WLS15 LED Strip Light Product Manual

Original Instructions
p/n: 197493 Rev. I
03-Nov-25
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ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

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Chapter 1 Features



Banner's WLS15 LED Strip Lights have sturdy aluminum inner frames, encased in shatter-resistant, UV-stabilized, polycarbonate shells, making them ideal for indoor and outdoor applications.

- Low-profile, space-saving design
- Rugged, water-resistant design
- Available in six lengths from 220 mm to 1200 mm
- Daisy-chain power to multiple lights
- Optional snap clips for easy installation and repositioning
- Capability to dim lights using PWM input
- Operates on 12 V DC or 24 V DC in one model
- Models are available with two colors in one device

These strip lights are available as either stand-alone models, or as cascade models that can be connected in series or "daisy-chained" together for longer lighting runs, with a minimum of wiring.

Stand-alone models have one end for power connection and no connections at opposite end. A stand-alone model may be used as the last in the cascade series.

Cascade models have one end for power connection, and a connection at the opposite end for connecting to other lights in the cascade. A double-ended accessory cordset may be used between each pair of lights in a cascade to extend the distance between lights.



For PWM dimming, use with the LC65P2T 2-wire dimmer module. For more information, refer to the LC65 LED Dimmer Module datasheet, p/n 177086. This module can only be used with the single color models.

IMPORTANT: Read the following instructions before operating the light. Please download the complete WLS15 LED Strip Light 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 WLS15 LED Strip Light, 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 WLS15 LED Strip Light sur notre site www.bannerengineering.com pour les détails sur leur utilisation correcte, les applications, les notes de sécurité et les instructions de montage.

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Single Color Models

Model Key

Family	Cascadable	Color	Length	Window	Construction	Connector[1]
WLS15	**C**	**DW**	**0360**	**D**	**S**	**C2**
	C = Cascadable X = Non-cascadable	DW = Daylight white WW = Warm white	0220 mm (6 in) 0360 mm (1 ft) 0500 mm (1.5 ft) 0640 mm (2 ft) 0920 mm (3 ft) 1200 mm (4 ft)	D = Diffuse	S = Sealed (IP66, IP67)	C2 = 2 m (6.5 ft) integral PVC cable C4 = 4 m (13 ft) integral PVC cable C5 = 5 m (16.4 ft) integral PVC cable C30 = 9 m (30 ft) integral PVC cable QP = 150 mm (5.9 in) PVC cable with M12 quick-disconnect connector QS = 150 mm (5.9 in) PVC cable with Deutsch DTM connector

Dual Color Models

Model Key

Family	Cascadable	Color 1	Color 2	Length	Window	Construction	Connector[2]
WLS15	**C**	**W**	**R**	**0360**	**D**	**S**	**C2**
	C = Cascadable X = Non-cascadable	W = Daylight white B = Blue G = Green R = Red Y = Yellow A = Amber		0220 mm (6 in) 0360 mm (1 ft) 0500 mm (1.5 ft) 0640 mm (2 ft) 0920 mm (3 ft) 1200 mm (4 ft)	D = Diffuse	S = Sealed (IP66, IP67)	C2 = 2 m (6.5 ft) integral PVC cable C4 = 4 m (13 ft) integral PVC cable C5 = 5 m (16.4 ft) integral PVC cable C30 = 9 m (30 ft) integral PVC cable QP = 150 mm (5.9 in) PVC cable with M12 quick-disconnect connector QS = 150 mm (5.9 in) PVC cable with Deutsch DTM connector

[1] Models with a quick-disconnect or Deutsch DTM connector require a mating cordset.
[2] Models with a quick-disconnect connector require a mating cordset.

