

# WLS28-2 LED Strip Light



## Datasheet



Banner's LED Strip Lights have sturdy aluminum housings, shatterproof windows, and impressive environmental ratings, making them an ideal general-purpose LED light for machine, enclosure, or other industrial lighting applications.

- 40% brighter and 40% more efficient than previous model
- Low-profile, space-saving design
- Rugged, water-resistant IP69K option
- Available in 8 lengths from 145 to 1130 mm
- Lensed models or choice of clear or diffuse window
- Daisy chain power to multiple lights



**NOTE:** When cascading lights, a model with an ON/OFF switch can be used to control the lights cascaded off the switched model.

### New Features

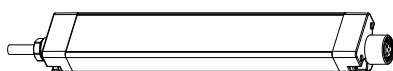
- Enhanced light quality: brighter, closer spaced LEDs
- Optional snap clips for easy installation and repositioning
- Capability to dim lights using the wiring pinout (Hi/Low/Off)
- Optional switch is now Hi/Low/Off
- Automatic temperature protection built into the unit. Above 50 °C, the light dims to manage heat and protect product lifetime



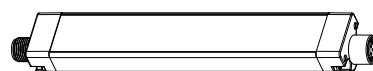
Stand-Alone Light—cable



Stand-Alone Light or End Light in a Cascade—QD



First Light in a Cascade—cable



First or Middle of a Cascade—QD

WLS28-2 Work Light Strips are available as either stand-alone models, or as cascade models that can be "daisy-chained" together for a continuous length of lighting, with a minimum of wiring.

Stand-alone models have cable or male QD fitting at one end for power connection, no connections at opposite end. A stand-alone model may be used as the last in the cascade series.

Cascade models have cable or male QD fitting at one end for power connection, female QD fitting at opposite end for connection to other lights in the cascade. Cascade models with cable end can only be used as the first light in the cascade series. A double-ended accessory cordset must be used between each pair of lights in a cascade.

Family	Cascadable	LED Color	Lighted Length (mm)	Window	Construction	Connector
WLS28-2	C	W	145	D	X	Q
	C = Cascadable X = Non-cascadable	W = Cool white WW = Warm white R = Red G = Green B = Blue Y = Yellow	145 285 430 570 710 850 990 1130	Blank = Clear plastic D = Diffused plastic L25 = 25 deg lensed window	X = Not sealed S = Sealed †	Blank = 2 m integral cable Q = Integral 4-pin Euro-style QD (mating cordset required*)
					Blank = None PB = High/Low/Off Switch PWM = Pulse Width Modulation Dimming	

\* Models require a mating cordset  
† Sealed models not available with On/Off Switch



Table 1: IP50 Models

Non-Switch Models		HIGH/OFF/LOW Switch Models		Lighted Length	Power Connector
Stand-Alone	Cascade	Stand-Alone	Cascade		
WLS28-2XW145X	WLS28-2CW145X	WLS28-2XW145XPB	WLS28-2CW145XPB	145 mm	2 m cable
WLS28-2XW285X	WLS28-2CW285X	WLS28-2XW285XPB	WLS28-2CW285XPB	285 mm	
WLS28-2XW430X	WLS28-2CW430X	WLS28-2XW430XPB	WLS28-2CW430XPB	430 mm	
WLS28-2XW570X	WLS28-2CW570X	WLS28-2XW570XPB	WLS28-2CW570XPB	570 mm	
WLS28-2XW710X	WLS28-2CW710X	WLS28-2XW710XPB	WLS28-2CW710XPB	710 mm	
WLS28-2XW850X	WLS28-2CW850X	WLS28-2XW850XPB	WLS28-2CW850XPB	850 mm	
WLS28-2XW990X	WLS28-2CW990X	WLS28-2XW990XPB	WLS28-2CW990XPB	990 mm	
WLS28-2XW1130X	WLS28-2CW1130X	WLS28-2XW1130XPB	WLS28-2CW1130XPB	1130 mm	

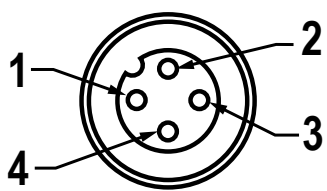
Only cabled power connector models are listed. To order the 4-pin M12/Euro-style integral power connector model, add suffix Q to the model number (for example, WLS28-2XW285XQ).

