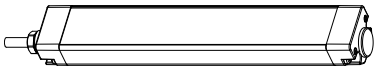
WLS28-2 LED Strip Light - PWM Dimmable

Datasheet

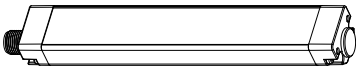
Banner's LED Strip Lights have sturdy aluminum housings, shatterproof windows, and impressive environmental ratings, making them an ideal general-purpose LED light for machine, enclosure, or other industrial lighting applications.

- Intensity can be controlled from 0 to 100% using Pulse Width Modulation (PWM) on an input control wire
- 40% brighter and 40% more efficient than previous model
- Low-profile, space-saving design
- Rugged, water-resistant IP69K option
- Available in eight lengths from 145 to 1130 mm
- Lensed models or choice of clear or diffuse window
- Daisy chain power to multiple lights to control intensity simultaneously
- Optional snap clips for easy installation and repositioning
- Automatic temperature protection built into the unit. Above 50 °C, the light dims to manage heat and protect product lifetime

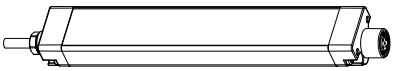
For PWM dimming, use with the LC65 Dimmer Module. For more information, refer to the LC65 LED Dimmer Module datasheet, p/n *177086*.



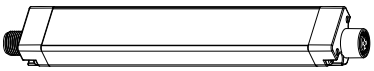
Stand-Alone Light—cable



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.

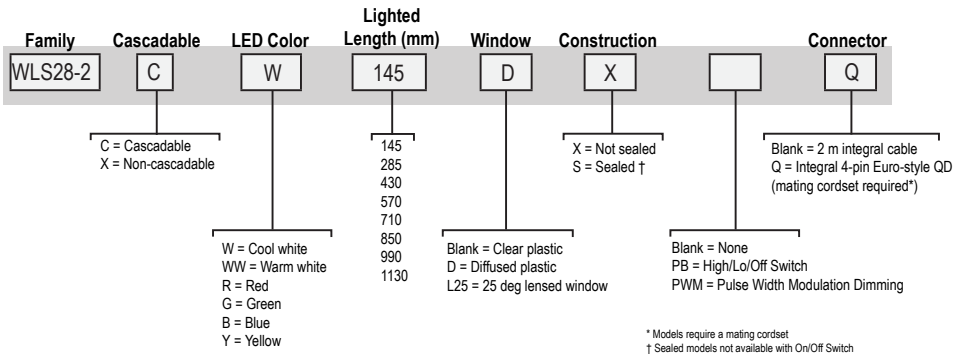


Table 1: IP50 Models

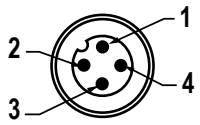
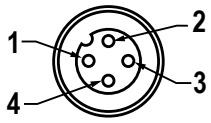
Stand-Alone	Cascade	Lighted Length	Power Connector
WLS28-2XW145XPWM	WLS28-2CW145XPWM	145 mm	2 m cable
WLS28-2XW285XPWM	WLS28-2CW285XPWM	285 mm	
WLS28-2XW430XPWM	WLS28-2CW430XPWM	430 mm	
WLS28-2XW570XPWM	WLS28-2CW570XPWM	570 mm	
WLS28-2XW710XPWM	WLS28-2CW710XPWM	710 mm	
WLS28-2XW850XPWM	WLS28-2CW850XPWM	850 mm	
WLS28-2XW990XPWM	WLS28-2CW990XPWM	990 mm	
WLS28-2XW1130XPWM	WLS28-2CW1130XPWM	1130 mm	

Table 2: IP67/IP69K Models

Stand-Alone	Cascade	Lighted Length	Power Connector
WLS28-2XW145SPWM	WLS28-2CW145SPWM	145 mm	2 m cable
WLS28-2XW285SPWM	WLS28-2CW285SPWM	285 mm	
WLS28-2XW430SPWM	WLS28-2CW430SPWM	430 mm	
WLS28-2XW570SPWM	WLS28-2CW570SPWM	570 mm	
WLS28-2XW710SPWM	WLS28-2CW710SPWM	710 mm	
WLS28-2XW850SPWM	WLS28-2CW850SPWM	850 mm	
WLS28-2XW990SPWM	WLS28-2CW990SPWM	990 mm	
WLS28-2XW1130SPWM	WLS28-2CW1130SPWM	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, WLS28-2XW285XPWMQ).

