# K50 Series I/O Block Compatible

## Features

*50mm Multicolor LED Indicator*



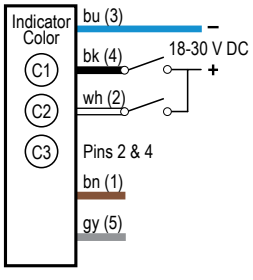
- Bright, uniform indicator light
- Rugged IP69K per ISO 20653 and IP67-rated design
- 18 V DC to 30 V DC operation
- Operate up to three colors using only 2 inputs
- Up to six colors to choose from
- PNP or NPN models available
- Variety of connector options

## Models

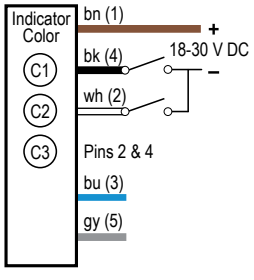
| Family | LED Color | | | Function | Input | Connector |
|---|---|---|---|---|---|---|
| K50L | G | R | Y | 6 | P | Q |
| K50L<br>K50FL | G = Green<br>R = Red<br>Y = Yellow<br>B = Blue<br>W = White<br>O = Orange | | | 6 = I/O Block Compatible | P = PNP<br>N = NPN | Blank = 2 m (6.5 ft) integral PVC-jacketed cable<br>Q = Integral 5-pin M12 male quick-disconnect connector<br>QP = 150 mm (6 in) PVC-jacketed cable with a 5-pin M12 male quick-disconnect connector<br>QPMA = 150 mm (6 in) PUR-jacketed cable with a 5-pin M12 male quick-disconnect connector |

## Wiring

**PNP Input**




**NPN Input**




**Key**

1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray
C1 = Color 1 (Input Pin 4)
C2 = Color 2 (Input Pin 2)
C3 = Color 3 (Inputs to Pins 2 & 4)

## Specifications

**Supply Voltage and Current**

18 V DC to 30 V DC
50 mA maximum current at 18 V DC to 30 V DC

**Supply Protection Circuitry**

Protected against reverse polarity and transient voltages

**Leakage Current Immunity**

400 µA

**Input Response Time**

Indicator On: 250 ms maximum
Indicator Off: 10 ms maximum

**Connections**

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

**Construction**

Base and dome: Polycarbonate

**Mounting**

M30 × 1.5 threaded base, maximum torque 4.5 N·m (40 in-lbf)
Mounting nut included

**Indicator Characteristics**

| Color | Dominant Wavelength (nm) or Color Temperature (CCT) | Lumen Output (Typical at 25 °C) |
|---|---|---|
| Green | 528 nm | 20 |
| Red | 625 nm | 6 |
| Yellow | 590 nm | 20 |
| Blue | 470 nm | 5 |
| Orange | 608 nm | 11 |
| White | 6000 K | 16 |

**Certifications**

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

**Environmental Rating**

QD models meet IP69K per ISO 20653
Cable models rated IP67

**NOTE:** Cable models meet IP69K per ISO 20653 if the cable and cable entrance is protected from high-pressure spray.

Original Instructions
10-Jun-25

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196759
p/n: 196759 Rev. C

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**Vibration and Mechanical Shock**

All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G maximum acceleration) requirements. Also meets IEC 60947-5-2 (Shock: 30G 11 ms duration, half sine wave) requirements.

**Operating Conditions**

–40 °C to +50 °C (–40 °F to +122 °F)

**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.

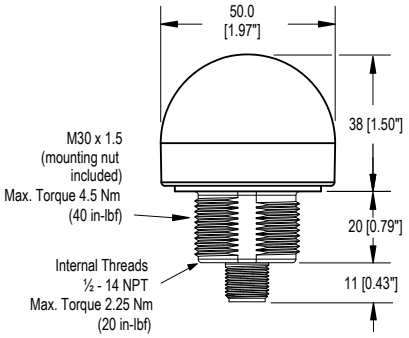
For additional product support, go to www.bannerengineering.com.

