Features



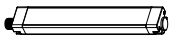
Banner's WLS28-2 UV LED Strip Lights have sturdy aluminum housings, shatterproof windows, and impressive environmental ratings, making them a cost-effective operator inspection light or machine vision light to improve and enhance contrast in UV fluorescent and non-fluorescent applications.

- UV 365 nm and 395 nm wavelength models available for diverse applications
- Low-profile, space-saving design
- Rugged, water-resistant IP69K option
- Available in four lengths from 285 mm to 1130 mm (11.22 in to 3.7 ft)
- Lensed models available on UV395 models
- Daisy chain power to multiple lights
- Safe for long-term worker operation
- Optional snap clips for easy installation and repositioning
- Capability to dim lights using the wiring pinout (Hi/Lo/Off)
- Optional switch is now Hi/Lo/Off
- Automatic temperature protection built into the unit. Above 50 °C, the light dims to manage heat and protect product lifetime
- PWM models can be used for strobed operation

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



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

These 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 quick disconnect (QD) at 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 cable or male quick disconnect (QD) at one end for power connection and a female quick disconnect (QD) at the opposite end for connecting 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.

IMPORTANT: Lea el siguiente instructivo antes de operar el luminario. Por favor descargue desde www.bannerengineering.com toda la documentación técnica de los WLS28-2 UV 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 WLS28-2 UV 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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189194
p/n: 189194 Rev. E

Models

Family	Cascadable	UV Wavelength	—	Lighted Length (mm)	Window	Construction	Control	Connector[1]
WLS28-2	**C**	**UV395**	**—**	**285**		**X**		**Q**
	C = Cascadeable X = Non-cascadeable	UV365 = 365 nm UV395 = 395 nm		285 570 850[2] 1130[2]	Blank = Clear acrylic (UV395 models) G = Clear glass (UV365 models) L25 = 25° lensed window (UV395 models)	X = Not sealed[2] S = Sealed[3]	Blank = None PB = High/Low/Off switch[2] PWM = Pulse Width Modulation dimming	Blank = 2 m (6.5 ft) integral PVC-jacketed cable Q = Integral 4-pin M12 male quick-disconnect connector

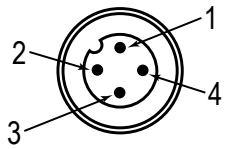
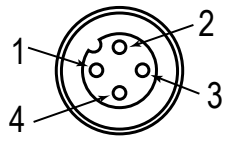
IP50 Models

Non-Switch Models[4]		HIGH/OFF/LOW Switch Models[4]		PWM Models[4]		Lighted Length	Wavelength
Stand-Alone	Cascade	Stand-Alone	Cascade	Stand-Alone	Cascade		
WLS28-2XUV395-285X	WLS28-2CUV395-285X	WLS28-2XUV395-285XPB	WLS28-2CUV395-285XPB	WLS28-2XUV395-285XPWM	WLS28-2CUV395-285XPWM	285 mm	395 nm
WLS28-2XUV395-570X	WLS28-2CUV395-570X	WLS28-2XUV395-570XPB	WLS28-2CUV395-570XPB	WLS28-2XUV395-570XPWM	WLS28-2CUV395-570XPWM	570 mm	
WLS28-2XUV395-850X	WLS28-2CUV395-850X	WLS28-2XUV395-850XPB	WLS28-2CUV395-850XPB	WLS28-2XUV395-850XPWM	WLS28-2CUV395-850XPWM	850 mm	
WLS28-2XUV395-1130X	WLS28-2CUV395-1130X	WLS28-2XUV395-1130XPB	WLS28-2CUV395-1130XPB	WLS28-2XUV395-1130XPWM	WLS28-2CUV395-1130XPWM	1130 mm	

IP67 / IP69K Models

Non-Switch Models[4]		PWM Models[4]		Lighted Length	Wavelength
Stand-Alone	Cascade	Stand-Alone	Cascade		
WLS28-2XUV365-285GS	WLS28-2CUV365-285GS	WLS28-2XUV365-285GSPWM	WLS28-2CUV365-285GSPWM	285 mm	365 nm
WLS28-2XUV365-570GS	WLS28-2CUV365-570GS	WLS28-2XUV365-570GSPWM	WLS28-2CUV365-570GSPWM	570 mm	
WLS28-2XUV395-285S	WLS28-2CUV395-285S	WLS28-2XUV395-285SPWM	WLS28-2CUV395-285SPWM	285 mm	395 nm
WLS28-2XUV395-570S	WLS28-2CUV395-570S	WLS28-2XUV395-570SPWM	WLS28-2CUV395-570SPWM	570 mm	
WLS28-2XUV395-850S	WLS28-2CUV395-850S	WLS28-2XUV395-850SPWM	WLS28-2CUV395-850SPWM	850 mm	
WLS28-2XUV395-1130S	WLS28-2CUV395-1130S	WLS28-2XUV395-1130SPWM	WLS28-2CUV395-1130SPWM	1130 mm	