Table 2: IP67/IP69K Models

Models		Lighted Length	Power Connector
Stand-Alone	Cascade		
WLS28-2XW145S	WLS28-2CW145S	145 mm	2 m cable
WLS28-2XW285S	WLS28-2CW285S	285 mm	
WLS28-2XW430S	WLS28-2CW430S	430 mm	
WLS28-2XW570S	WLS28-2CW570S	570 mm	
WLS28-2XW710S	WLS28-2CW710S	710 mm	
WLS28-2XW850S	WLS28-2CW850S	850 mm	
WLS28-2XW990S	WLS28-2CW990S	990 mm	
WLS28-2XW1130S	WLS28-2CW1130S	1130 mm	

Only cabled power connector models are listed. To order the 4-pin M12/Euro-style integral power connector model, add suffix Q to the model number (for example, WLS28-2XW285SQ).

## Wiring Diagram

	Pin	Wire Color	Connection
	1	brown	12 to 30 V dc
	3	blue	dc common
	4	black	Connect to 12 to 30 V dc for 50% max. intensity
	2	white	Not used

For maximum intensity, leave the black wire floating or connected to common.

## Specifications

Operating Voltage  
12 to 30 V dc  
Must be used with a Class 2 power supply

Table 3: Typical Current

Light Length	Typical Current			Max. Current	Lumens <sup>1</sup> (Typical @25 °C)
	12 V dc	24 V dc	30 V dc	A	Cool White
145 mm	0.33 A	0.15 A	0.12 A	0.4	325
285 mm	0.66 A	0.30 A	0.24 A	0.8	650
430 mm	1.01 A	0.46 A	0.36 A	1.2	975
570 mm	1.36 A	0.61 A	0.48 A	1.6	1300
710 mm	1.75 A	0.77 A	0.60 A	2.0	1625
850 mm	2.13 A	0.92 A	0.73 A	2.4	1950
990 mm	2.59 A	1.08 A	0.85 A	2.8	2275
1130 mm	3.04 A	1.24 A	0.97 A	3.2	2600

### Light Characteristics

Color: Cool White  
Color Temperature (CCT): 6000–7100K  
Lumen output: 650 (± 5%) per foot, typical at 25 °C (77 °F)  
Luminous efficacy: 90 lumens/Watt typical at 24 V dc at 25 °C (77 °F)  
CRI: 85, typical

### Push Button

II = 100% light intensity  
I = 50% light intensity  
0 = Off

### Construction

Clear anodized aluminum housing; painted zinc end caps; acrylic window; zinc plated steel brackets

### Mounting

(2) swivel brackets SMBWLS28RA included and (4) screws

### Connections

Integral 4-pin Euro-style QD (4-pin connecting cordset required for QD models); or 2 m (6.5 ft) integral cable



**NOTE:** Do not spray cable with high-pressure sprayer, or cable damage will result.

### Environmental Rating

IEC IP50 (non-sealed models) or IEC IP67/IP69K per DIN 40050 (sealed models)

### Vibration and Mechanical Shock

Vibration 10-55 Hz 1.0 mm p-p amplitude per IEC 60068-2-6  
Shock 15G 11 ms duration, half sine wave per IEC 60068-2-27

### Operating Temperature

–25 °C to 70 °C (–13 °F to 158 °F)  
Light output begins to decrease above 50 °C (122 °F) and will be approximately 65% of max intensity at 60 °C (140 °F) and 30% of max intensity at 70 °C (158 °F)

### Storage Temperature

–40 °C to 70 °C (–40 °F to 158 °F)

