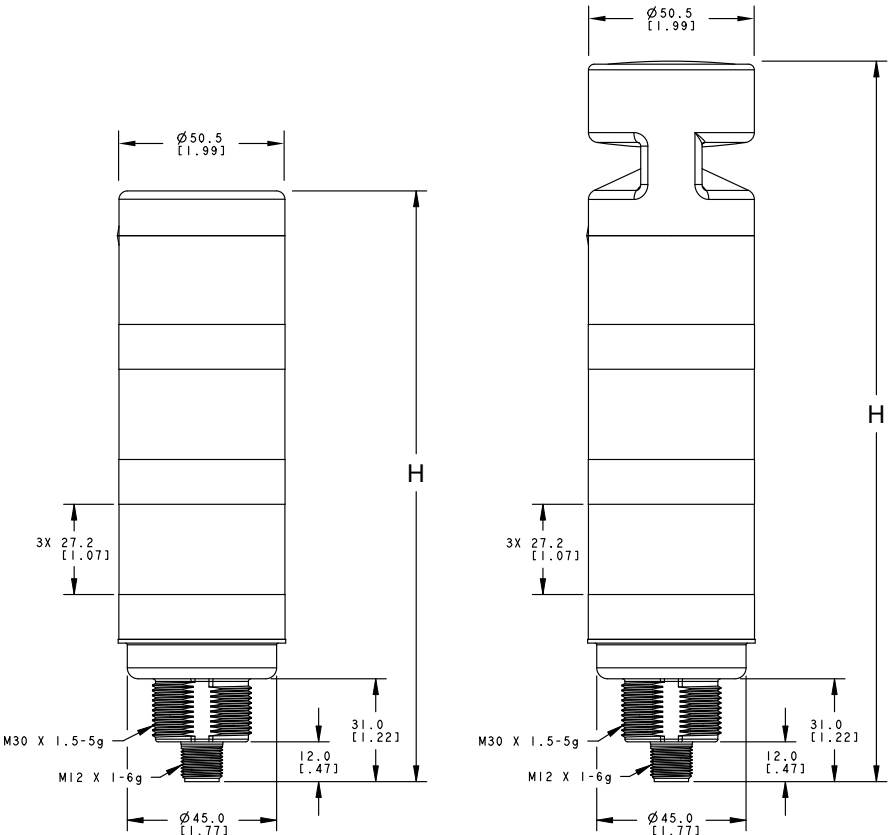


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Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN



Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.



Standard Models

Audible Models

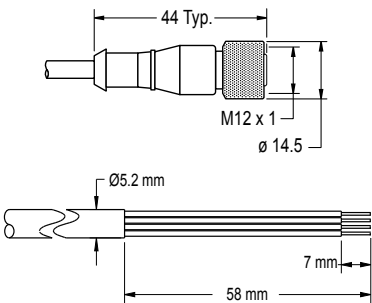
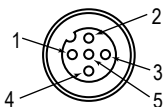
# of Segments	Standard Models	Audible Models
3	178.1 mm (7.01 in)	217.2 mm (8.55 in)
4	218.8 mm (8.61 in)	256.9 mm (10.11 in)

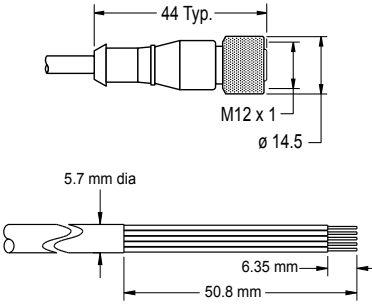
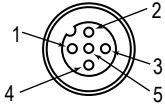
Chapter Contents

Cordsets	9
Mounting Brackets	11
LMB Sealed Right Angle Bracket	12
Elevated Mount System	12
Pipe Mounting Flange	13

