Features



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

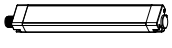
- Low-profile, space-saving design
- Rugged, water-resistant IP69K option
- Available in four lengths from 285 mm to 1130 mm (11.22 in to 3.7 ft)
- Lensed models or choice of clear or diffuse window
- Daisy chain power to multiple lights
- Optional snap clips for easy installation and repositioning
- 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.

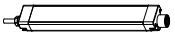
Stand-Alone Light—cable



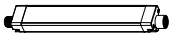
Stand-Alone Light or End Light in a Cascade—QD



First Light in a Cascade—cable



First or Middle of a Cascade—QD



Banner's WLS28-2 IR LED Strip Light has a sturdy aluminum housing and is encased in a shatterproof, UV-stabilized, copolyester shell, making it ideal for harsh indoor and outdoor applications.

Stand-alone models have a male quick-disconnect (QD) connector at one end for power connection and no connections at the opposite end. A stand-alone model may be used as the last in the cascade series.

Cascade models have a male quick-disconnect (QD) connector at one end for power connection, and a female QD at the opposite end for connecting to other lights in the cascade. A double-ended accessory cordset must be used between each pair of lights in a cascade.

IMPORTANT: Read the following instructions before operating the light. Please download the complete WLS28-2 IR 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 WLS28-2 IR 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 IR 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.

Original Instructions
15-Sep-25

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

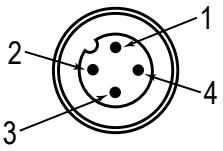
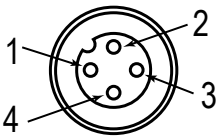
196637
p/n: 196637 Rev. E

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Models

Family	Cascadable	Color	—	Lighted Length (mm)	Window	Construction	Control	Connector
WLS28-2	C	I	—	285		X		Q
	C = Cascadeable X = Non-cascadeable	I = Infrared, 850 nm		285 570 850 1130	Blank = Clear plastic D = Diffused plastic L25 = 25° lensed window	X = Not sealed S = Sealed(1)	Blank = None PB = High/Low/Off switch PWM = Pulse Width Modulation dimming	Blank = 2 m (6.5 ft) integral PVC-jacketed cable Q = Integral 4-pin M12 male quick-disconnect connector

Wiring

Male	Female	Pin	Wire Color	Connection
		1	Brown	12 V DC to 30 V DC
		3	Blue	DC common
		4	Black	Models without motion detection: Connect to 12 V DC to 30 V DC for 50% maximum intensity. For maximum intensity, leave the black wire floating or connected to common.
				Models with motion detection: Connect to 12 V DC to 30 V DC to bypass the motion detector switch
		2	White	Not used

Specifications

Supply Voltage and Current

12 V DC to 30 V DC

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

See electrical characteristics on product label

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	
285 mm	0.66 A	0.3 A	0.24 A	0.8	2600
570 mm	1.36 A	0.61 A	0.48 A	1.6	5200
850 mm	2.13 A	0.92 A	0.73 A	2.4	7800
1130 mm	3.04 A	1.24 A	0.97 A	3.2	10400

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Light Characteristics

850 nm

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 food

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)

Environmental Rating

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

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.

Construction

Clear anodized aluminum housing; painted zinc end caps; polycarbonate window on clear and diffuse plastic models; acrylic window on L25 models; zinc-plated steel brackets

Mounting

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

(1) Sealed models are not available with the High/Low/Off switch.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

Connections

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

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

Certifications

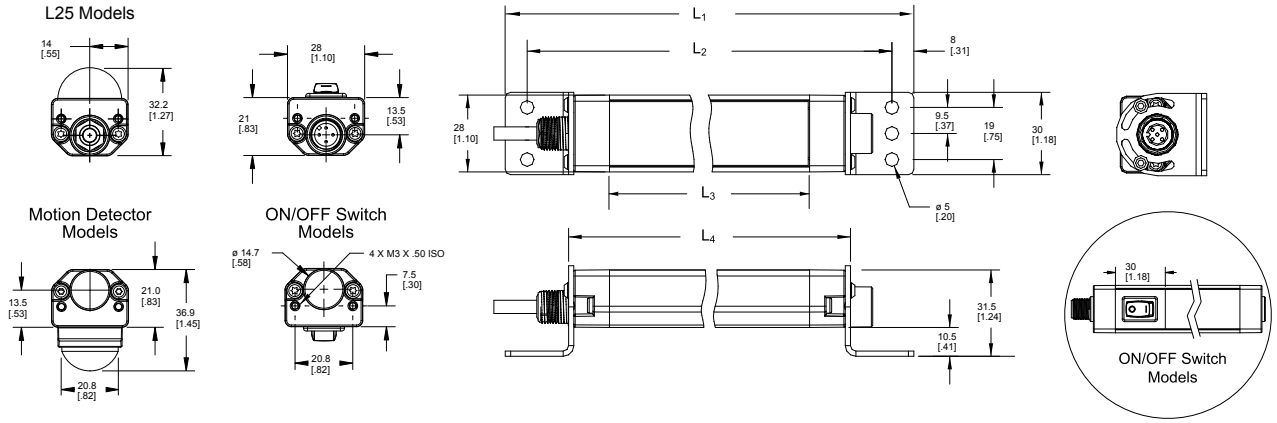
Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

