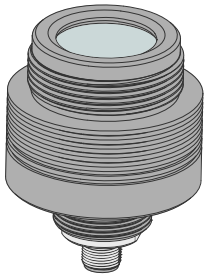
GS60 Pro Multicolor Guide Spotlight Product Manual

Original Instructions
p/n: 243622 Rev. A
30-Dec-24

Contents

Chapter Contents

Chapter 1 Features



- 12 V DC to 30 V DC operation
- 60 mm diameter and 30 mm mounting base
- Rugged sealed housing rated to IP66 and IP67
- Cooling rib design for thermal management when used at the highest output for an extended period of time
- Seven default colors in one device (Green, Red, Yellow, Blue, White, Cyan, Magenta)

IMPORTANT: Read the following instructions before operating the light. Please download the complete GS60 Pro Multicolor Guide Spotlight technical documentation, available in multiple languages, from www.bannerengineering.com for details on the proper use, applications, Warnings, and installation instructions of this device.

IMPORTANT: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los GS60 Pro Multicolor Guide Spotlight, disponibles en múltiples idiomas, para detalles del uso adecuado, aplicaciones, advertencias, y las instrucciones de instalación de estos dispositivos.

IMPORTANT: Lisez les instructions suivantes avant d'utiliser le luminaire. Veuillez télécharger la documentation technique complète des GS60 Pro Multicolor Guide Spotlight sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

Model Key

Housing	Color	Lens Angle	Control	Connection
GS60P	**RGBW**	**L9**		**Q**
60 mm diameter Pro-enabled Guide Spotlight	RGBW = Multicolor	9 = ± 9 degree lens	Blank = Constant power plus three inputs	Q = Integral 5-pin M12 male quick-disconnect connector

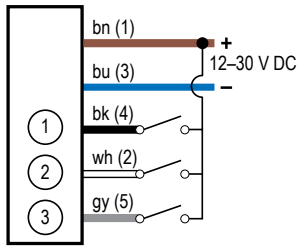
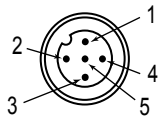
CAUTION:
Risk Group 2: Possibly hazardous optical radiation emitted from this product.

Do not stare at the operating lamp. May be harmful to the eyes. Risk Group 2 (RG 2) products generally do not pose a realistic optical hazard if aversion responses limit the exposure duration or where lengthy exposures are unrealistic.

- IEC 62471

Chapter Contents

Chapter 2 Wiring

Diagram	Pinout	Pin Number	Wire Color	Description
		Pin 1	Brown	12 V DC to 30 V DC
		Pin 2	White	Input 2: 12 V DC to 30 V DC
		Pin 3	Blue	DC common
		Pin 4	Black	Input 1: 12 V DC to 30 V DC
		Pin 5	Gray	Input 3: 12 V DC to 30 V DC

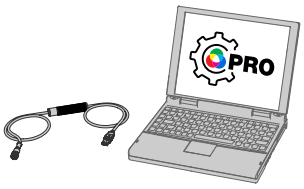
Default Color Definition

	Red	Yellow	Green	Cyan	Blue	Magenta	White
Input 1	X	X				X	X
Input 2		X	X	X			X
Input 3				X	X	X	X

An "X" denotes an active input. For example, when Input 1 and Input 3 are active, the spotlight is magenta.

Chapter Contents

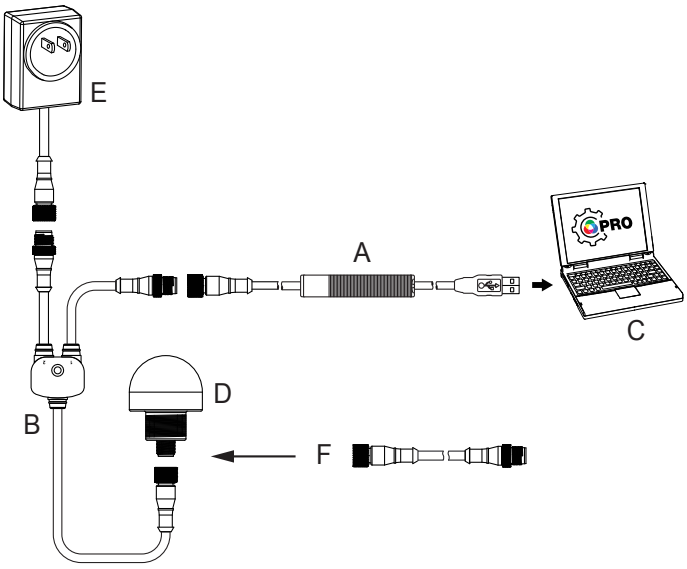
Chapter 3 Pro Editor



Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations. For more information visit www.bannerengineering.com/proeditor.

