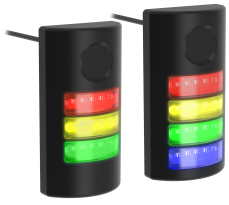
# TLF100 Pro Daylight Visible Flush Mount Tower Light

## Features

*100 mm Programmable Daylight Visible Flush Mount Tower Light*



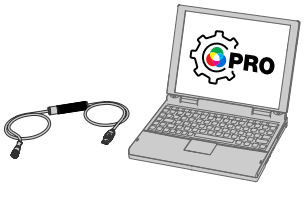
- Rugged, versatile, and easy-to-install 3- and 4-segment tower lights
- Flush mounting allows for easy integration to machines and equipment
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- Intense levels of light output for areas with high ambient light - even outdoors
- Audible models available with sealed audible element
- 14 selectable audible tones and audible intensity control
- 24 V DC operation
- No assembly required
- Bright, single-color LEDs provide highly visible indication for indoor or outdoor applications

## Models

| Family | Style | Housing | Segment 1 Color | Segment 2 Color | Segment 3 Color | Segment 4 Color | Audible Alarm | Connection |
|---|---|---|---|---|---|---|---|---|
| **TLF100** | **P** | **DL** | **G** | **Y** | **R** | | | **QP** |
| | P = Pro | DL = Daylight visible | G = Green<br>Y = Yellow<br>R = Red<br>B = Blue<br>W = White | | | Blank = Three segment<br>G = Green<br>Y = Yellow<br>R = Red<br>B = Blue<br>W = White | Blank = None<br>A = Sealed audible | Blank = 2 m (6.5 ft) integral PVC-jacketed cable<br>QP = 150 mm (6 in) PVC-jacketed cable with a 5-pin or 8-pin M12 male quick-disconnect connector, depending on model |

## Configuration Instructions

### Pro Editor




Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations.
For more information visit www.bannerengineering.com/proeditor.

Original Instructions
16-Apr-26

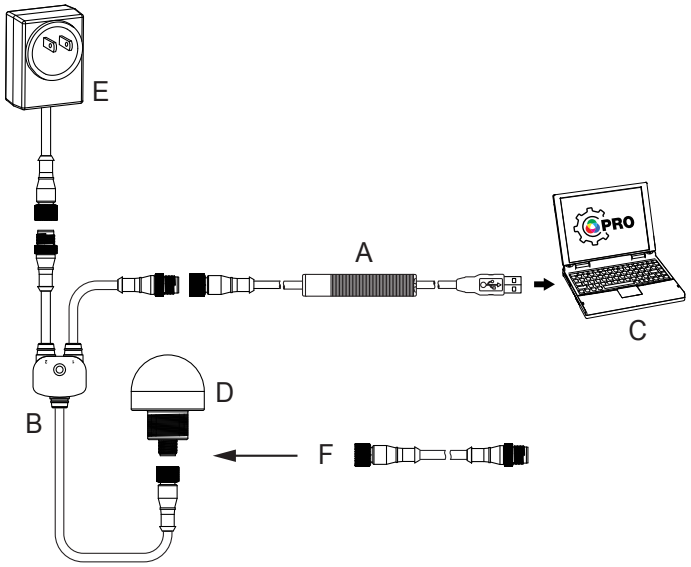
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224885
p/n: 224885 Rev. A

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Full Preview Connection (Required)

The full preview connection must be used for the TLF100 Pro Daylight Visible Flush Mount Tower Light.

