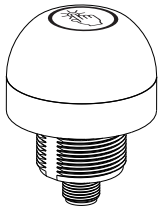
EZ-LIGHT® Touch Gen 2 K50 Series Pick-to-Light

Datasheet

Compact, Single-Point Devices for Error-Proofing of Bin-Picking Operations



Standard Model

Compact Model

- Excellent immunity to false triggering by water spray, detergents, oils, and other foreign materials
- Rugged, cost-effective and easy-to-install solutions for error-proofing and parts-verification applications
- Compact devices are completely self contained—no controller needed
- Waterproof IEC IP69K construction for washdown environments
- Easy actuation—no force required
- 12 V dc to 30 V dc operation
- Can be actuated with bare hands or gloves
- Compact models available for lower profile applications

WARNING: Not To Be Used for Personnel **Protection**

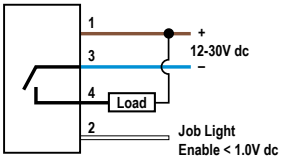
Never use this device as a sensing device for personnel **protection.** Doing so could lead to serious injury or death. This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition.

Models

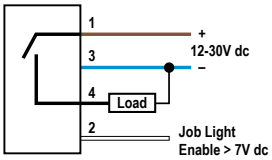
Model[1]	Function	Output	Connection	Job Light
K50APT2GXDQ	• Job light is illuminated at all times while job input is active • Touch activates output	PNP, N.O.	Integral 4-pin M12/Euro-style male quick disconnect (QD)	Green
K50RPT2GXDQ		PNP, N.C.		
K50ANT2GXDQ		NPN, N.O.		
K50RNT2GXDQ		NPN, N.C.		
K50APT2GRCQ	• Job light is Green while job input is active • Touch activates output and overrides job light (turns Red) for visual verification that action was sensed	PNP, N.O.		Green (Red)
K50RPT2GRCQ		PNP, N.C.		
K50ANT2GRCQ		NPN, N.O.		
K50RNT2GRCQ		NPN, N.C.		
K50APT2GREQ	• Job light is Green at all times while job input is active • Touch activates output • A touch while job input is inactive causes unit to light Red, providing visual verification that sensor is functioning properly	PNP, N.O.		Green (Red)
K50RPT2GREQ		PNP, N.C.		
K50ANT2GREQ		NPN, N.O.		
K50RNT2GREQ		NPN, N.C.		

Wiring Diagrams

NPN



PNP



Color Key

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

Note: Cabled wiring diagrams are shown. Quick disconnect (QD) wiring diagrams are functionally identical.

[1]
- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K50APT2GXD.
- To order a compact model, add the suffix "C'" after K50 in the model number. For example, K50CAPT2GXDQ.
- Models with a quick disconnect require a mating cordset.

Specifications

Supply Voltage
12 V to 30 V dc

Supply Current
< 75 mA max current at 12 V dc (exclusive of load)
< 50 mA max current at 30 V dc (exclusive of load)

Supply **Protection** Circuitry
Protected against reverse polarity and transient voltages

Output **Rating**
Maximum load: 150 mA
ON-state saturation voltage: < 2 V dc at 10 mA; < 2.5 V dc at 150 mA
OFF-state leakage current: <10 µA at 30 V dc

Output Response Time
50 milliseconds On and Off

Operating Conditions
Temperature: –40 °C to +50 °C (–40 °F to +122 °F)
Humidity: 90% at 50 °C maximum relative humidity (non-condensing)

Environmental **Rating**
IEC IP67, IP69K per DIN 40050-9.
Cabled models also meet IP69K if the cable and cable entrance are protected from high-pressure spray.

