Features

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 is 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 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	Function	Output	Connection[1]	Indicators		
				Job	Mis-Pick	Sense
K70APT2GRYC3Q	• Job light always on with job input until touched • Touch activates output and overrides job light with sense light • Touch with inactive job input activates mis-pick light and activates output	PNP, N.O.	Integral 5-pin M12 male quick-disconnect connector	Green	Red	Yellow
K70APT2GRYC4Q	• Job light always on with job input until touched • Touch activates output and overrides job light with sense light until job input is removed • Touch with inactive job input activates mis-pick light for 5 seconds after touched and activates output					

The following models are no longer available for order but are still covered by the information in this document.

Model[2]	Function	Output[3]	Connection	Indicators		
				Job	Mis-Pick	Sense
K70RPT2GRYC3Q	• Job light always on with job input until touched • Touch activates output and overrides job light with sense light • Touch with inactive job input activates mis-pick light and activates output	PNP, N.C.	Integral 5-pin M12 male quick-disconnect connector	Green	Red	Yellow

Continued on page 2

[1] Models with a quick-disconnect connector require a mating cordset.

[2] Integral 5-pin M12 quick-disconnect connector models are listed.
- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K70APT2GRYC3.
- To order the 150 mm (6 in) PUR-jacketed cable model with an M12 quick-disconnect connector, replace the suffix "Q" with "QPMA" in the model number. For example, K70APT2GRYC3QPMA.
- To order the 150 mm (6 in) PVC-jacketed cable model with a 5-pin M12 quick-disconnect connector, replace the suffix "Q" with "QP" in the model number. For example, K70APT2GRYC3QP.
- Models with a quick-disconnect connector require a mating cordset.

[3] PNP models only are listed. For other output types, contact Banner Engineering.

Original Instructions
04-May-26

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

189842
p/n: 189842 Rev. D

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

Continued from page 1

Model	Function	Output	Connection	Indicators		
				Job	Mis-Pick	Sense
K70RPT2GRYC4Q	• Job light always on with job input until touched • Touch activates output and overrides job light with sense light until job input is removed • Touch with inactive job input activates mis-pick light for 5 seconds after touched and activates output					

Indicator and Output Behavior

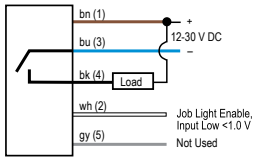
Sensor Conditions		Indicator		Output Signal Status
		C3 Models	C4 Models	
Job input active	Hand/pick absent	On Green	On Green	Off
	Hand/pick present	On Yellow	On Yellow until job input is removed	On
No job input	Hand/pick absent	Off	Off	Off
	Hand/pick present	On Red	On Red for 5 seconds after hand/pick is removed	On

NOTE: C3 and C4 models as referenced in the table pertain to a part of the product model number, immediately preceding the designation.

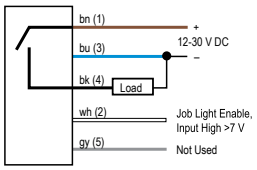
Wiring

Cabled wiring diagrams are shown. Quick disconnect wiring diagrams are functionally identical.

NPN Models



PNP Models



Specifications

Supply Voltage
12 V DC 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; 500 ms leading edge OFF

Power-Up Delay
300 ms

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

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

Environmental Rating
IP65

Construction
Housing and dome: Polycarbonate
Mounting nut: PBT

Connections
Integral 5-pin M12 male quick-disconnect connector; 2 m (6.5 ft) unterminated 3-wire PVC-jacketed cable; 150 mm (6 in) PVC-jacketed cable with a 5-pin M12 male quick-disconnect connector; or 150 mm (6 in) PUR-jacketed cable with a 5-pin M12 male quick-disconnect connector

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

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

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

Mounting

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

Indicators

Job pick indicator: Green
Mis-pick indicator: Red
Sense indicator: Yellow

Indicator Lumens

Color	Typical Wavelength	Typical Intensity (lm)
Green	525 nm	45
Red	625 nm	26
Yellow	590 nm	13

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.