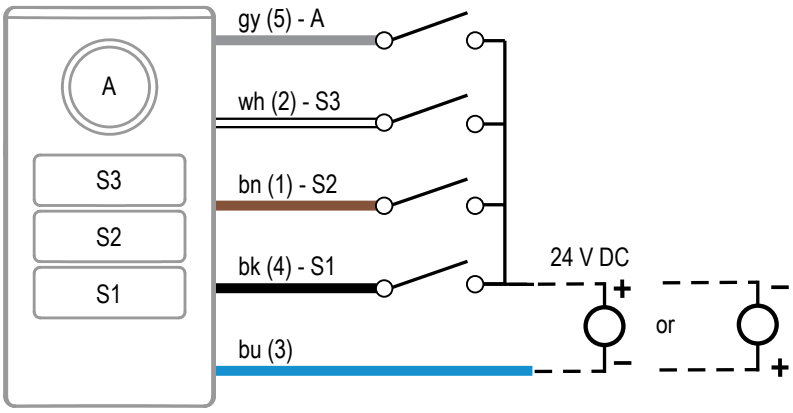



A = Pro Converter Cable (MQDC-506-USB)
B = Splitter (CSB-M1251FM1251M)
C = PC running Pro Editor software
D = Any Banner Pro Series-enabled device (K50 shown)
E = Power Supply (PSW-24-1, PSW-24-2, or PSD-24-4)
F = 8-Pin to 5-Pin Double-Ended Cordset (MQDC-801-5M-PRO), required for 8-Pin models

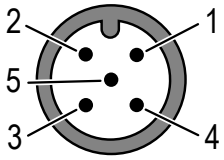
## Wiring

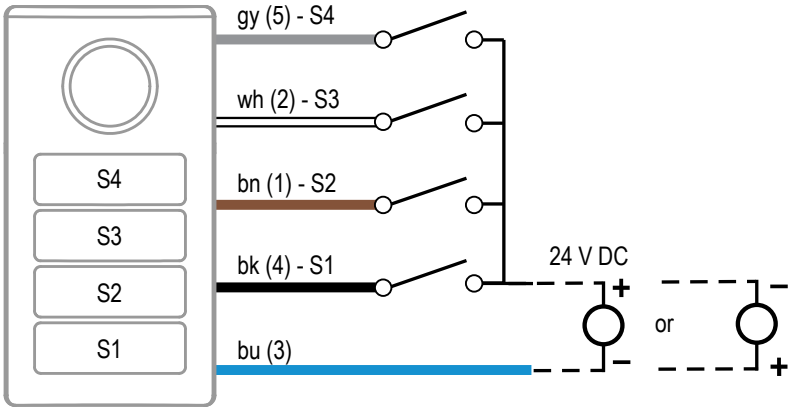
**NOTE:** All models are bimodal and can be wired as PNP or NPN devices.

**5-pin/Wire Models**




S1 = Color 1
S2 = Color 2
S3 = Color 3
S4 = Color 4
A = Audible

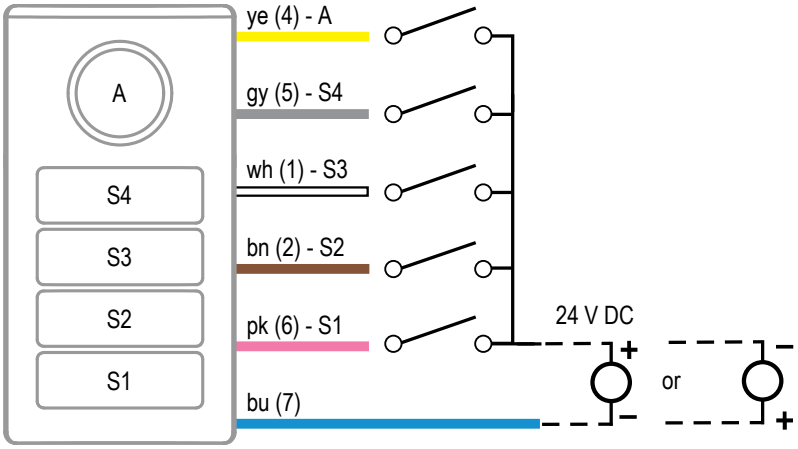


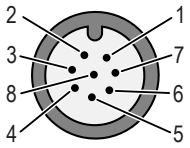

| Pin | Color | Segment Mode | Advanced Mode |
|---|---|---|---|
| 3 | blue | Common | Common (PNP) or 24 V DC (NPN) |
| 4 | black | Color 1 | Reset Input |
| 1 | brown | Color 2 | 24 V DC (PNP) or Common (NPN) |
| 2 | white | Color 3 | PWM, PFM, Counter, or Timer input |
| 5 | gray | Color 4/Audible | N/A |