Construction
Housing: polycarbonate
Translucent dome: polycarbonate
Mounting nut: PBT

Vibration and Mechanical Shock
Vibration 10 Hz to 55 Hz 1.0 mm p-p amplitude per IEC 60068-2-6
Shock 30G 11 ms duration, half sine wave per IEC 60068-2-27

Power-Up Delay
300 milliseconds

Connections
Integral 4-pin M12/Euro style QD, or 2 m (6.5 ft) PVC integral cable

Storage
–40 °C to +70 °C (–40 °F to +158 °F)

Certifications

Indicators
Job (pick) indicator: Green
Pick sensed indicator: Red or unilluminated, depending on model

Indicator Lumens

Color	Typical Wavelength	Typical Intensity (Im)
Green	525 nm	29
Red	625 nm	13

Mounting
M30 × 1.5 threaded base max. torque 4.5 N·m (40 in·lbf)

Required Overcurrent **Protection**

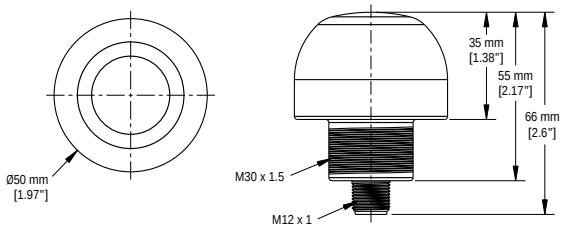
WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

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*.

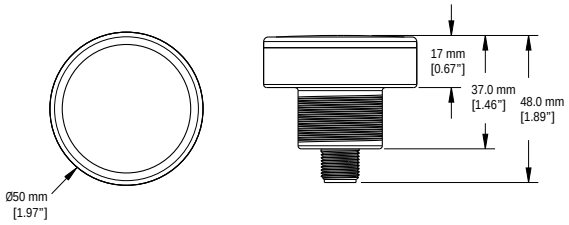
Supply Wiring (AWG)	Required Overcurrent **Protection** (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

Dimensions

Standard Models



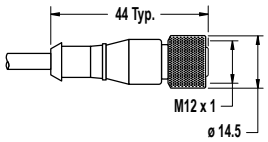
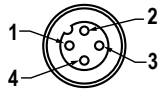
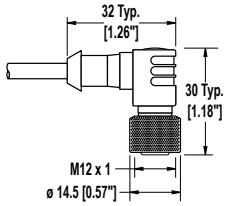
Compact Models



All measurements are listed in millimeters [inches], unless noted otherwise.

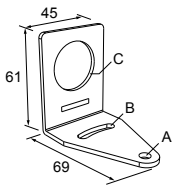
Accessories

Cordsets

4-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-406	1.83 m (6 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black
MQDC-415	4.57 m (15 ft)			
MQDC-430	9.14 m (30 ft)			
MQDC-450	15.2 m (50 ft)			
MQDC-406RA	1.83 m (6 ft)	Right-Angle		
MQDC-415RA	4.57 m (15 ft)			
MQDC-430RA	9.14 m (30 ft)			
MQDC-450RA	15.2 m (50 ft)			

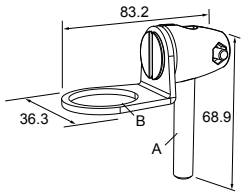
Brackets

SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



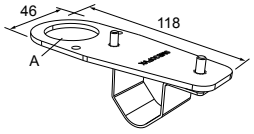
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

SMB30FA
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available



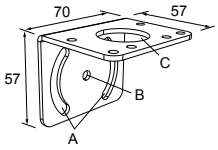
Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 30.1

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



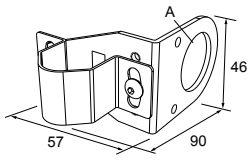
Hole size: A= ø 31

SMB30MM
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor



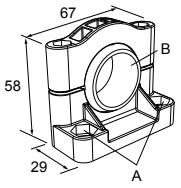
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1

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



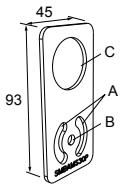
Hole size: A = ø 30.5

SMB30SC
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included



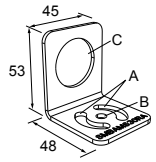
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0

SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel



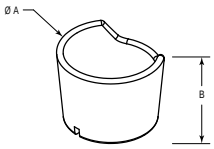
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

SMBAMS30RA
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. (2.6 mm) cold-rolled steel



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

TC-K50-CL
- Touch cover



Diameter: A = 67 mm
Height: B = 42.5 mm

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FCC Part 15 and CAN ICES-3 (B)/NMB-3(B)

This device complies with part 15 of the FCC Rules and 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.

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 and CAN ICES-3 (B)/NMB-3(B). 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 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 manufacturer.

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