Full Preview Connection (Required)

The full preview connection must be used for the GS60 Pro Multicolor Guide Spotlight.



A = Pro Converter Cable (MQDC-506-USB)
B = Splitter (CSB-M1251FM1251M)
C = PC running Pro Editor software
D = Any Banner Pro Series-enabled device (K50 shown)
E = Power Supply (PSW-24-1, PSW-24-2, or PSD-24-4)
F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-PRO), required for 8-Pin models

Pro Editor Configuration for the GS60 Pro

Banner's Pro Editor software offers an easy way to configure Pro Series-enabled indication, touch, and illumination devices, allowing users full control of device states and device logic modes. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications such as indicating machine status or warm-up time, indicating unique steps in an assembly process, or incorporating status information into touch buttons.

Setup any Pro Series-enabled device using the free Pro Editor software, available for download at www.bannerengineering.com/proeditor.

Discrete Control

Selecting the Discrete Control tile displays three I/O State tiles:

- Basic
- Advanced
- I/O Block

Basic I/O State

Basic three-state control. Configurations made in Basic I/O State assign one wire to one state, with the following override control:

- Pin 1 (Brown) overrides Pin 4 (Black)
- Pin 2 (White) overrides Pins 1 and 4 (Brown and Black)
- Pin 5 (Gray) overrides Pins 1, 2, and 4 (Brown, White, and Black)

Advanced I/O State

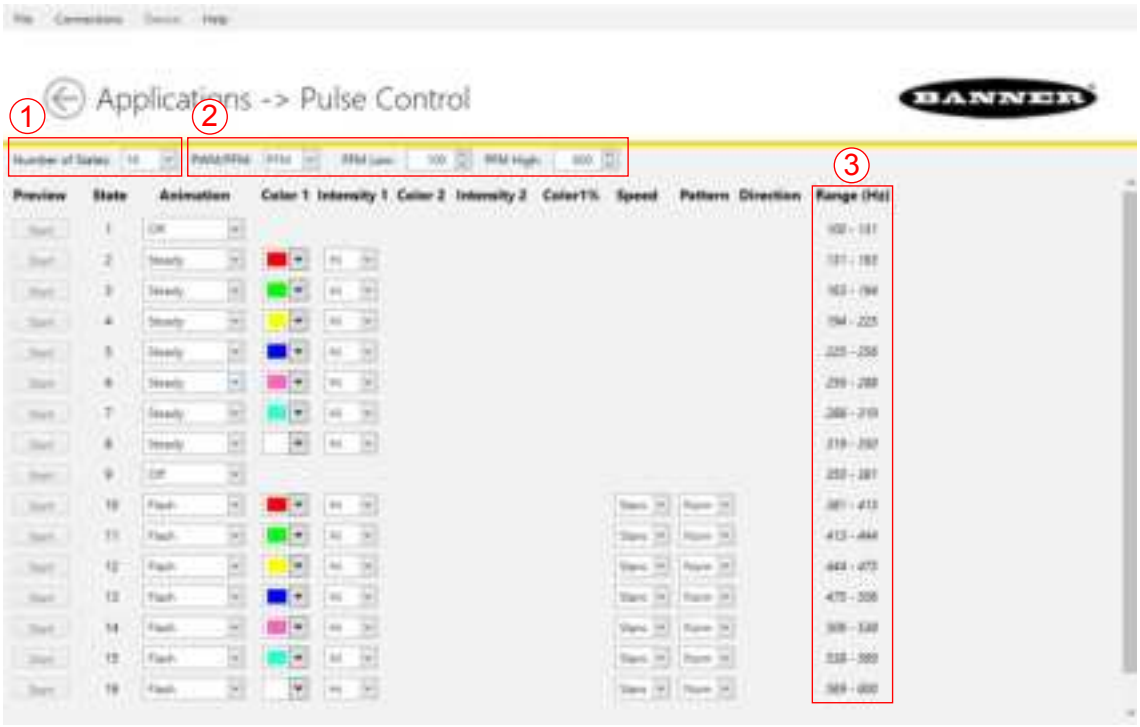
Advanced, default I/O state, with seven state options for maximum configuration ability. Configurations made in Advanced I/O State assign binary wiring combinations of all valid inputs to each state.