### Certifications



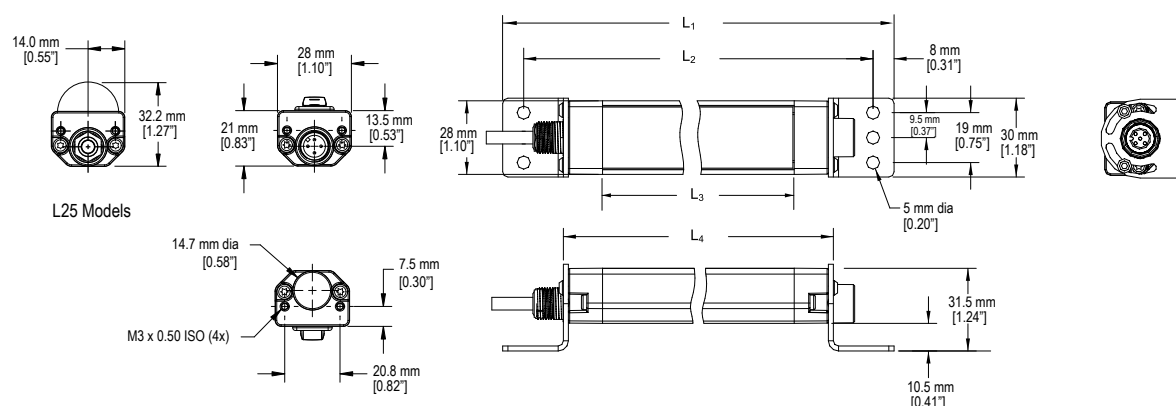
### Application Note

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

Maximum length of light at 12 V dc: 1.4 m (4.6 ft)  
Maximum length of light at 24 V dc: 3.0 m (9.8 ft)  
Maximum length of light at 30 V dc: 3.1 m (10.2 ft)

<sup>1</sup> Lumen values lowered by 25% on diffused window models.

## Dimensions



Dimensions are shown with the included SMBWLS28RA bracket.

Non-Switch Models					
IP50 Models	IP67/IP69K Models	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
WLS28-2..145X	WLS28-2..145S	221 mm (8.7 in)	205 mm (8.1 in)	145 mm (5.71 in)	175 mm (6.9 in)
WLS28-2..285X	WLS28-2..285S	362 mm (14.3 in)	346 mm (13.6 in)	286 mm (11.26 in)	316 mm (12.4 in)
WLS28-2..430X	WLS28-2..430S	503 mm (19.8 in)	487 mm (19.2 in)	427 mm (16.81 in)	457 mm (18.0 in)
WLS28-2..570X	WLS28-2..570S	644 mm (25.4 in)	628 mm (24.7 in)	568 mm (22.36 in)	598 mm (23.5 in)
WLS28-2..710X	WLS28-2..710S	785 mm (30.9 in)	769 mm (30.3 in)	709 mm (27.91 in)	739 mm (29.1 in)
WLS28-2..850X	WLS28-2..850S	926 mm (36.5 in)	910 mm (35.8 in)	850 mm (33.46 in)	880 mm (34.6 in)
WLS28-2..990X	WLS28-2..990S	1067 mm (42 in)	1051 mm (41.4 in)	991 mm (39.02 in)	1021 mm (40.2 in)
WLS28-2..1130X	WLS28-2..1130S	1208 mm (47.6 in)	1192 mm (46.9 in)	1132 mm (44.57 in)	1162 mm (45.7 in)