Sealed models only

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

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

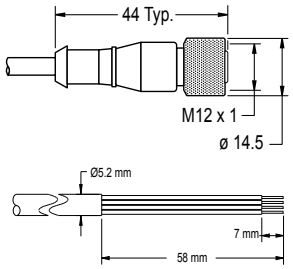
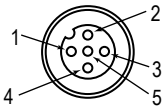
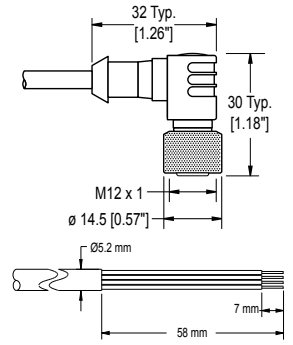
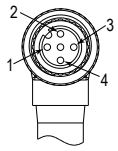
Model	L_1	L_2	L_3	L_4
WLS28-2..285XPB	392 mm (15.4 in)	376 mm (14.8 in)	286 mm (11.26 in)	346 mm (13.6 in)
WLS28-2..570XPB	674 mm (26.5 in)	658 mm (25.9 in)	568 mm (22.36 in)	628 mm (24.7 in)
WLS28-2..850XPB	956 mm (37.6 in)	940 mm (37 in)	850 mm (33.46 in)	910 mm (35.8 in)
WLS28-2..1130XPB	1238 mm (48.7 in)	1222 mm (48.1 in)	1132 mm (44.57 in)	1192 mm (46.9 in)

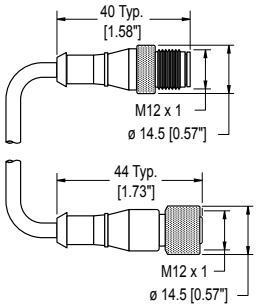
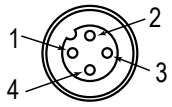
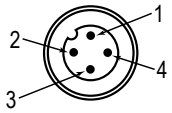
Accessories

Cordsets

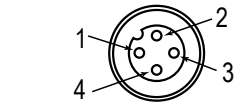
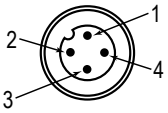
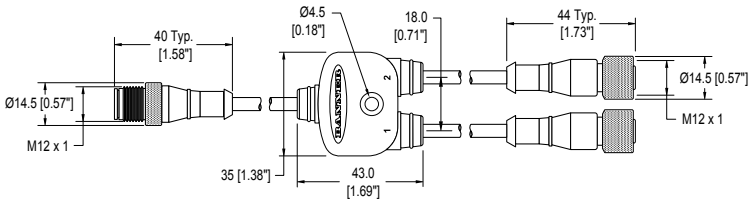
Use single-ended cordsets between the power source and the QD connection of a stand-alone light or the first light in a cascade. Use double-ended cordsets between lights in a cascade.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

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)				

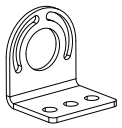
4-Pin Double-Ended M12 Female to M12 Male Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout**
MQDEC-401SS	0.31 m (1 ft)	Male Straight/Female Straight		Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
MQDEC-403SS	0.91 m (2.99 ft)			
MQDEC-406SS	1.83 m (6 ft)			
MQDEC-412SS	3.66 m (12 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)			

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

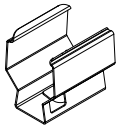
4-Pin Flat Junction M12 Female Branch to M12 MaleTrunk Splitter Cordsets			
Model	**Branches (Female)**	**Trunk (Male)**	**Pinout**
CSB-M1240M1240	No branch	No trunk	Female  Male  1 = Brown 2 = White 3 = Blue 4 = Black
CSB-M1240M1241	2 × 0.3 m (1 ft)	No trunk	
CSB-M1241M1241		0.31 m (1 ft)	
CSB-M1248M1241		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)	
 			

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

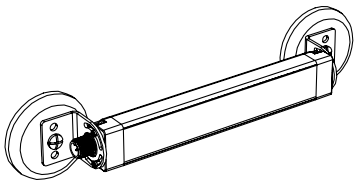


SMBWLS28SP
- Stainless steel snap bracket kit
- Includes two brackets

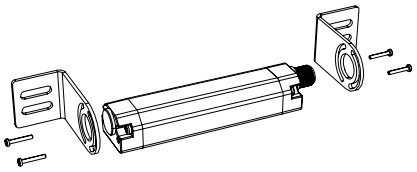


SMBWLSMAG
- Magnetic mounting bracket for easy attachment to steel surfaces

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

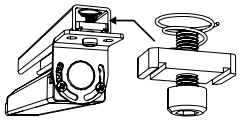


SMBWLS28SM
- End bracket kit
- Cold Rolled Steel with a clear zinc finish
- Allows the light or switch to be mounted at a right angle to the mounting surface
- Kit contains two end brackets and four screws



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)



© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

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. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

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

81 8363.2714

© Banner Engineering Corp. All rights reserved.