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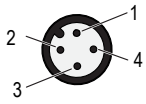
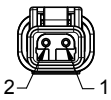
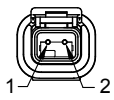
Chapter 2 Wiring

QP Models

4-pin M12 Male Pinout	4-pin M12 Female Pinout	Pin	Wire Color	Single Color Models	Dual Color Models
		1	Brown	12 V DC or 24 V DC	Color 1: 12 V DC or 24 V DC
		2	White	Not used	Not used
		3	Blue	DC common	DC common
		4	Black	Not used	Color 2: 12 V DC or 24 V DC (color 2 overrides color 1)

QS Models: Single Color Models Only

2-pin Deutsch DTM Male Pinout	2-pin Deutsch DTM Female Pinout	Pin	Wire Color	Connection
		1	Brown	12 V DC or 24 V DC
		2	Blue	DC common

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Chapter 3 Specifications

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Supply Voltage

12 V DC or 24 V DC nominal

Absolute operational limits of 10 V DC to 15 V DC and 20 V DC to 27 V DC

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

Single Color Light Models can be PWM dimmed between 25% to 100% with a frequency up to 1000 Hz

See electrical characteristics on the product's label

Supply Current

Light Length	Typical Current (A) at 25°C (3)		Max. Current (A) at -40°C	
	12 V DC	24 V DC	12 V DC	24 V DC
0220 mm	0.19	0.1	0.24	0.12
0360 mm	0.38	0.2	0.48	0.24
0500 mm	0.57	0.3	0.72	0.36
0640 mm	0.76	0.4	0.96	0.48
0920 mm	1.14	0.6	1.44	0.72
1200 mm	1.52	0.8	1.92	0.96

Connections

2 m (6.5 ft) integral PVC-jacketed cable, 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 quick-disconnect connector, or 150 mm (5.9 in) 2-pin Deutsch DTM series sealed cable; models with a quick-disconnect connector or Deutsch DTM connector require a mating cordset

Do not spray the cable with a high-pressure sprayer or cable damage will result.

Mounting

Integral mounting slots for M4 (#8) screws, tighten to 5 in·lbf max torque

Multiple bracket options available

Secure cables within 150 mm (5.9 inches) of the light

Construction

Clear anodized aluminum housing; Polycarbonate outer housing, Polyamide end caps

Environmental Rating

Rated IP66 and IP67

Suitable for wet locations per UL 2108

Vibration and Mechanical Shock

Vibration: 10 Hz to 55 Hz, 1.0 mm peak-to-peak amplitude per IEC 60068-2-6

Shock: 15G 11 ms duration, half sine wave per IEC 60068-2-27

(3) Typical current values are shown at 25 °C – current and lumen values decrease 0.4% per 1 °C from ambient. For example, a 1200 mm unit will have a maximum current of 1.92 A at -40 °C and 1.33 A at +60 °C.

Operating Temperature

–40 °C to +60 °C (–40 °F to +140 °F)

95% at +60 °C maximum relative humidity (non-condensing)

Storage Temperature

–40 °C to +70 °C (–40 °F to +158 °F)

Application Note

When connecting cascadable lights in series, it is important not to exceed maximum current limitations:

- Maximum length of light at 12 V DC: 2.4 m (7.9 ft)
- Maximum length of light at 24 V DC: 6 m (19.7 ft)

Light Characteristics

Color	Dominant Wavelenth (nm) or Color Temperature	Lighted Length Lumens (Typical at 25°C)(4)					
		220 mm	360 mm	500 mm	640 mm	920 mm	1200 mm
Daylight White	5000K (±300K)	175	350	525	700	1050	1400
Warm White	3000K (±200K, -100K)	170	340	510	680	1020	1360
Green	525 nm	105	210	315	420	630	840
Red	625 nm	55	110	165	220	330	440
Yellow	580 nm	165	330	495	660	990	1320
Blue	470 nm	25	50	75	100	150	200
Amber	590 nm	55	110	165	220	330	440

Certifications

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

E476617

(4) Values shown at 25°C - current and lumen values decrease 0.4% per 1°C from ambient. For example, a 1200 mm unit will have a maximum current of 1.92 A at -40°C and 1.33 A at +60°C.

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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.