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**8-pin/Wire Models**




S1 = Color 1
S2 = Color 2
S3 = Color 3
S4 = Color 4
A = Audible




| Pin | Color | Segment Mode | Advanced Mode |
|---|---|---|---|
| 7 | blue | Common | Common (PNP) or 24 V DC (NPN) |
| 6 | pink | Color 1 | Reset Input |
| 2 | brown | Color 2 | 24 V DC (PNP) or Common (NPN) |
| 1 | white | Color 3 | PWM, PFM, Counter, or Timer input |
| 5 | gray | Color 4 | N/A |
| 4 | yellow | Audible | N/A |
| 8 | red | N/A | N/A |
| 3 | green | N/A | N/A |

## Pro Editor Configuration for the TLF100

Banner's Pro Editor software offers an easy way to configure Pro Series-enabled touch and indicator devices, allowing users full control of device states. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications. Pro Editor includes a preview mode that allows users to verify device performance before writing a configuration to a device. Configure any Pro Series-enabled device using the free Pro Editor software, available for download at www.bannerengineering.com/proeditor.

**Segment Mode**—Use Segment Mode to activate each segment and to control the input wire, animation, intensity, and speed.

**NOTE:** Segment colors for daylight visible models are static and cannot be changed.

| Segment Mode Animation | Description |
|---|---|
| Off | Segment is off |
| Steady | Segment is on at defined intensity |
| Flash | Segment flashes at defined speed, intensity, and pattern (normal, strobe, three pulse, SOS, or random) |
| Intensity Sweep | Segment repeatedly increases and decreases intensity between 0% to 100% at defined speed and intensity |

**Level**—The light adjusts position continuously based on the PFM or PWM input value and defined animation in up to four thresholds. The PFM signal frequency range can be from 100 to 5,000 Hz. The PWM duty cycle range can be from 0 to 100%.

**Timer**—The timer option uses the TLF100 as a timer, counting up or counting down. Set the total time and choose up to four thresholds to change the visual appearance of the device as time advances. The timer starts when 24 V DC is applied to the timer run input wire, and paused when left floating or tied to ground. The timer resets when 24 V DC is applied to the reset wire. The timer automatically resets when it reaches the final count.

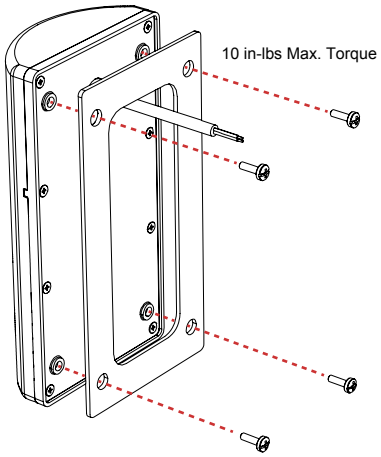
**Counter**—The counter option counts up or down by converting input pulses into movement of segments along the length of the device based on up to four thresholds that define animations. When the rising edge of a 24 V DC pulse is applied to the counter input wire, the count increases by one. The user can choose whether the counter resets or the count decreases by one when 24 V DC is applied to the control input wire. The counter automatically resets when it reaches the final count.

**Audible Control**—Use Audible Control to select the settings for the tower light's audible type, feedback, and volume.

| Setting | Description |
|---|---|
| Audible Feedback | Defines the type of audible feedback |
| Audible Volume | Defines the volume of the audible tone |
| Audible Type | Defines the type of audible tone played |


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## Installation Instructions



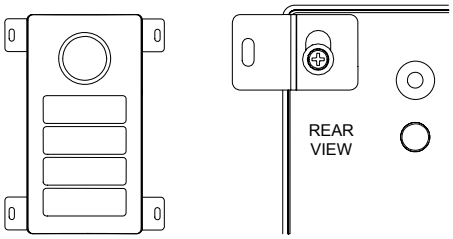

| Mounting Surface Thickness | Length of Mounting Screws |
|---|---|
| ≤ 8 mm | 12 mm (supplied) |
| 8 mm to 16 mm | 20 mm |
| 16 mm to 26 mm | 30 mm |
| 26 mm to 36 mm | 40 mm |
| 36 mm to 46 mm | 50 mm |