I/O Block I/O State

Three-state control for use with I/O block. Configurations made in I/O Block assign state to the black, white, and combination of black and white wires for use with the I/O blocks, for which power (brown) and common (blue) are always on for five-pin connections.

Pulse Control

Selecting the Pulse Control tile displays up to sixteen states that correspond to input frequencies on the white wire. The number of states (1) and input characteristics (2) are user-defined. Ranges are calculated (3).



Chapter Contents

Chapter 4 Specifications

Supply Voltage

12 V DC to 30 V DC

Use only with a suitable Class 2 power supply (UL) or SELV power supply (CE)

See the electrical characteristics on the product label.

Supply Current

Typical Current			Maximum Current
12 V DC	24 V DC	30 V DC	A
0.415	0.2	0.165	0.5

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Light Source

One high-intensity LED; see models table for color temperature or wavelengths

Construction

Black anodized aluminum housing

Polycarbonate window

Nickel-plated quick-disconnect connector

Black anodized aluminum mounting nut

Mounting

30 × 1.5 mm thread base mount

Optional M48 knurl nut for front mount; see "Mounting Accessories" on page 14

Connections

Integral 5-pin M12 male quick-disconnect connector

Operating Temperature

–40 °C to +50 °C (–40 °F to +122 °F)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Environmental Rating

IP66, IP67

LED Lifetime

Lumen Maintenance - L_{70}

When operating within specifications, the output decreases less than 30% after the following time periods: 36,000 hours

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	1.0	30	0.5

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: 15G 11 ms duration, half sine wave)

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

LOW VOLTAGE LUMINAIRE
E338626

Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates[1]		Lumen Output (Typical at 25 °C)
		X	Y	
Blue	450	0.1584	0.022	31.7
Green	520	0.1493	0.6898	188
Red	623	0.688	0.3043	140
Orange	597	0.5811	0.3812	155
Amber	587	0.5224	0.4228	161.1
Yellow	575	0.4435	0.4789	156.6
Lime Green	559	0.3582	0.5405	166.2
Spring Green	515	0.1499	0.6279	177.5
Cyan	495	0.1581	0.3757	158.6
Sky Blue	487	0.1554	0.2657	143
Violet	-	0.2358	0.1094	114.6
Magenta	-	0.404	0.2096	146.1
Rose	-	0.5462	0.2664	145
White	4000K	0.3792	0.3902	257.8

FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate this equipment.

Industry Canada ICES-003(B)

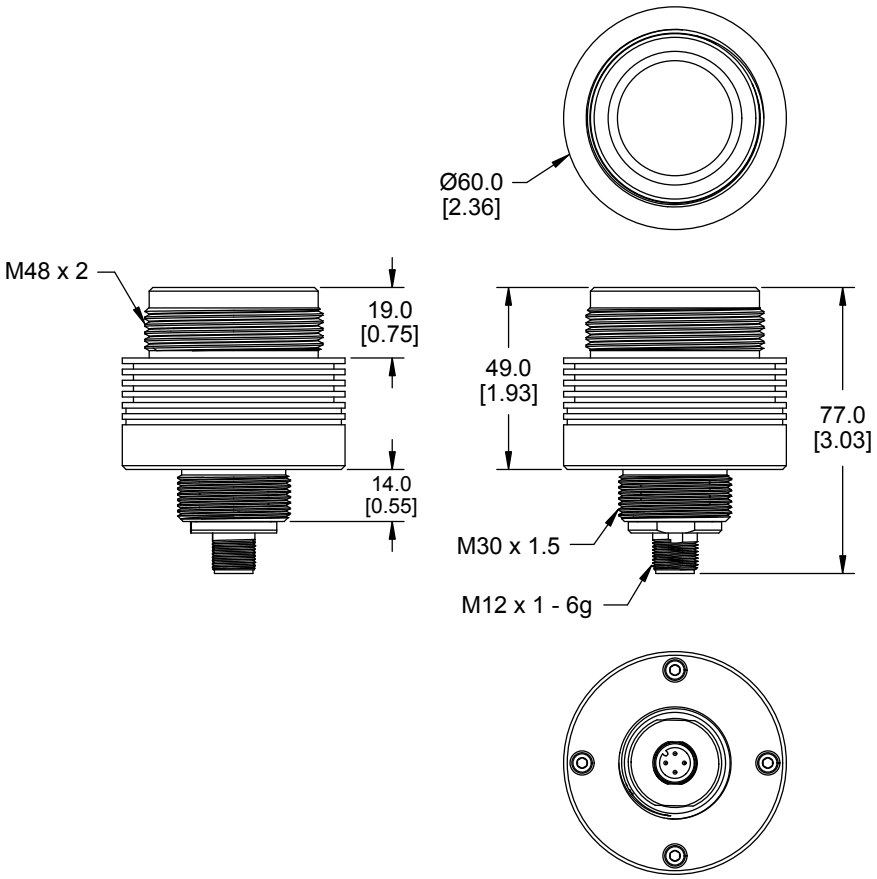
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