Wiring Diagram

Male	Female	Pin	Wire Color	Connection
		1	brown	12 to 30 V dc
		3	blue	dc common
		4	black	Pulse width modulation (PWM) input. For maximum intensity, leave the black wire floating or connected to common.
		2	white	Not used

Specifications

Operating Voltage
- 12 to 30 V dc
- Use only with suitable Class 2 power supply (UL) or a SELV power supply (CE).

Pulse Width Modulation (PWM)
- Frequency: Up to 1000 Hz
- Voltage: 8 to 30 V dc
- Current: 4 mA max. per foot

Table 3: Typical Current

Light Length	Typical Current			Max. Current	Lumens [1] (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

Supply Protection Circuitry
Protected against reverse polarity and transient voltages

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

LED Lifetime
Lumen Maintenance - L_{70}
When operating within specifications, output will decrease less than 30% after 50,000 hours.

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

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

Connections
Integral 4-pin M12 quick disconnect fitting (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

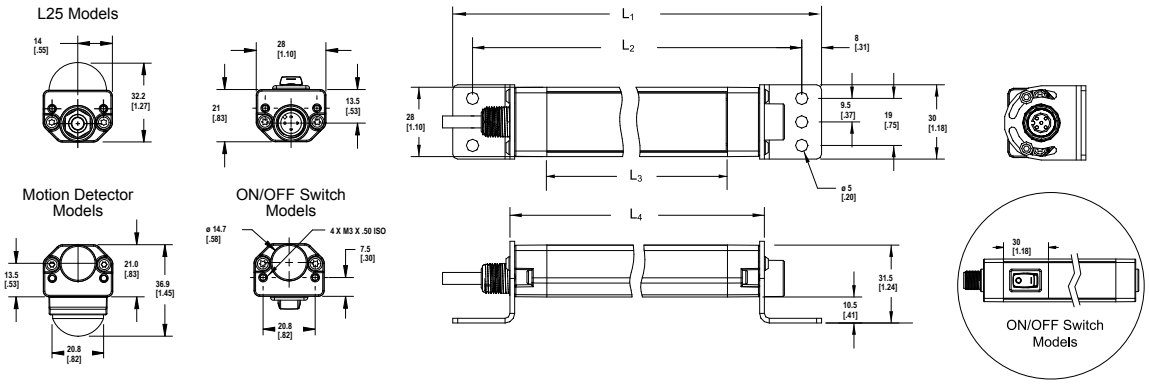
Operating Temperature
−40 °C to +70 °C (−40 °F to +158 °F)
Light output begins to decrease above 50 °C (122 °F) and will be approximately 65% of max intensity at 60 °C (140 °F) and 30% of max intensity at 70 °C (158 °F)

Storage Temperature
−40 °C to +70 °C (−40 °F to +158 °F)

Certifications
c US LISTED

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: 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)

Dimensions



Dimensions are shown with the included SMBWLS28RA bracket.

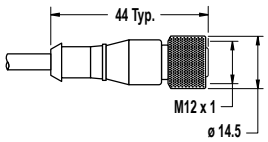
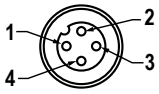
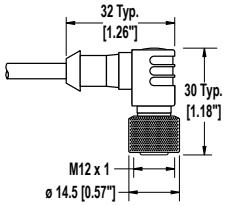
[1] Lumen values lowered by 25% on diffused window models.

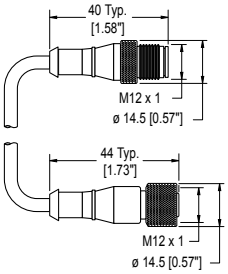
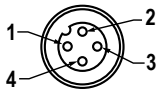
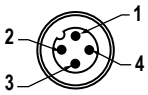
IP50 Models	IP67/IP69K Models	L_1	L_2	L_3	L_4
WLS28-2..145XPWM	WLS28-2..145SPWM	221 mm (8.7 in)	205 mm (8.1 in)	145 mm (5.71 in)	175 mm (6.9 in)
WLS28-2..285XPWM	WLS28-2..285SPWM	362 mm (14.3 in)	346 mm (13.6 in)	286 mm (11.26 in)	316 mm (12.4 in)
WLS28-2..430XPWM	WLS28-2..430SPWM	503 mm (19.8 in)	487 mm (19.2 in)	427 mm (16.81 in)	457 mm (18.0 in)
WLS28-2..570XPWM	WLS28-2..570SPWM	644 mm (25.4 in)	628 mm (24.7 in)	568 mm (22.36 in)	598 mm (23.5 in)
WLS28-2..710XPWM	WLS28-2..710SPWM	785 mm (30.9 in)	769 mm (30.3 in)	709 mm (27.91 in)	739 mm (29.1 in)
WLS28-2..850XPWM	WLS28-2..850SPWM	926 mm (36.5 in)	910 mm (35.8 in)	850 mm (33.46 in)	880 mm (34.6 in)
WLS28-2..990XPWM	WLS28-2..990SPWM	1067 mm (42 in)	1051 mm (41.4 in)	991 mm (39.02 in)	1021 mm (40.2 in)
WLS28-2..1130XPWM	WLS28-2..1130SPWM	1208 mm (47.6 in)	1192 mm (46.9 in)	1132 mm (44.57 in)	1162 mm (45.7 in)