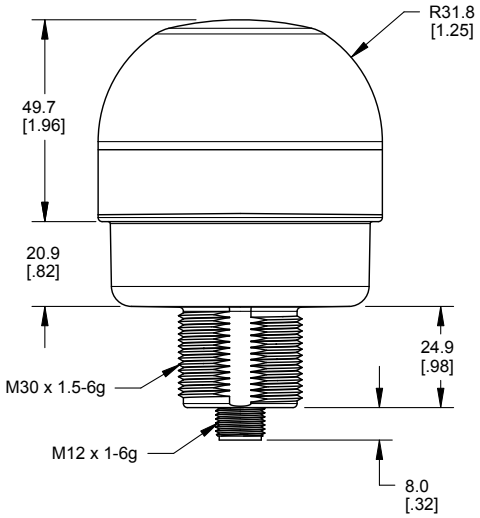
Supply wiring leads < 24 AWG shall not be spliced.

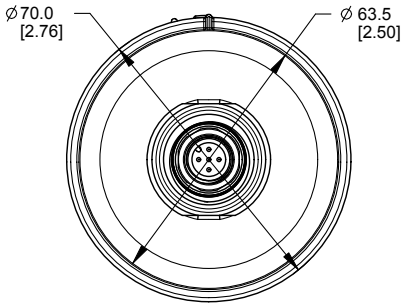
For additional product support, go to .

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

Dimensions

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



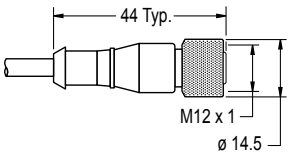
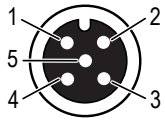
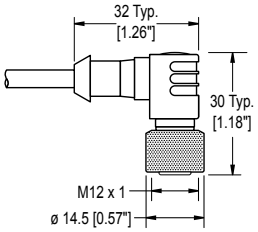


Accessories

Cordsets

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

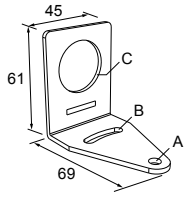
© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

5-Pin Single-Ended M12 Female Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC1-501.5	0.5 m (1.5 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 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

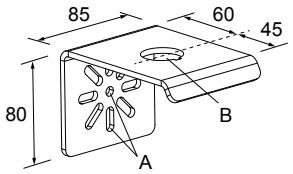
SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-gauge stainless steel
- CAD Files: DXF, PDF, IGS, STP

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



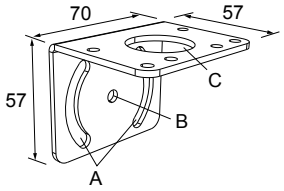
SSA-MBK-EEC1
- Single 30 mm hole
- 8 gauge steel, black finish (powder coat)
- Front surface for customer-applied labels
- CAD Files: DXF, PDF, IGS, STP

Hole size: A = ø 7 , B = ø 30



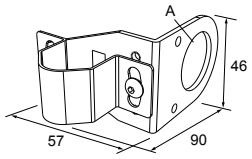
SMB30MM
- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- CAD Files: DXF, PDF, IGS, STP

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
- CAD Files: DXF, PDF, IGS, STP

Hole size: A=ø 30.5

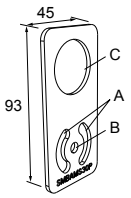


© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com

SMBAMS30P

- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge 300 series stainless steel
- CAD Files: DXF, PDF, IGS, STP

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



Banner Engineering Corp Limited Warranty

Banner Engineering Corp. warrants its products to be free from defects in material and workmanship for one year following the date of shipment. Banner Engineering Corp. will repair or replace, free of charge, any product of its manufacture which, at the time it is returned to the factory, is found to have been defective during the warranty period. This warranty does not cover damage or liability for misuse, abuse, or the improper application or installation of the Banner product.

THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: www.bannerengineering.com.

For patent information, see www.bannerengineering.com/patents.

© Banner Engineering Corp. All rights reserved.
www.bannerengineering.com