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

Dimensions

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



Optical Data

Performance Curves

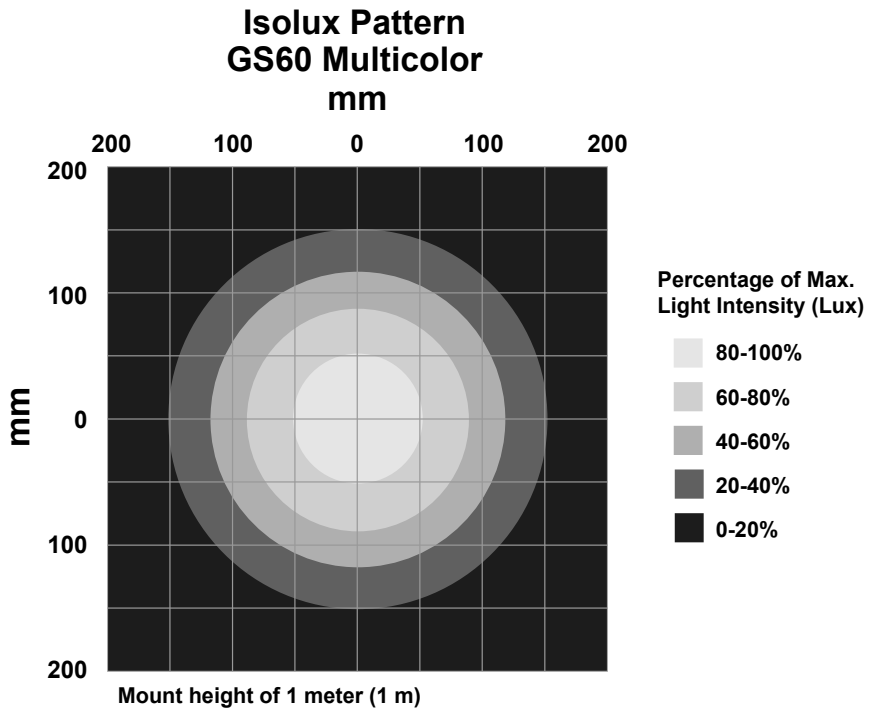
Lux values shown are typical at 25 °C.

Distance (m)	Max Center Beam Illuminance (Lux)
	White
0.17	98,620
0.33	31,480
0.5	14,100
0.67	7,965
0.83	5,240
1	3560

The optical data shown above is for white only. To get the lux values for other colors, multiply the values in the table above by the following factors:

Color	Multiplier
Red	0.433
Green	0.986
Blue	0.146
Cyan	0.833
Magenta	0.542
Yellow	0.709
White	1

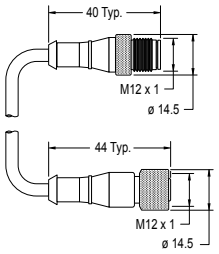
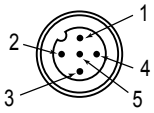
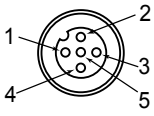
Beam Width FWHM (mm)	Beam Angle FWHM (Deg)
300	18 (± 9°)