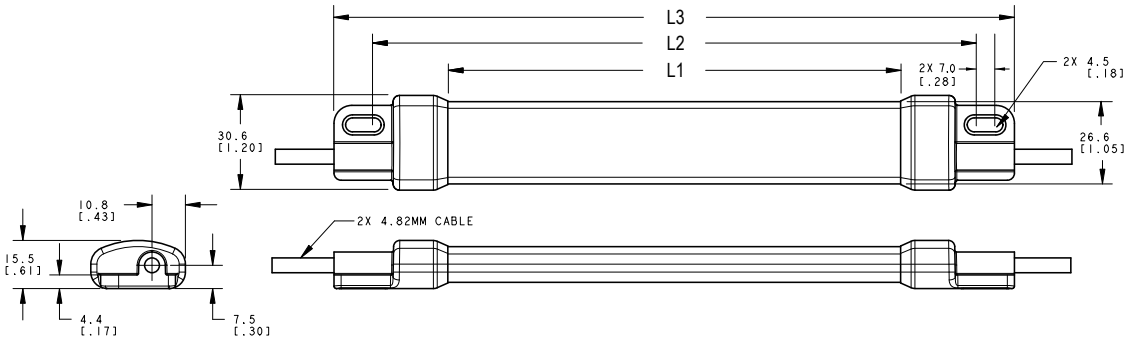
Supply wiring leads < 24 AWG shall not be spliced.

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

Dimensions

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



Models	L1	L2	L3
WLS15..0220..	146.4 mm (5.76 inches)	194 mm (7.64 inches)	220 mm (8.66 inches)
WLS15..0360..	286.4 mm (11.28 inches)	334 mm (13.15 inches)	360 mm (14.17 inches)
WLS15..0500..	426.4 mm (16.79 inches)	474 mm (18.66 inches)	500 mm (19.69 inches)
WLS15..0640..	566.4 mm (22.3 inches)	614 mm (24.17 inches)	640 mm (25.2 inches)
WLS15..0920..	846.4 mm (33.32 inches)	894 mm (35.2 inches)	920 mm (36.22 inches)
WLS15..1200..	1126.4 mm (44.35 inches)	1174 mm (46.22 inches)	1200 mm (47.24 inches)

Optical Data

Optical data shown below is for daylight white only. To get lux and candela values for warm white, green, red, yellow, blue, and amber, multiply the values shown on the charts by the following factors:

- Warm white: 0.971
- Green: 0.6
- Red: 0.314
- Yellow: 0.943
- Blue: 0.143
- Amber: 0.314

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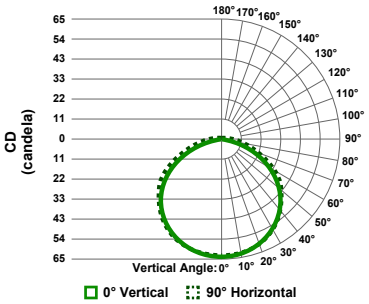
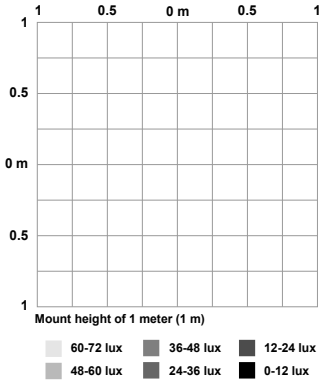
220 mm Models

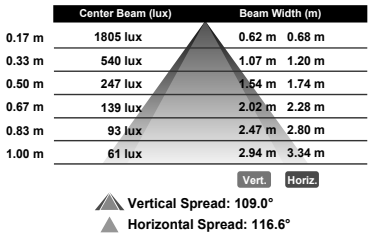
Polar Candela Distribution



Isolux Pattern

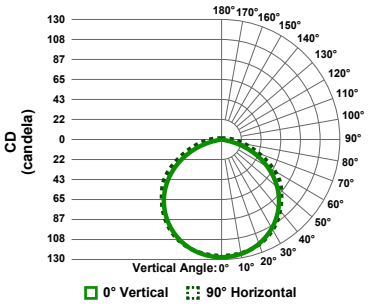


Illuminance at a Distance



360 mm Models

Polar Candela Distribution



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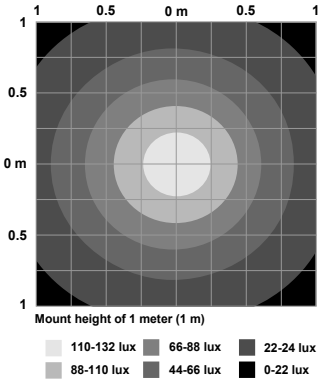