Chapter 5 Accessories

Cordsets

4-pin Single-Ended M12 Female Cordsets				
Model	Length	Dimensions (mm)	Pinout (Female)	
BC-M12F4-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Unused
BC-M12F4-22-2	2 m (6.56 ft)			
BC-M12F4-22-5	5 m (16.4 ft)			
BC-M12F4-22-8	8 m (26.25 ft)			
BC-M12F4-22-10	10 m (30.81 ft)			
BC-M12F4-22-15	15 m (49.2 ft)			
BC-M12F4-22-20	20 m (65.61 ft)			
BC-M12F4-22-25	25 m (82.02 ft)			
BC-M12F4-22-30	30 m (98.42 ft)			

5-pin A-Code Single-Ended M12 Female Cordsets (datasheet p/n 235936)				
Model	Length	Dimensions (mm)	Pinout (Female)	
BC-M12F5-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
BC-M12F5-22-2	2 m (6.56 ft)			
BC-M12F5-22-5	5 m (16.4 ft)			
BC-M12F5-22-8	8 m (26.25 ft)			
BC-M12F5-22-10	10 m (30.81 ft)			
BC-M12F5-22-15	15 m (49.2 ft)			

5-pin A-Code Single-Ended M12 Female Right-Angle Cordsets (datasheet p/n 235936)

Model	Length	Dimensions (mm)	Pinout (Female)	
BC-M12F5A-22-1	1 m (3.28 ft)			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
BC-M12F5A-22-2	2 m (6.56 ft)			
BC-M12F5A-22-5	5 m (16.4 ft)			
BC-M12F5A-22-8	8 m (26.25 ft)			
BC-M12F5A-22-10	10 m (30.81 ft)			
BC-M12F5A-22-15	15 m (49.2 ft)			

8-pin Single-Ended M12 Female Cordsets

Model	Length	Dimensions (mm)	Pinout (Female)	
BC-M12F8-24-1	1 m (3.28 ft)			1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red
BC-M12F8-24-2	2 m (6.56 ft)			
BC-M12F8-24-5	5 m (16.4 ft)			
BC-M12F8-24-8	8 m (26.25 ft)			
BC-M12F8-24-10	10 m (30.81 ft)			
BC-M12F8-24-15	15 m (49.2 ft)			

8-pin Single-Ended M12 Female Right-Angle Cordsets

Model	Length	Dimensions (mm)	Pinout (Female)	
BC-M12F8A-24-1	1 m (3.28 ft)			1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red
BC-M12F8A-24-2	2 m (6.56 ft)			
BC-M12F8A-24-5	5 m (16.4 ft)			
BC-M12F8A-24-8	8 m (26.25 ft)			
BC-M12F8A-24-10	10 m (30.81 ft)			
BC-M12F8A-24-15	15 m (49.2 ft)			

Mounting Brackets

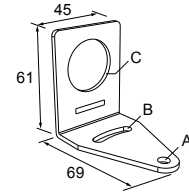
All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