| 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 | 1.0 | 30 | 0.5 |

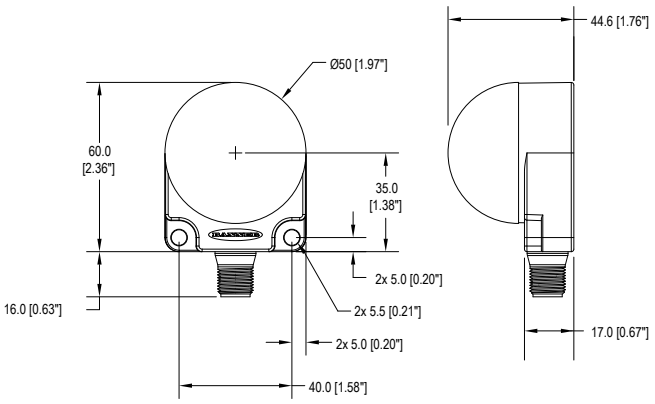
# Dimensions

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

**K50L Models**

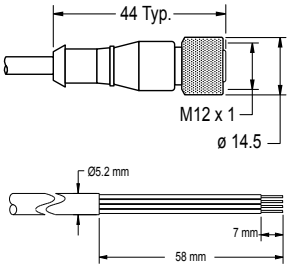
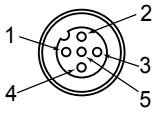
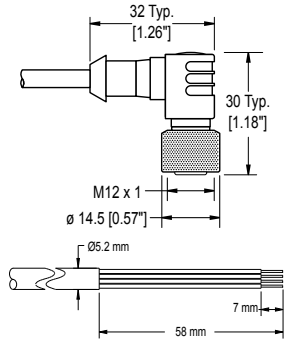
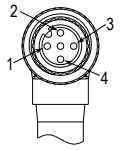



**K50FL Models**



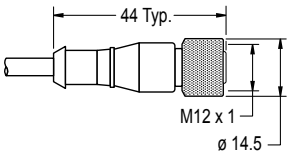
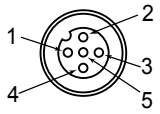
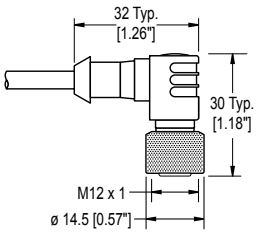

# Accessories

## Cordsets

| 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) | | | | |



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| 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) | | | |

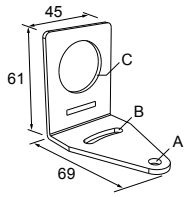
## Brackets

**NOTE:** K50FL models include a 48 mm (1.9 in) circular velcro mounting kit for easy mounting with no additional hardware.

**SMB30A**

- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-gauge stainless steel

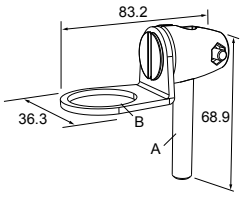
**Hole center spacing:** A to B=40
**Hole size:** A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5




**SMB30FA**

- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-gauge 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric- and inch-size bolt available

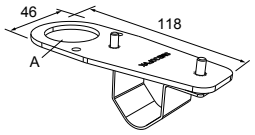
**Bolt thread:** SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50
**Hole size:** B= ø 30.1




**SMB30FVK**

- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

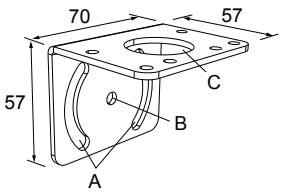
**Hole size:** A= ø 31




**SMB30MM**

- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

**Hole center spacing:** A = 51, A to B = 25.4
**Hole size:** A = 42.6 × 7, B = ø 6.4, C = ø 30.1



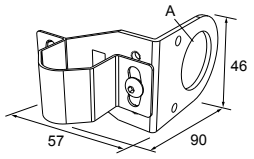


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**SMB30RAVK**

- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

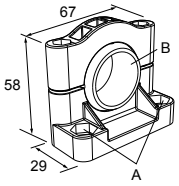
**Hole size:** A = ø 30.5




**SMB30SC**

- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included

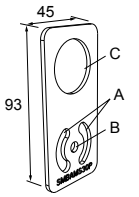
**Hole center spacing:** A=ø 50.8
**Hole size:** A=ø 7.0, B=ø 30.0




**SMBAMS30P**

- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge 300 series stainless steel

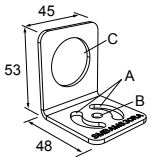
**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 × 7.0, B=ø 6.5, C=ø 31.0




**SMBAMS30RA**

- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge (2.6 mm) cold-rolled steel

**Hole center spacing:** A=26.0, A to B=13.0
**Hole size:** A=26.8 × 7.0, B=ø 6.5, C=ø 31.0




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