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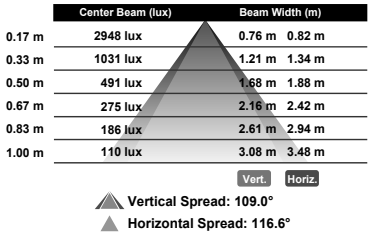
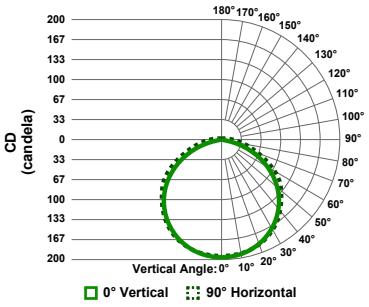


500 mm Models

Polar Candela Distribution



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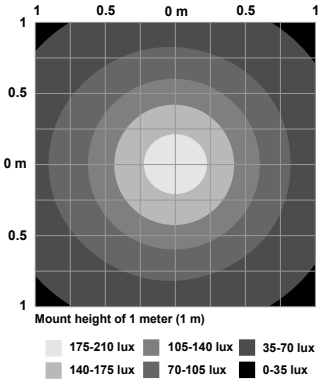
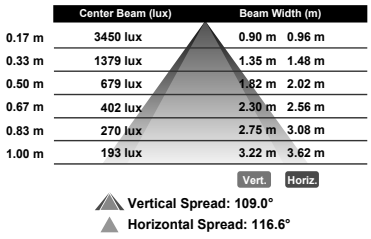


Illuminance at a Distance



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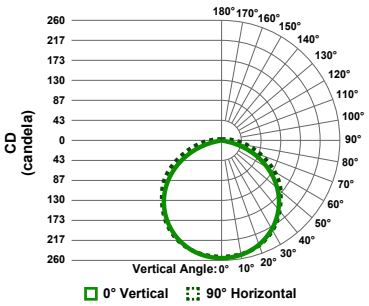
640 mm Models

Polar Candela Distribution



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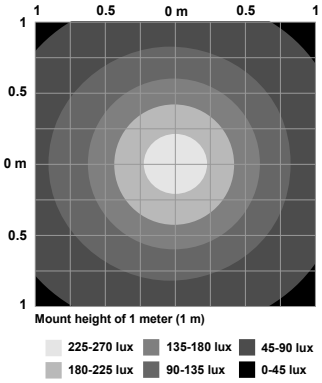

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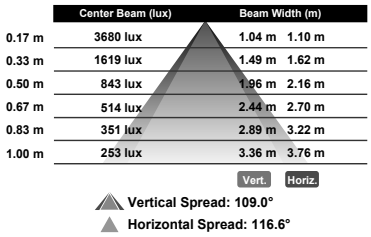
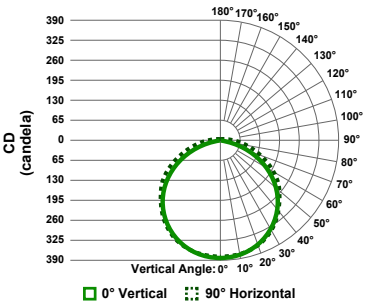


920 mm Models

Polar Candela Distribution



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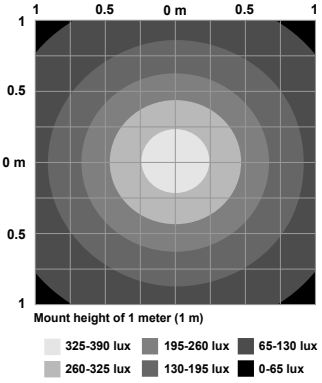