**NOTE:** Do not remove housing screws.

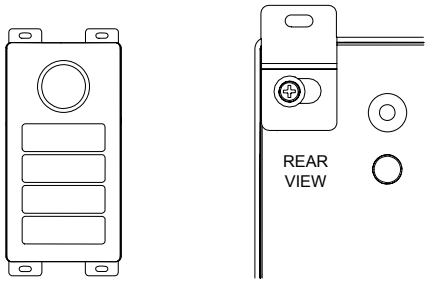
### Bracket Mounting Instructions

The TLF100 can be mounted with the SMBTLF100F bracket in the following alternative orientations.

*Bracket Orientation - Horizontal*




*Bracket Orientation - Vertical*




## Specifications

**Supply Voltage and Current**

24 V DC nominal
Typical current per LED segment: 25 mA at 24 V DC
Typical audible current: 24 mA
Maximum device current: 160 mA

**Supply Protection Circuitry**

Protected against reverse polarity and transient voltages

**Input Rating**

Leakage Current Immunity: 500 uA
Indicator On/Off Response Time: 250 ms (maximum)
PWM Duty Cycle Range: 0 to 100%
PFM Frequency Range: 100 to 5000 Hz

**Connections**

150 mm (6 in) PVC-jacketed cable with a 5-pin or 8-pin M12 male quick-disconnect connector, or 2 m (6.5 ft) integral PVC-jacketed cable, depending on model
Models with a quick-disconnect connector require a mating cordset

**Construction**

Bases, Covers, Light Segment: Polycarbonate

**Indicator Characteristics**

| Color | Dominant Wavelength (nm) or Color Temperature (CCT) | Lumen Output Per Segment (Typical at 25 °C) |
|---|---|---|
| Green | 526 | 27 |
| Red | 618 | 15 |
| Yellow | 587 | 11 |
| Blue | 467 | 6 |
| White | 5200K | 26 |

**Certifications**

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

Turck Banner LTD Blenheim House
Blenheim Court
Wickford, Essex SS11 8YT
GREAT BRITAIN

c UL us LISTED

**Advanced Capabilities**

PULSE® PRO I/O

**Operating Conditions**

–40 °C to +50 °C (–40 °F to +122 °F)
95% at +50 °C maximum relative humidity (non-condensing)

**Environmental Rating**

IP65, UL Type 4X, and IP69K per ISO 20653

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

**Vibration and Mechanical Shock**

Vibration: 10 Hz to 55 Hz, 0.5 mm peak-to-peak amplitude per IEC 60068-2-6
Shock: 15G 11 ms duration, half sine wave per IEC 60068-2-27

**Audible Alarm**

Values shown apply to continuous tone. Frequency and intensity response vary depending on the Audible Tone selected.
Oscillation Frequency: 3.0 kHz ± 250 Hz
Intensity:
Low volume (typical): 84 dB at 1 m
Medium volume (typical): 89 dB at 1 m
High volume (typical): 94 dB at 1 m

**Required Overcurrent Protection**

**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

Overcurrent protection is required to be provided by end product application per the supplied table.
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.
Supply wiring leads < 24 AWG shall not be spliced.
For additional product support, go to www.bannerengineering.com.

| Supply Wiring (AWG) | Required Overcurrent Protection (A) | Supply Wiring (AWG) | Required Overcurrent Protection (A) |
|---|---|---|---|
| 20 | 5.0 | 26 | 1.0 |
| 22 | 3.0 | 28 | 0.8 |
| 24 | 2.0 | 30 | 0.5 |

## FCC Part 15 Class B for Unintentional Radiators

(Part 15.105(b)) This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no


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guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