ON/OFF Switch Models				
Model	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>
WLS28-2..145XPB	251 mm (9.9 in)	235 mm (9.3 in)	145 mm (5.71 in)	205 mm (8.1 in)
WLS28-2..285XPB	392 mm (15.4 in)	376 mm (14.8 in)	286 mm (11.26 in)	346 mm (13.6 in)
WLS28-2..430XPB	533 mm (21.0 in)	517 mm (20.4 in)	427 mm (16.81 in)	487 mm (19.2 in)
WLS28-2..570XPB	674 mm (26.5 in)	658 mm (25.9 in)	568 mm (22.36 in)	628 mm (24.7 in)
WLS28-2..710XPB	815 mm (32.1 in)	799 mm (31.5 in)	709 mm (27.91 in)	769 mm (30.3 in)
WLS28-2..850XPB	956 mm (37.6 in)	940 mm (37 in)	850 mm (33.46 in)	910 mm (35.8 in)
WLS28-2..990XPB	1097 mm (43.2 in)	1081 mm (42.6 in)	991 mm (39.02 in)	1051 mm (41.4 in)
WLS28-2..1130XPB	1238 mm (48.7 in)	1222 mm (48.1 in)	1132 mm (44.57 in)	1192 mm (46.9 in)

## Accessories

### Cordsets

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

4-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout
MQDC-406	1.83 m (6 ft)	Straight		
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			
MQDC-406RA	1.83 m (6 ft)	Right-Angle		1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

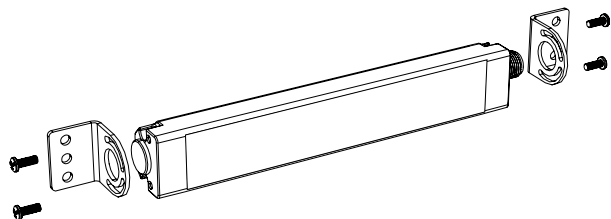
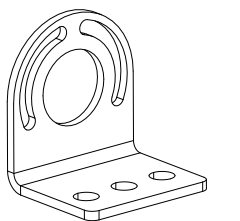
4-Pin Threaded M12/Euro-Style Cordsets—Double Ended				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/ Female Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (3 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-420SS	6.10 m (20 ft)			
MQDEC-430SS	9.14 m (30 ft)			
MQDEC-450SS	15.2 m (50 ft)			

4-Pin Threaded M12/Euro-Style Splitter Cordsets — Flat Junction				
Model	Branches (Female)	Trunk (Male)	Dimensions	Pinout
CSB-M1240M1240	No branch	No trunk		 1 = Brown 2 = White 3 = Blue 4 = Black
CSB-M1240M1241	2 x 0.30 m (1 ft)	No trunk		
CSB-M1241M1241		0.30 m (1 ft)		
CSB-M1248M1241		2.50 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		

## Brackets

## SMBWLS28RA

The bracket kit is available as a replacement for the one that comes with the Work Light Strip. The kit contains two end brackets and four screws.



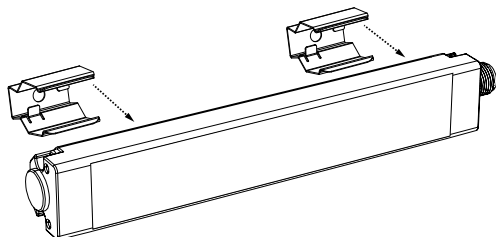
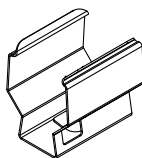
## SMBWLS28SM

This kit allows the light to be mounted at a right angle to the mounting surface. The kit contains two end brackets and four screws.



## SMBWLS28SP

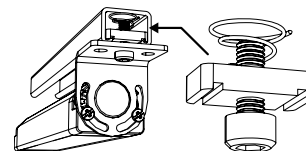
- Stainless steel snap bracket kit
- Includes two brackets



## SMH1316

This kit allows the light to be mounted to a 13/16-inch Unistrut channel. The kit includes:

- #10-32 spring nuts (qty 2)
- #10-32 socket head cap screws (qty 2)
- #10 lock washers (qty 2)



## SMBWLSMAG

Magnetic mounting bracket for easy attachment to steel surfaces

## SMBWLSMAGR

Protective cover also available to prevent scratches to painted surfaces



## Banner Engineering Corp Limited Warranty

---

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp.