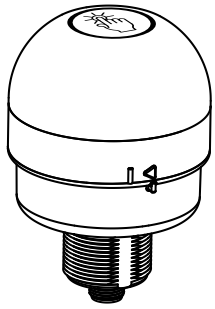
EZ-LIGHT® Touch K70 Series Pick-to-Light

Datasheet

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



- 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
- Illuminated dome provides an easy-to-see green job light: some models also light red for alternate operation
- Easy actuation—no force required
- 12 V to 30 V dc operation
- Can be actuated with bare hands or in gloves

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
K70APT2GXDQ	• Job light is ON 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
K70RPT2GXDQ		PNP, N.C.		
K70ANT2GXDQ		NPN, N.O.		
K70RNT2GXDQ		NPN, N.C.		
K70APT2GRCQ	• 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)
K70RPT2GRCQ		PNP, N.C.		
K70ANT2GRCQ		NPN, N.O.		
K70RNT2GRCQ		NPN, N.C.		
K70APT2GREQ	• 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)
K70RPT2GREQ		PNP, N.C.		
K70ANT2GREQ		NPN, N.O.		
K70RNT2GREQ		NPN, N.C.		

[1] Integral quick disconnect models are listed.
- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K70APT2GXD.
- Models with a quick disconnect require a mating cordset.

Specifications

Supply Voltage
12 V to 30 V dc

Supply Current
< 220 mA maximum current at 12 V dc (exclusive of load)
< 110 mA maximum 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 ms ON and OFF

Environmental Rating
IEC IP65

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

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

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

Construction
Housing and dome: Polycarbonate
Mounting nut: PBT

Power-Up Delay
300 ms

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

Certifications

Connections
Integral 4-pin M12/Euro-style male quick disconnect (QD); or 2 m (6.5 ft) unterminated PVC-jacketed cable

Indicators
Job pick indicator: Green
Pick sensed indicator: Red or off, depending on model

Indicator Lumens

Color	Typical Wavelength	Typical Intensity (Im)
Green	525 nm	45
Red	625 nm	26

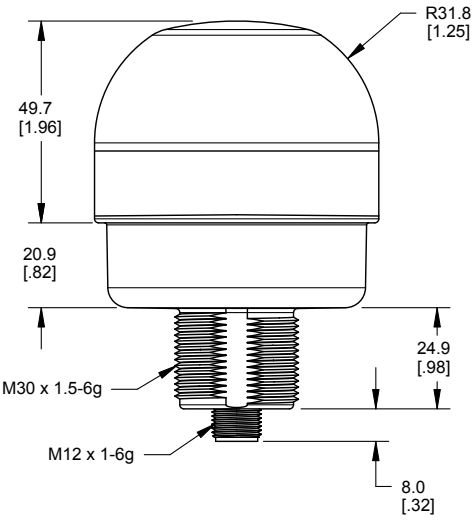
Required Overcurrent Protection

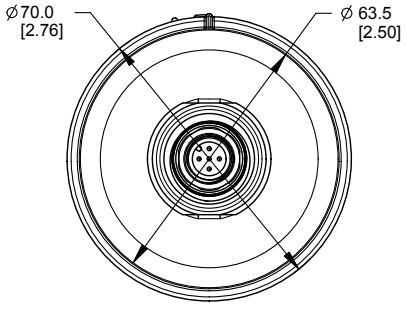
WARNING: Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

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 *http://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

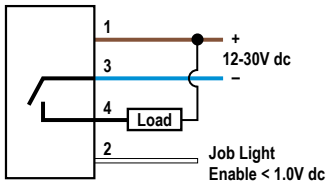




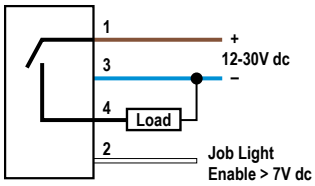
All measurements are listed in millimeters [inches], unless noted otherwise.

Wiring Diagrams

NPN



PNP



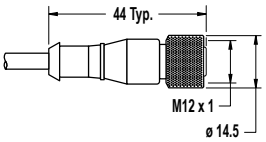
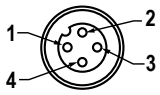
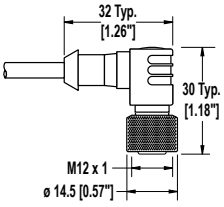
Color Key

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

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

Accessories

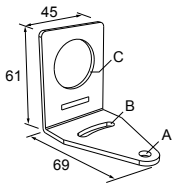
Cordsets

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

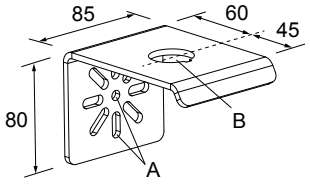
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



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

SSA-MBK-EEC1

- Single 30 mm hole
- 8 gauge steel, black finish (powder coat)
- Front surface for customer applied labels

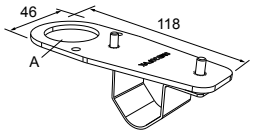


Hole size: A = ø 7 , B = ø 30

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

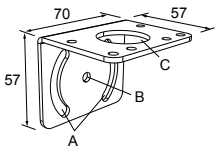
Hole size: A= ø 31



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

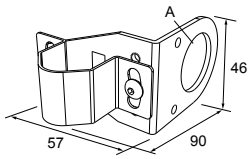
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1



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

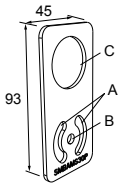
Hole size: A = ø 30.5



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



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