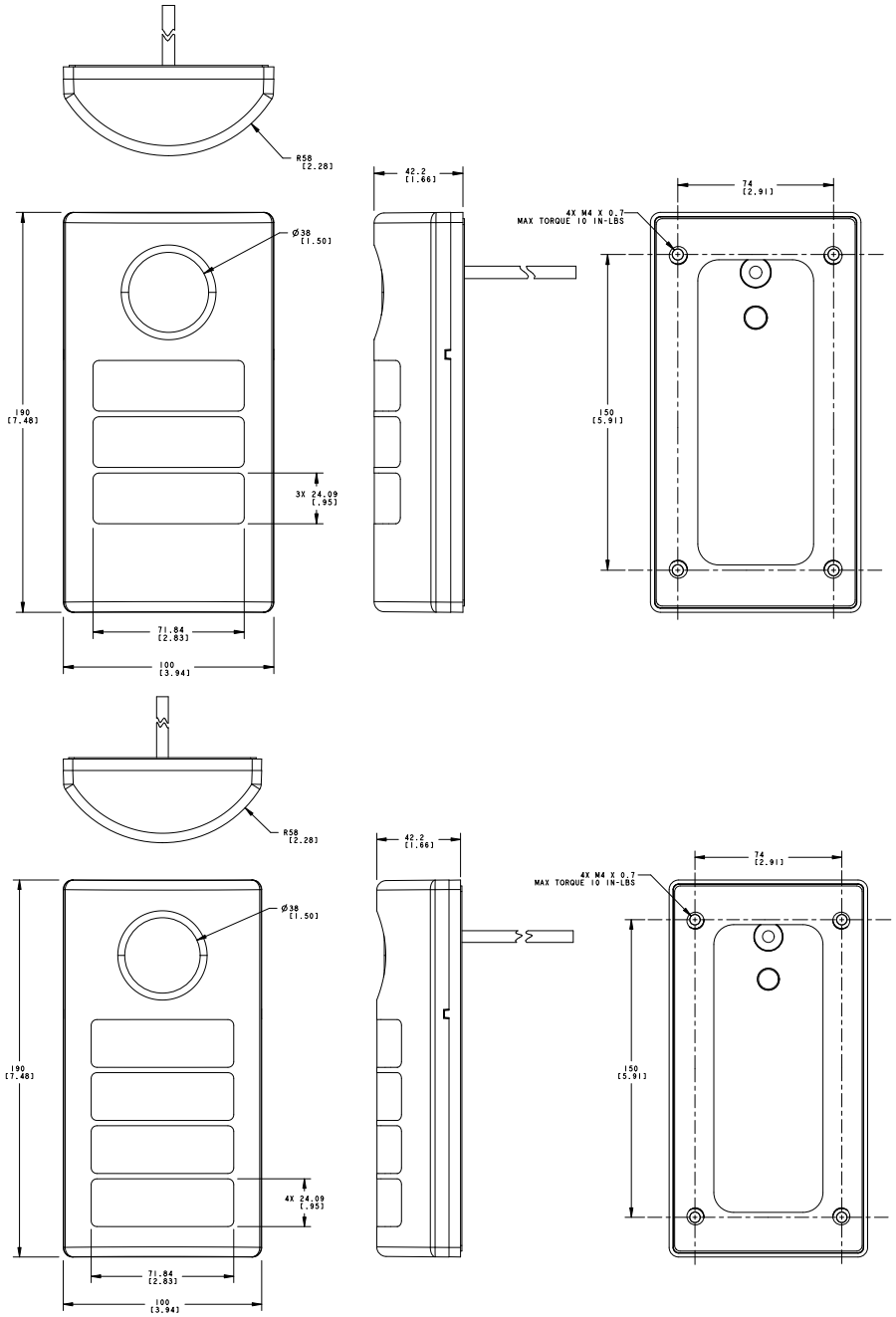
## Industry Canada ICES-003(B)

This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

Cet appareil est conforme à la norme NMB-3(B). Le fonctionnement est soumis aux deux conditions suivantes : (1) ce dispositif ne peut pas occasionner d'interférences, et (2) il doit tolérer toute interférence, y compris celles susceptibles de provoquer un fonctionnement non souhaité du dispositif.