SMB30A

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

Hole center spacing: A to B=40

Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5

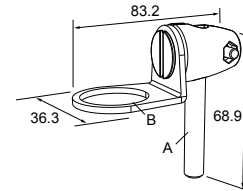


SMB30FA

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

Bolt thread: SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50

Hole size: B= ø 30.1

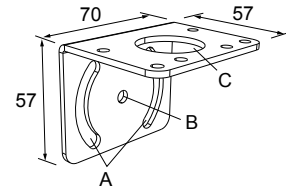


SMB30MM

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor

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

Hole size: A = 42.6 × 7, B = ø 6.4, C = ø 30.1

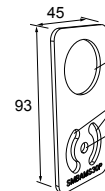


SMBAMS30P

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

Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0

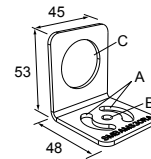


SMBAMS30RA

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

Hole center spacing: A=26.0, A to B=13.0

Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0

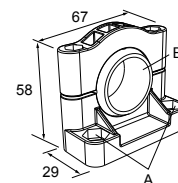


SMB30SC

- 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

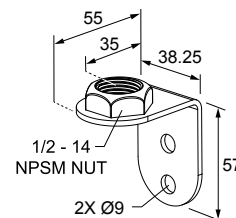
Hole size: A=ø 7.0, B=ø 30.0



LMBE12RA35

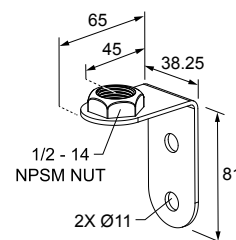
- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 35 mm

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	Direct-Mount Models: Bracket kit with base, 30 mm adapter, set screw, fasteners, O-rings, and gaskets.	Black polycarbonate	
LMBE12RA	Pipe-Mount Models: Bracket kit with base, 1/2-14 pipe adapter, set screw, fasteners, O-rings, and gaskets. For use with stand-off pipe (listed and sold separately).	Black polycarbonate	

Elevated Mount System

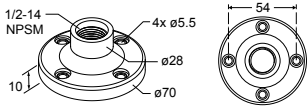
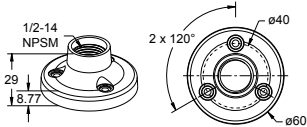
Model			Description	Components
SA-M30TE12 - Black Acetal			<ul style="list-style-type: none"> • Streamlined black acetal stand-off pipe adapter/cover • Connects between 30 mm light base and 1/2 in. NPSM/DN15 pipe • Mounting hardware included 	
Polished 304 Stainless Steel	Black Anodized Aluminum	Clear Anodized Aluminum	<ul style="list-style-type: none"> • Elevated-use stand-off pipe (1/2 in. NPSM/DN15) • Polished 304 stainless steel, black anodized aluminum, or clear anodized aluminum surface • 1/2 in. NPT thread at both ends: one end screws into the internal threads of the light's base, and one end screws into the mounting base adapter/cover • 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		

Continued on page 13

Continued from page 12

Model	Description	Components
SA-E12M30 - Black Acetal	<ul style="list-style-type: none"> Streamlined black acetal mounting base adapter/cover Connects between ½ in. NPSM/DN15 pipe and 30 mm (1-3/16 in) drilled hole Mounting hardware included 	
SOK-TL50-150A SOK-TL50-300A	Includes: <ul style="list-style-type: none"> SA-M30TE12 SA-E12M30 SOP-E12-150/300A 	

Pipe Mounting Flange

Pipe Mounting Flange			
Model	Description	Construction	
SA-F12	<ul style="list-style-type: none"> Elevated-use stand-off pipes (½ in, NPSM/DN15) M5 mounting hardware and nitrile gasket included 	Die-cast zinc base with black paint	
SA-F12-3	<ul style="list-style-type: none"> Elevated-use stand-off pipes (½ in, NPSM/DN15) M4 mounting hardware and nitrile blend gasket included 	Black Polycarbonate	

Chapter Contents

Clean with Mild Detergent and Warm Water	14
Repairs	14
Contact Us	14
Banner Engineering Corp Limited Warranty	14

Chapter 6 Product Support and Maintenance

Clean with Mild Detergent and Warm Water

Wipe down the device with a soft cloth dampened with a mild detergent and warm water solution. Do not use any other chemicals for cleaning.

Repairs

Contact Banner Engineering for troubleshooting of this device. **Do not attempt any repairs to this Banner device; it contains no field-replaceable parts or components.** If the device, device part, or device component is determined to be defective by a Banner Applications Engineer, they will advise you of Banner's RMA (Return Merchandise Authorization) procedure.

IMPORTANT: If instructed to return the device, pack it with care. Damage that occurs in return shipping is not covered by warranty.

Contact Us

Banner Engineering Corp. | 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

For worldwide locations and local representatives, visit www.bannerengineering.com.

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