Wiring

Male	Female	Pin	Wire Color	Connection
		1	Brown	12 V DC to 30 V DC
		3	Blue	DC common
		4	Black	Models without the switch or PWM: Connect to 12 V DC to 30 V DC for 50% maximum intensity
				Models with PWM: Connect to 8 V DC to 30 V DC to turn the light off; connect to DC common or leave floating to turn the light on.
		2	White	Not used

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

[1] Models with a quick-disconnect connector require a mating cordset.
[2] Not available in UV365 models.
[3] Sealed models are not available with the High/Low/Off switch.
[4] Integral 2 m (6.5 ft) unterminated cable models are listed. To order the 4-pin M12 integral quick disconnect model, add the suffix "Q" to the model number. For example, WLS28-2XUV395-285XQ.

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Specifications

Supply Voltage and Current

12 V DC to 30 V DC

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

See electrical characteristics on product label

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Light Characteristics

UV365: 360 nm to 370 nm

UV395: 390 nm to 400 nm

LED Lifetime

Lumen Maintenance – L_{70}

When operating within specifications, output will decrease less than 30% after 40,000 hours.

Push Button

II = 100% light intensity

I = 50% light intensity

0 = Off

Pulse Width Modulation (PWM)

Frequency: Up to 1000 Hz

Voltage: 8 V dc to 30 V dc

Current: 4 mA maximum per foot

Construction

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

Window for UV365 models: tempered borosilicate glass

Window for UV395 models: acrylic

Mounting

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

Connections

Integral 4-pin M12 male quick-disconnect connector (4-pin connecting cordset required); or 2 m (6.5 ft) integral PVC-jacketed cable

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

Environmental Rating

IP50 (non-sealed models) or IP65, IP67, IP69K per ISO 20653 (sealed models)

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

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

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

Sealed models only

Application Note

When connecting cascadable lights in series at 100% intensity, 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)

At 50% intensity, double the lengths.

NOTE: This product emits UV light. Exempt Risk Group (RG 0) product. No optical hazard is considered reasonably foreseeable, even for continuous, unrestricted use (IEC 62471).

Typical Current

Light Length	Typical Current			Max. Current	Radiant Flux (mW) (Typical at 25 °C)	
	12 V DC	24 V DC	30 V DC	A	UV365	UV395
285 mm	0.66 A	0.3 A	0.24 A	0.8	250	850
570 mm	1.36 A	0.61 A	0.48 A	1.6	500	1700
850 mm	2.13 A	0.92 A	0.73 A	2.4	-	2550
1130 mm	3.04 A	1.24 A	0.97 A	3.2	-	3400

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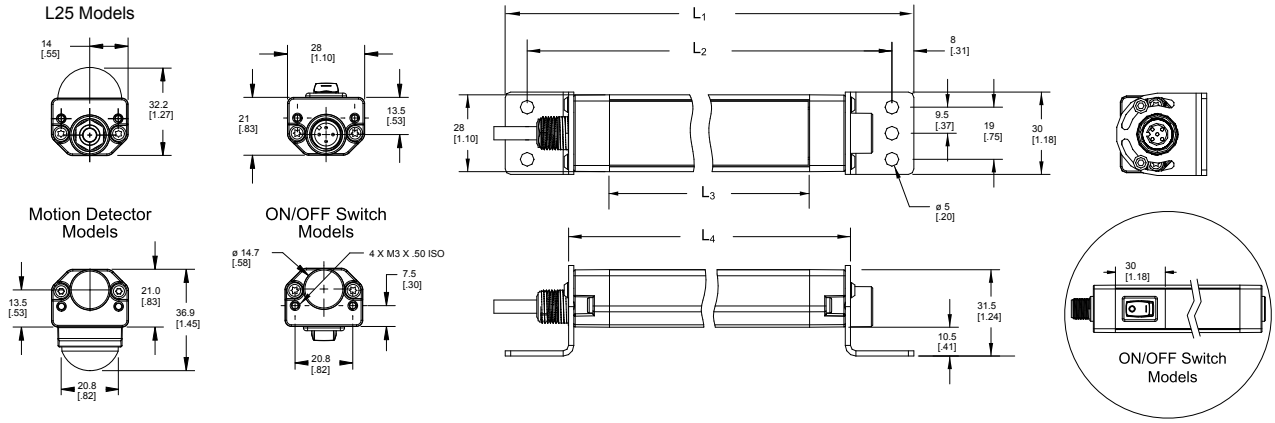
Dimensions

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



Dimensions are shown with the included SMBWLS28RA bracket.