## Dimensions

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

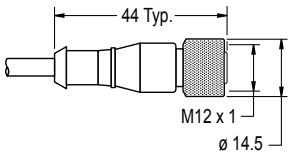
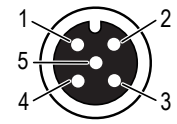
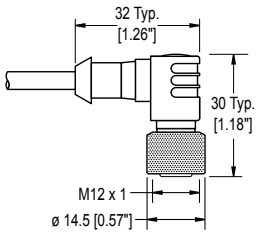


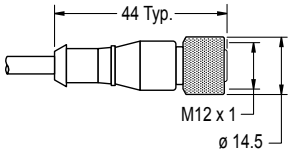
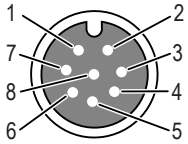
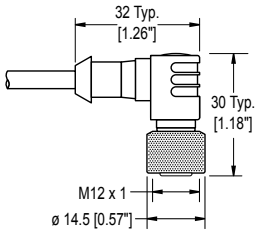


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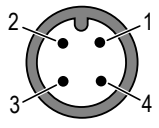
# Accessories

## Cordsets

| 5-Pin Single-Ended M12 Female Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** |
| **MQDC1-501.5** | 0.5 m (1.5 ft) | Straight |  | <br>1 = Brown<br>2 = White<br>3 = Blue<br>4 = Black<br>5 = Gray |
| **MQDC1-503** | 0.9 m (2.9 ft) | | | |
| **MQDC1-506** | 2 m (6.5 ft) | | | |
| **MQDC1-515** | 5 m (16.4 ft) | | | |
| **MQDC1-530** | 9 m (29.5 ft) | | | |
| **MQDC1-560** | 18 m (59 ft) | | | |
| **MQDC1-5100** | 31 m (101.7 ft) | | | |
| **MQDC1-506RA** | 2 m (6.5 ft) | Right-Angle |  | |
| **MQDC1-515RA** | 5 m (16.4 ft) | | | |
| **MQDC1-530RA** | 9 m (29.5 ft) | | | |
| **MQDC1-560RA** | 19 m (62.3 ft) | | | |

| 8-Pin Single-Ended M12 Female Open-Shielded Cordsets | | | | |
|---|---|---|---|---|
| **Model** | **Length** | **Style** | **Dimensions** | **Pinout (Female)** |
| **MQDC2S-806** | 2.04 m (6.7 ft) | Straight |  | <br>1 = White<br>2 = Brown<br>3 = Green<br>4 = Yellow<br>5 = Gray<br>6 = Pink<br>7 = Blue<br>8 = Red |
| **MQDC2S-815** | 5.04 m (16.54 ft) | | | |
| **MQDC2S-830** | 10.04 m (32.95 ft) | | | |
| **MQDC2S-850** | 16 m (52.49 ft) | | | |
| **MQDC2S-806RA** | 2 m (6.56 ft) | Right-Angle |  | |
| **MQDC2S-815RA** | 5 m (16.4 ft) | | | |
| **MQDC2S-830RA** | 10 m (32.81 ft) | | | |
| **MQDC2S-850RA** | 16 m (52.49 ft) | | | |

## Splitter Cables for Use with IO-Blocks

| 5-Pin M12 to 4-Pin M12 Combiner Cordset with Flat Junction | | | |
|---|---|---|---|
| **Model** | **Branches (Male)** | **Trunk (Female)** | **Pinout** |
| **CSF-M12F51M12M41** | 4-pin Quick Disconnect, 2 × 0.31 m (1.02 ft) | 5-pin Quick Disconnect, 0.31 m (1.02 ft) | Female<br><br>Male<br><br>1 = brown (trunk); no connection (branches 1 and 2)<br>2 = white (trunk); brown (branch 1); gray (branch 2)<br>3 = blue (trunk; branches 1 and 2)<br>4 = black (trunk); black (branch 1); white (branch 2)<br>5 = gray (trunk only) |