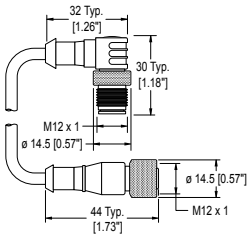
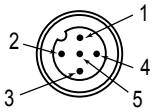
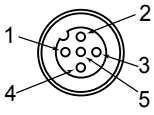


Chapter Contents

Chapter 5 Accessories

Cordsets

5-Pin Double-Ended M12 Female to M12 Male Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Male)**	**Pinout (Female)**
MQDEC-501SS	0.31 m (1.02 ft)	Male Straight/ Female Straight			
MQDEC-503SS	0.91 m (2.99 ft)			1 = Brown 2 = White 3 = Blue	4 = Black 5 = Gray
MQDEC-506SS	1.83 m (6 ft)				
MQDEC-512SS	3.66 m (12 ft)				
MQDEC-515SS	5 m (16.4 ft)				
MQDEC-530SS	9 m (29.5 ft)				
MQDEC-550SS	15 m (49.2 ft)				

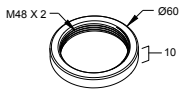
5-Pin Double-Ended M12 Female to M12 Male Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Male)**	**Pinout (Female)**
MQDEC-501RS	0.31 m (1.02 ft)	Male Right-angle/ Female Straight			
MQDEC-503RS	0.91 m (2.99 ft)			1 = Brown 2 = White 3 = Blue	4 = Black 5 = Gray
MQDEC-506RS	1.83 m (6 ft)				
MQDEC-512RS	3.66 m (12 ft)				

Mounting Accessories

All measurements are in mm.

ACC-GS60 M48 Front Mount

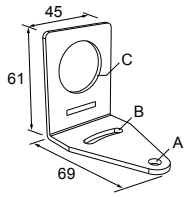
- Black anodized knurl nut for panel sealing
- Included gasket should be against the product to seal the surface
- Through-wall (near-flush) mounting to protect the product behind a wall



SMB30A

- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-gauge stainless steel

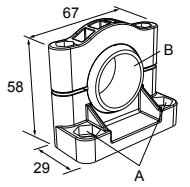
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5



SMB30SC

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

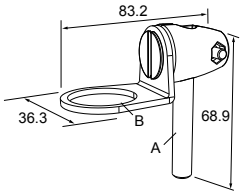
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0



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

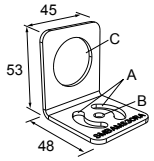
Bolt thread: SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50
Hole size: B= ø 30.1



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

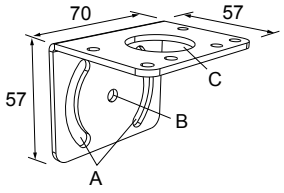
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0



SMB30MM

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

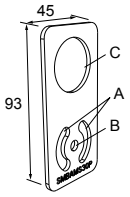
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 × 7, B = ø 6.4, C = ø 30.1



SMBAMS30P

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

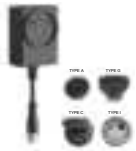
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0



Power Supplies

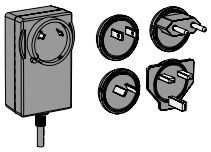
PSW-24-1

- 24 V DC, 1 A Class 2 UL Listed power supply
- 100 V AC to 240 V AC 50/60 Hz input
- 2 m (6.5 ft) PVC cable with M12 quick disconnect
- 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



PSW-24-2

- 24 V DC, 2 A Class 2 UL Listed power supply
- 100 V AC to 240 V AC 50/60 Hz input
- 3.5 m (11.5 ft) PVC cable with M12 quick disconnect
- 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



Chapter Contents

Chapter 6 Product Support and Maintenance

Clean with Mild Detergent and Water

Wipe down the enclosure and the display with a soft cloth that has been dampened with a mild detergent and warm water solution.

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. headquarters is located at: 9714 Tenth Avenue North | Plymouth, MN 55441, USA | Phone: + 1 888 373 6767

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

Banner Engineering Corp Limited Warranty

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For patent information, see www.bannerengineering.com/patents.

Mexican Importer

Banner Engineering de Mèxico, S. de R.L. de C.V. | David Alfaro Siqueiros 103 Piso 2 Valle oriente | San Pedro Garza Garcia Nuevo Leòn, C. P. 66269

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