Non-Switch Models

IP50 Models	IP67 / IP69K Models	L_1	L_2	L_3	L_4
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..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..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..1130X	WLS28-2..1130S	1208 mm (47.6 in)	1192 mm (46.9 in)	1132 mm (44.57 in)	1162 mm (45.7 in)

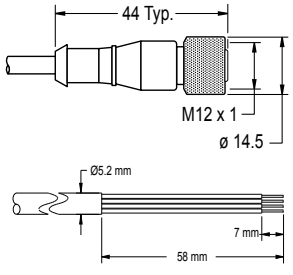
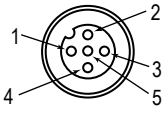
ON/OFF Switch Models

Model	L_1	L_2	L_3	L_4
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..570XPB	674 mm (26.5 in)	658 mm (25.9 in)	568 mm (22.36 in)	628 mm (24.7 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..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 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)				

Continued on page 5

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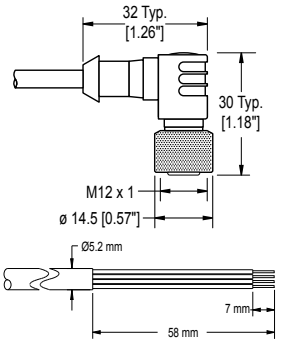
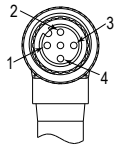
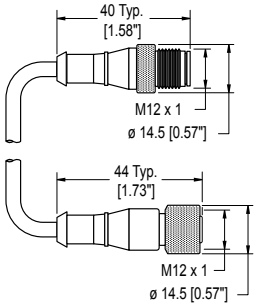
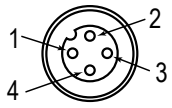
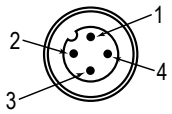
Continued from page 4

4-Pin Single-Ended M12 Female Cordsets

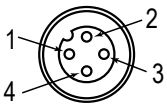
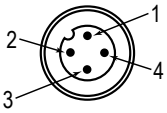
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406RA	2 m (6.56 ft)	Right-Angle		
MQDC-415RA	5 m (16.4 ft)			
MQDC-430RA	9 m (29.5 ft)			
MQDC-450RA	15 m (49.2 ft)			

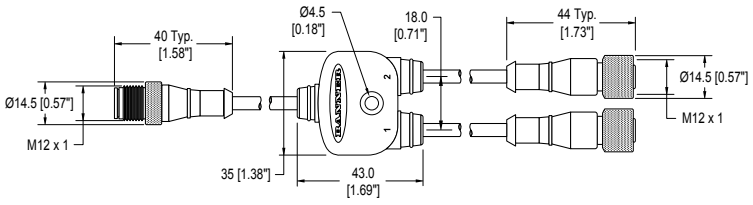
4-Pin Double-Ended M12 Female to M12 Male Cordsets

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)			

1 = Brown
2 = White
3 = Blue
4 = Black

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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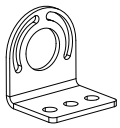
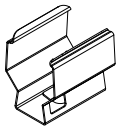
Brackets

SMBWLS28RA
- Replacement end bracket kit
- 1.8 mm (14 gage) cold rolled steel with zinc plate, clear chromate finish
- Kit contains two end brackets and four screws

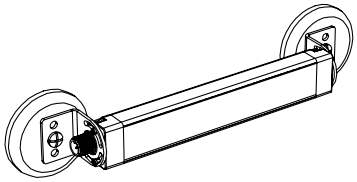


SMBWLS28SP
- Stainless steel snap bracket kit
- Includes two brackets

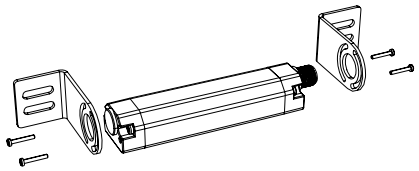


SMBWLSMAG
- Magnetic mounting bracket for easy attachment to steel surfaces

SMBWLSMAGR
- Protective cover also available to prevent scratches to painted surfaces

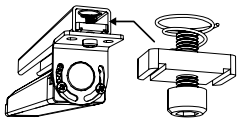


SMBWLS28SM
- End bracket kit
- Cold Rolled Steel with a clear zinc finish
- Allows the light or switch to be mounted at a right angle to the mounting surface
- Kit contains two end brackets and four screws



SMH1316
This kit allows the light or switch to be mounted to a 13/16-inch Unistrut channel. Light is shown. The kit includes:

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



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