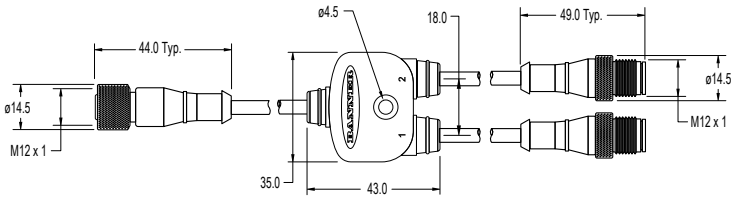
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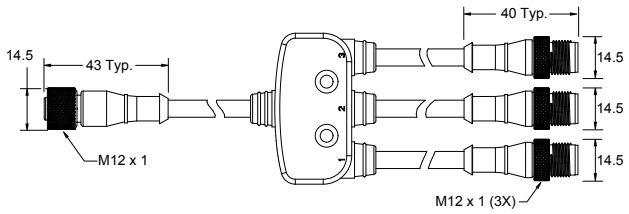
**5-Pin M12 to 4-Pin M12 Combiner Cordset with Flat Junction**

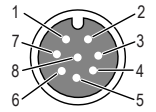
| Model | Branches (Male) | Trunk (Female) | Pinout |
|---|---|---|---|



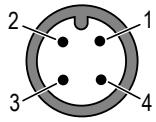

**8-Pin M12 Female to 4-Pin M12 Male Combiner Flat Junction Splitter Cordsets**

| Model | Branches (Male) | Trunk (Female) | Pinout |
|---|---|---|---|
| CSF3A-M12F81M12M41 | 4-pin M12 Quick Disconnect, 3 × 0.3 m (0.98 ft) | 8-pin M12 Quick Disconnect, 0.3 m (0.98 ft) | Female |




Male




| | Trunk | Branch 1 | Branch 2 | Branch 3 |
|---|---|---|---|---|
| 1 | White | NC | NC | NC |
| 2 | Brown | Brown | Gray | Red |
| 3 | Green | Blue | Blue | Blue |
| 4 | Yellow | Pink | White | Yellow |
| 5 | Gray | | | |
| 6 | Pink | | | |
| 7 | Blue | | | |
| 8 | Red | | | |

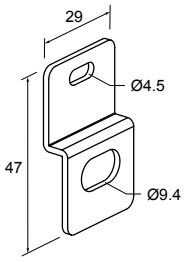
## Mounting Bracket

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

**SMBTLF100F**

- Right-angle
- S bracket
- Mounting hardware included
- CAD Files: DXF, PDF, IGS, STP

**Hole center spacing:** 26.5
**Hole Size:** A = 16.6 × 9.4, B = 10.5 × 4.5



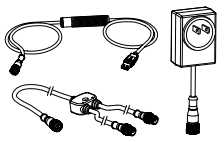


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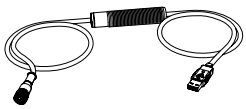
## Pro Editor Hardware

**PRO-KIT**

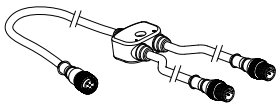
Includes:
- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



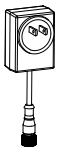
**MQDC-506-USB**
- Pro Converter Cable
- 1.83 m (6 ft) length 5-pin M12 quick disconnect to Device and USB to PC
- Required for connection to the configuration software



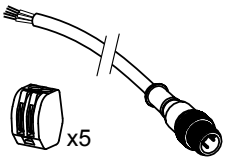
**CSB-M1251FM1251M**
- 5-pin parallel Y splitter (Male-Male-Female)
- For full Pro Editor preview capability
- Requires external power supply, sold separately



**PSW-24-1**
- 24 V DC, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12 quick disconnect
- Provides external power with splitter cable, sold separately



**ACC-PRO-CABLE5**
- Mating accessory for cabled and terminal models
- 150 mm (6 inch) PVC cable with M12 quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models and screw terminal models to Pro Converter Cable, sold separately




**MQDC-801-5M-PRO**
- 8-pin to 5-pin double-ended cordset
- 0.31 m (1 ft) PVC cable with M12 quick disconnects
- Required to connect 8-pin Pro Series-enabled devices to Pro Converter Cable (MQDC-506-USB), sold separately



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