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

Features

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

Standard Model

- Rugged, cost-effective, and easy-to-install solutions for error-proofing and parts-verification applications
- Compact devices are completely self-contained, no controller is needed
- Illuminated dome provides an easy-to-see green job light: some models also light red for alternate operation
- Waterproof 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

WARNING:

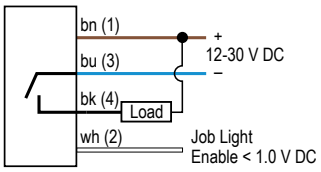
- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

Models

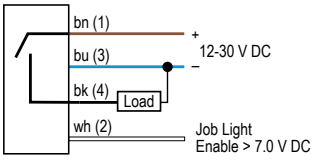
Model[1]	Function	Output	Connection	Job Light
K50APTGXDQ	• Job light is illuminated at all times while job input is active • Touch activates output	PNP, N.O.	Integral 4-pin M12 male quick-disconnect connector	Green
K50RPTGXDQ		PNP, N.C.		
K50ANTGXDQ		NPN, N.O.		
K50RNTGXDQ		NPN, N.C.		
K50APTGRCQ	• Job 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)
K50RPTGRCQ		PNP, N.C.		
K50ANTGRCQ		NPN, N.O.		
K50RNTGRCQ		NPN, N.C.		
K50APTGREQ	• 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)
K50RPTGREQ		PNP, N.C.		
K50ANTGREQ		NPN, N.O.		
K50RNTGREQ		NPN, N.C.		

Wiring Diagrams

NPN



PNP



NOTE: Cabled wiring diagrams are shown. Quick disconnect 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, K50APTGXD.
- Models with a quick disconnect require a mating cordset.

161830
p/n: 161830 Rev. F

Specifications

Supply Voltage

12 V DC to 30 V DC

Supply Current

< 75 mA max current at 12 V DC (exclusive of load)

< 40 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

Indicators

Job (pick) indicator: Green

Pick sensed indicator: Red or unilluminated, depending on model

Indicator Lumens

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

Mounting

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

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

IP67, IP69K per ISO 20653

Cabled models also meet IP69K per ISO 20653 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

All models meet Mil. Std. 202F requirements method 201A (vibration: 10 Hz to 60 Hz max., double amplitude 0.06 in. maximum acceleration 10G). Also meets IEC 947-5-2; 30G 11 ms duration, half sine wave.

Power-Up Delay

300 milliseconds

Connections

Integral 4-pin M12 male quick-disconnect connector, or 2 m (6.5 ft) integral PVC-jacketed cable

Storage

–40 °C to +70 °C (–40 °F to +158 °F)

Certifications

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

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

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 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)

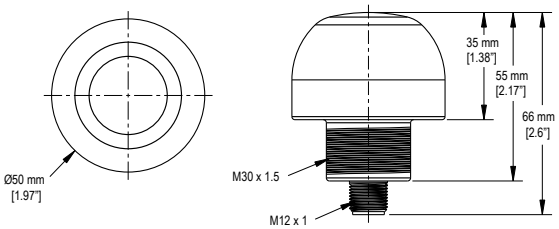
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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

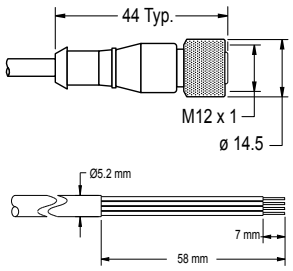
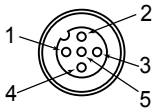
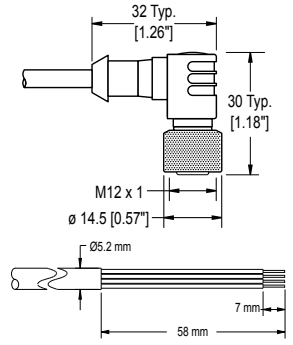
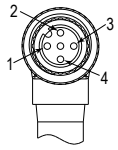
All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

Standard Models



Accessories

Cordsets

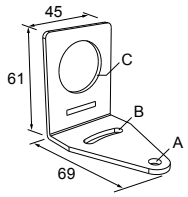
4-Pin Single-Ended M12 Female Cordsets					
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**	
MQDC-406	2 m (6.56 ft)	Straight			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Not used c UL us
MQDC-415	5 m (16.4 ft)				
MQDC-430	9 m (29.5 ft)				
MQDC-450	15 m (49.2 ft)				
MQDC-406RA	2 m (6.56 ft)	Right-Angle			
MQDC-415RA	5 m (16.4 ft)				
MQDC-430RA	9 m (29.5 ft)				
MQDC-450RA	15 m (49.2 ft)				

Brackets

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

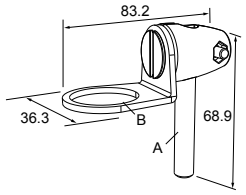
Hole center spacing: A to B=40
Hole size: A=ø 6.3, B= 27.1 × 6.3, C=ø 30.5



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

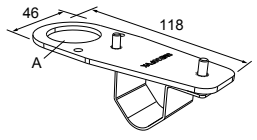
Bolt thread: SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50
Hole size: B= ø 30.1



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

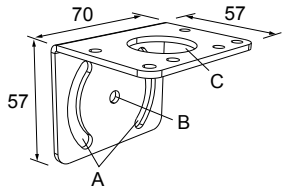
Hole size: A= ø 31



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

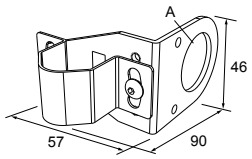
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 × 7, B = ø 6.4, C = ø 30.1



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

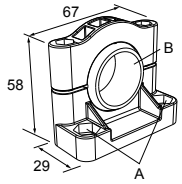
Hole size: A = ø 30.5



SMB30SC

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

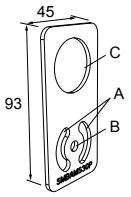
Hole center spacing: A=ø 50.8
Hole size: A=ø 7.0, B=ø 30.0



SMBAMS30P

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

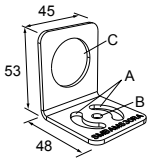
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0



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

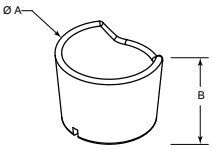
Hole center spacing: A=26.0, A to B=13.0
Hole size: A=26.8 × 7.0, B=ø 6.5, C=ø 31.0



TC-K50-CL

- Touch cover

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



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