# 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.

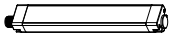
- Low-profile, space-saving design
- Rugged, water-resistant IP69K option
- Available in four lengths from 285 mm to 1130 mm (11.22 in to 3.7 ft)
- Lensed models or choice of clear or diffuse window
- Daisy chain power to multiple lights
- Optional snap clips for easy installation and repositioning
-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

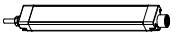
*Stand-Alone Light—cable*



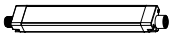
*Stand-Alone Light or End Light in a Cascade—QD*



*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

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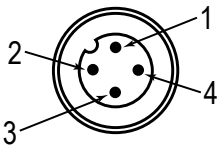
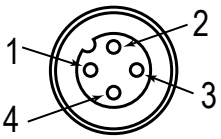
196637
p/n: 196637 Rev. E

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<br>X = Non-cascadeable | I = Infrared, 850 nm | | 285<br>570<br>850<br>1130 | Blank = Clear plastic<br>D = Diffused plastic<br>L25 = 25° lensed window | X = Not sealed<br>S = Sealed(1) | Blank = None<br>PB = High/Low/Off switch<br>PWM = Pulse Width Modulation dimming | Blank = 2 m (6.5 ft) integral PVC-jacketed cable<br>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.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### 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

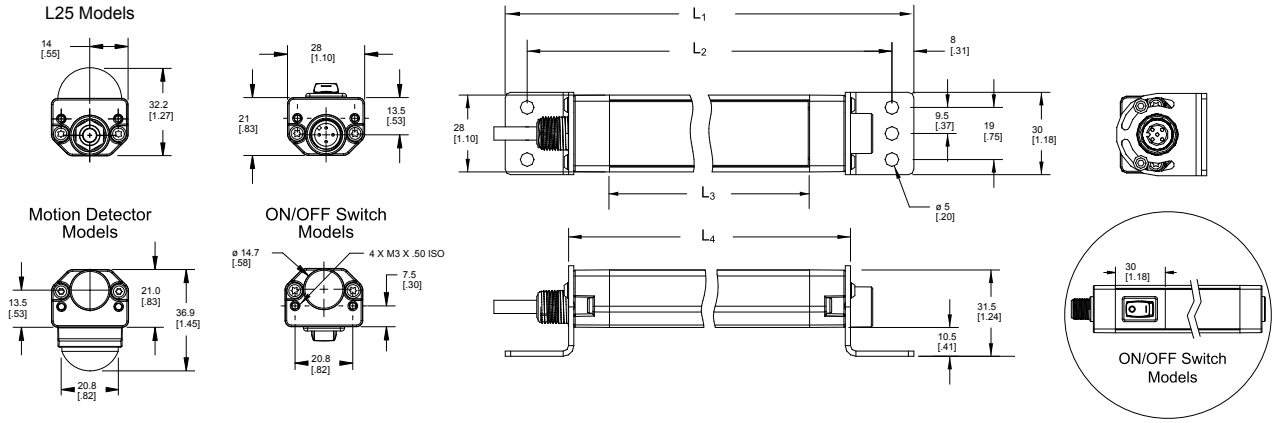
Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

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.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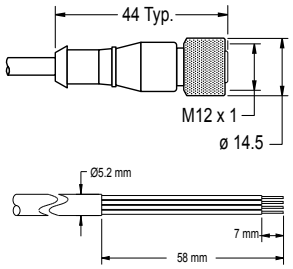
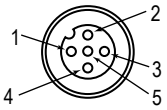
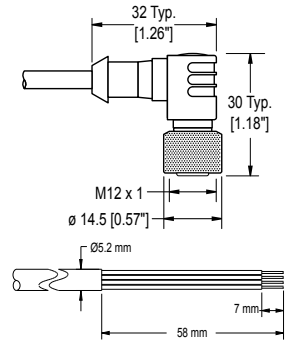
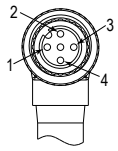
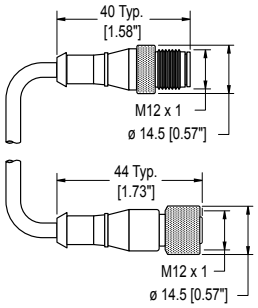
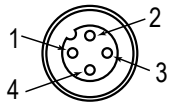
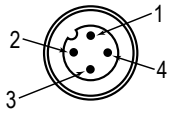
| 4-Pin Single-Ended M12 Female Cordsets | | | | | |
|---|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** | |
| **MQDC-406** | 2 m (6.56 ft) | Straight |  |  | 1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Not used |
| **MQDC-415** | 5 m (16.4 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<br><br>Male<br><br>1 = Brown<br>2 = White<br>3 = Blue<br>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) | | | |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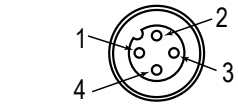
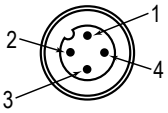
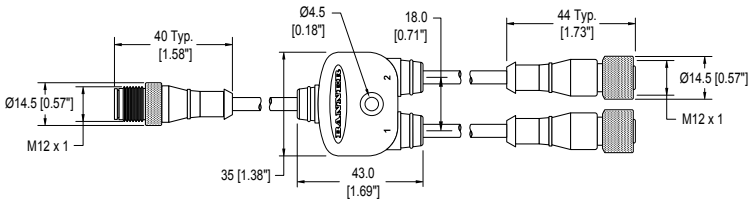
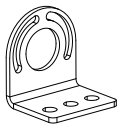
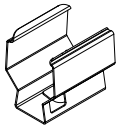
| 4-Pin Flat Junction M12 Female Branch to M12 MaleTrunk Splitter Cordsets | | | |
|---|---|---|---|
| **Model** | **Branches (Female)** | **Trunk (Male)** | **Pinout** |
| **CSB-M1240M1240** | No branch | No trunk | Female<br><br><br>Male<br><br><br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black |
| **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) | |
| <br> | | | |

## 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

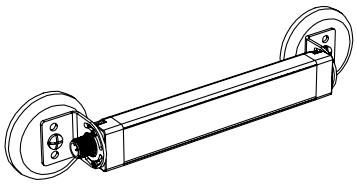


**SMBWLS28SP**
- Stainless steel snap bracket kit
- Includes two brackets

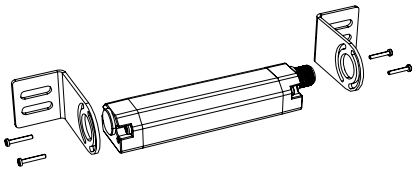


**SMBWLSMAG**
- Magnetic mounting bracket for easy attachment to steel surfaces

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

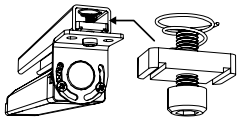


**SMBWLS28SM**
- End bracket kit
- Cold Rolled Steel with a clear zinc finish
- Allows the light or switch to be mounted at a right angle to the mounting surface
- Kit contains two end brackets and four screws



**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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For patent information, see www.bannerengineering.com/patents.

# Mexican Importer

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