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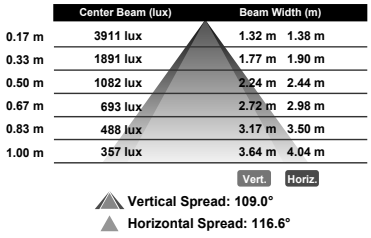
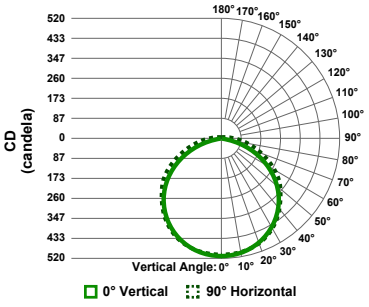


1200 mm Models

Polar Candela Distribution



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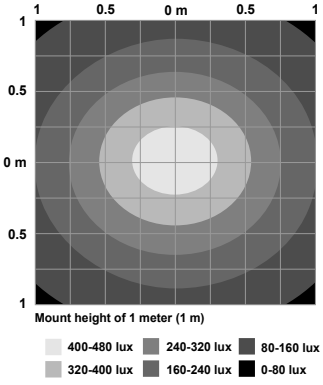

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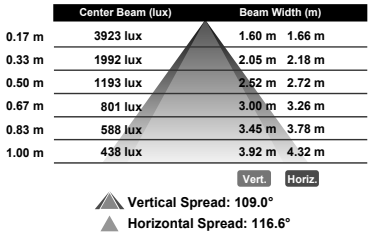

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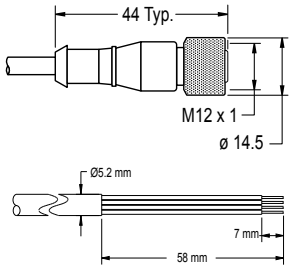
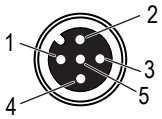
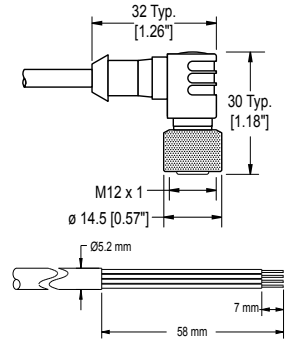
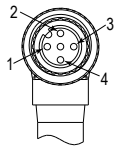
Chapter 4 Accessories

Cordsets

Use single-ended cordsets between the power source and the quick-disconnect connection of a stand-alone light or the first light in a cascade. Use double-ended cordsets between lights in a cascade.

4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-406	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used
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)				

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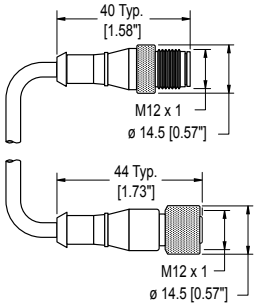
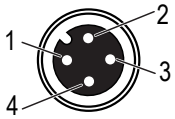
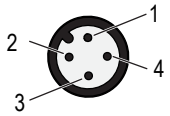
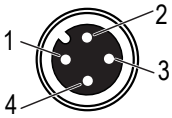
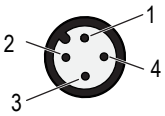
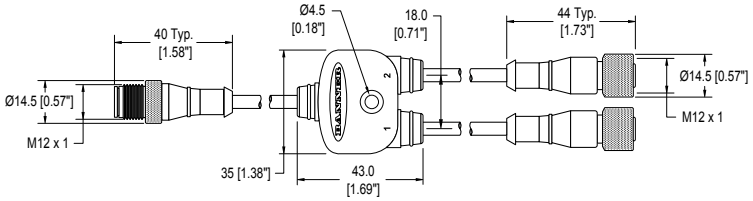
4-Pin Double-Ended M12 Female to M12 Male Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-415SS	4.58 m (15 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30.2 ft)			
MQDEC-450SS	15.2 m (49.9 ft)			