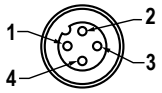
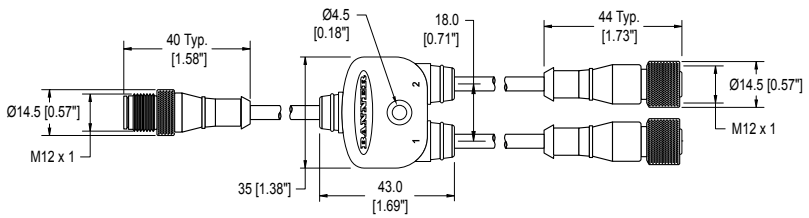
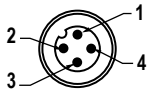
Accessories

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 (Female)
MQDC-406	1.83 m (6 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
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		
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

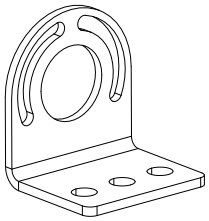
4-Pin Threaded M12/Euro-Style Cordsets—Double Ended				
Model	Length	Style	Dimensions	Pinout
MQDEC-401SS	0.31 m (1 ft)	Male Straight/ Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (3 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 ft)			
MQDEC-420SS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

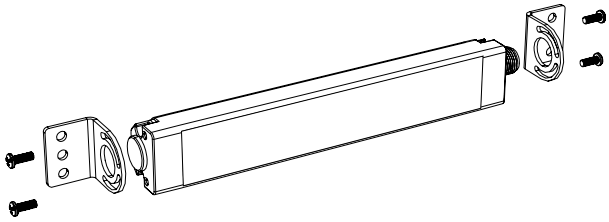
4-Pin Threaded M12/Euro-Style Splitter Cordsets — Flat Junction			
Model	Branches (Female)	Trunk (Male)	Pinout
CSB-M1240M1240	No branch	No trunk	Female
CSB-M1240M1241	2 x 0.30 m (1 ft)	No trunk	
CSB-M1241M1241		0.30 m (1 ft)	
CSB-M1248M1241		2.50 m (8 ft)	
CSB-M12415M1241		4.57 m (15 ft)	
CSB-M12425M1241		7.60 m (25 ft)	Male
CSB-UNT425M1241		7.60 m (25 ft) Unterminated	
			 1 = Brown 2 = White 3 = Blue 4 = Black

Brackets

SMBWLS28RA

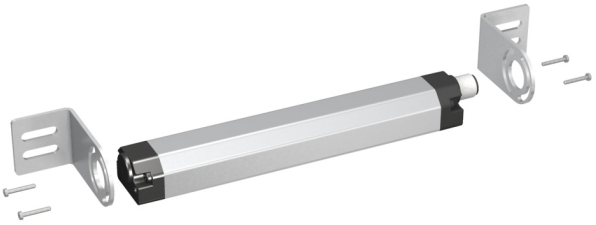
The bracket kit is available as a replacement for the one that comes with the Work Light Strip. The kit contains two end brackets and four screws.





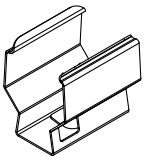
SMBWLS28SM

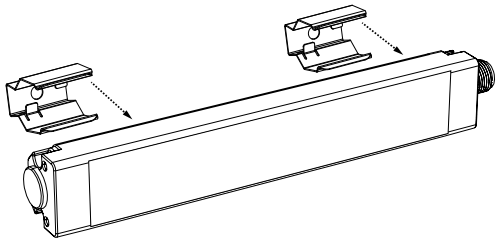
This kit allows the light to be mounted at a right angle to the mounting surface. The kit contains two end brackets and four screws.



SMBWLS28SP

- Stainless steel snap bracket kit
- Includes two brackets

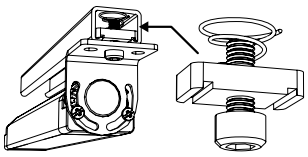




SMH1316

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

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