4-Pin Flat Junction M12 Female Branch to M12 MaleTrunk Splitter Cordsets			
Model	**Branches (Female)**	**Trunk (Male)**	**Pinout**
CSB-M1240M1240	No branch	No trunk	Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
CSB-M1240M1241	2 × 0.3 m (1 ft)	No trunk	
CSB-M1241M1241		0.31 m (1 ft)	
CSB-M1248M1241		2.44 m (8 ft)	
CSB-M12415M1241		4.57 m (15 ft)	
CSB-M12425M1241		7.60 m (25 ft)	
CSB-UNT425M1241		7.60 m (25 ft) Unterminated	
CSB-M1243M1243	2 × 1 m (3.28 ft)	1 m (3.28 ft)	
			

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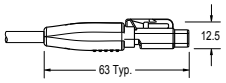
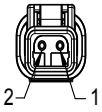
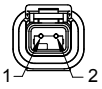
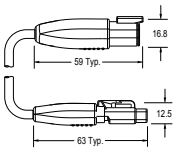
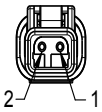
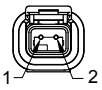
Single Color Only Cordsets

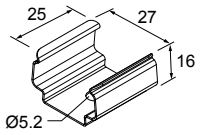
2-Pin Single-Ended Deutsch Female to Male Cordset				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
DTMC-206	1.83 m (6 ft)	Straight		Male  Female  1 = Brown 2 = Blue
DTMC-215	4.57 m (15 ft)			
DTMC-230	9.15 m (30 ft)			

2-Pin Double-Ended Deutsch Female to Male Cordset				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
DTMEC-2005	0.16 m (0.5 ft)	Straight		Male  Female  1 = Brown 2 = Blue
DTMEC-201	0.31 m (1 ft)			
DTMEC-203	0.91 m (3 ft)			
DTMEC-206	1.83 m (6 ft)			
DTMEC-212	3.66 m (12 ft)			
DTMEC-220	6.10 m (20 ft)			
DTMEC-230	9.15 m (30 ft)			

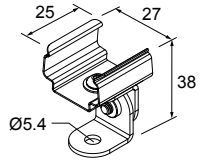
Mounting Accessories

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

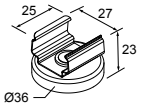
LMBWLS15
- Stainless steel clip bracket
- Includes 3 clip brackets and 2 plastic spacers
- Clearance hole for M5 hardware



LMBWLS15-150S
- Set of 2 stainless steel swivel brackets, allows for 150° of movement
- Clearance hole for M5 button head screw



LMBWLS15MAG
- Set of 2 brackets
- Magnetic mounting bracket for attachment to steel and iron surfaces



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LMBWLS15TD

- Includes 4 100 mm (4 in) strips of 3M™ Dual Lock™ reclosable fasteners
- Recommended for mounting to metal and plastic surfaces
- Strong, pressure-sensitive adhesive bonds on contact



LMBWLS15TF

- Includes 2 100 mm (4 in) strips of double-sided foam urethane strips
- Acrylic adhesive provides high bond strength to most surfaces
- Bonds to low surface energy plastics such as polypropylene and powder-coated paints



ACC-CAP M12-10

- 10 Caps
- Seal and protect exposed, unterminated M12 quick-disconnect connectors



Power Supplies

For use with lights connected in series (cascades of lights) that do not exceed a total maximum operating current of 4A (refer to maximum current specifications):

PSD-24-4

- 90 to 264 V AC 50/60 Hz input
- Includes a 1.8 m (6 ft) US-style 5-15P input plug
- 24 V DC UL Listed Class 2 M12 connector output
- 4 A total current



For use with all non-cascadable lights, or with lights connected in series (cascades of lights) that do not exceed a total maximum operating current of 1A (refer to maximum current specifications):

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



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Chapter 5 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

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

Banner Engineering Corp Limited Warranty

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