EZ-LIGHT® Touch K50 Series Illuminated Multipurpose Buttons

Features

General Purpose Multicolor Indicator with Independent Momentary Touch Button Output

- Rugged, cost-effective, and easy-to-install multicolor indicator with touch button
- Waterproof IP69K per ISO 20653 construction for washdown environments
- Three independent colors in one unit: Color 3 overrides Colors 1 and 2, Color 2 overrides Color 1
- Available with PNP and NPN inputs/outputs, depending on model
- Ergonomically designed to eliminate hand, wrist, and arm stresses associated with repeated switch operation; requires no physical force to operate
- Can be actuated with bare hands or gloves
- 12 V DC to 30 V DC operation

WARNING:

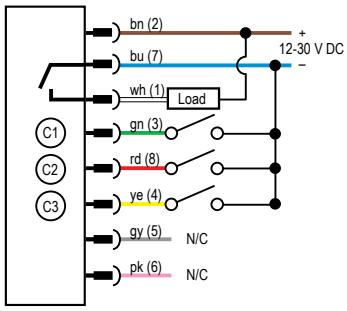
- **Do not use this device for personnel protection**
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction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

Models

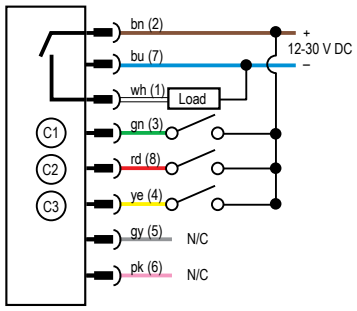
Model [1]	I/O Type	Output State	Color 1	Color 2	Color 3	Connection
K50APTGRYF2Q	PNP	N.O.	Green	Red	Yellow	Integral 8-pin M12 male quick-disconnect connector
K50RPTGRYF2Q		N.C.				
K50ANTGRYF2Q	NPN	N.O.				
K50RNTGRYF2Q		N.C.				

Wiring Diagram

NPN Output Models



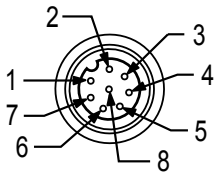
PNP Output Models



Wiring Key

1 = White
2 = Brown
3 = Green
4 = Yellow
5 = Gray
6 = Pink
7 = Blue
8 = Red

Pinout



(1)

- To order the 2 m (6.5 ft) PVC cable model, omit the suffix "Q" in the model number. For example, K50APTGRYF2.
- To order the 150 mm (6 in) PVC cable model with an 8-pin M12 quick disconnect, replace the suffix "Q" with "QP" in the model number. For example, K50APTGRYF2QP.
- Models with a quick disconnect require a mating cordset.

Original Instructions
10-Jun-25

www.bannerengineering.com

166766
p/n: 166766 Rev. D

Indicator and Output Behavior

PNP Models

Input Actions				Touch Button Actions		
Input #1: Pin 3 Green Wire	Input #2: Pin 8 Red Wire	Input #3: Pin 4 Yellow Wire	LED Color	Output Type	Touch	Output: Pin 1 White Wire
Open or -V DC	Open or -V DC	Open or -V DC	Light Off	N.O.	Not touched	PNP Output Off
+V DC	Open or -V DC	Open or -V DC	Color #1 On		Touched	PNP Output On
+V DC	+V DC	Open or -V DC	Color #2 On	N.C.	Not touched	PNP Output On
+V DC	+V DC	+V DC	Color #3 On		Touched	PNP Output Off
Open or -V DC	+V DC	Open or -V DC	Color #2 On			
Open or -V DC	+V DC	+V DC	Color #3 On			
Open or -V DC	Open or -V DC	+V DC	Color #3 On			
+V DC	Open or -V DC	+V DC	Color #3 On			

NPN Models

Input Actions				Touch Button Actions		
Input #1: Pin 3 Green Wire	Input #2: Pin 8 Red Wire	Input #3: Pin 4 Yellow Wire	LED Color	Output Type	Touch	Output: Pin 1 White Wire
Open or +V DC	Open or +V DC	Open or +V DC	Light Off	N.O.	Not touched	NPN Output Off
-V DC	Open or +V DC	Open or +V DC	Color #1 On		Touched	NPN Output On
-V DC	-V DC	Open or +V DC	Color #2 On	N.C.	Not touched	NPN Output On
-V DC	-V DC	-V DC	Color #3 On		Touched	NPN Output Off
Open or +V DC	-V DC	Open or +V DC	Color #2 On			
Open or +V DC	-V DC	-V DC	Color #3 On			
Open or +V DC	Open or +V DC	-V DC	Color #3 On			
-V DC	Open or +V DC	-V DC	Color #3 On			

Specifications

Supply Voltage
12 V DC 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

Environmental Rating
IP67, IP69K per ISO 20653
Cabled models meet DIN IP69K if the cable is protected from high-pressure spray

Output Response Time
50 milliseconds On and Off

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

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

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

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.

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

Connections
Integral 8-pin M12 male quick-disconnect connector, 2 m (6.5 ft) integral PVC-jacketed cable, or 150 mm (6 in) PVC-jacketed cable with an 8-pin M12 male quick-disconnect connector

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

Power-Up Delay
300 milliseconds

Indicator Lumens

Color	Typical Wavelength	Typical Intensity (lm)
Green	525 nm	29
Red	625 nm	13
Yellow	591 nm	24

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 Key definition for "URL" not found in the DITA map..

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)

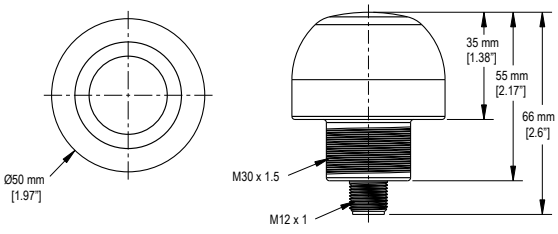
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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

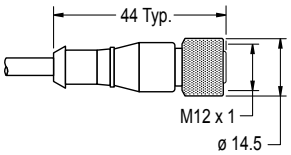
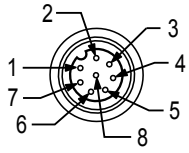
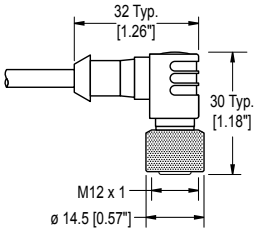
All measurements are listed in millimeters [inches], unless noted otherwise. The measurements provided are subject to change.

Standard Models



Accessories

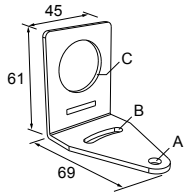
Cordsets

8-Pin Single-Ended M12 Female Open-Shielded Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC2S-806	2.04 m (6.7 ft)	Straight		 1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red
MQDC2S-815	5.04 m (16.54 ft)			
MQDC2S-830	10.04 m (32.95 ft)			
MQDC2S-850	16 m (52.49 ft)			
MQDC2S-806RA	2 m (6.56 ft)	Right-Angle		
MQDC2S-815RA	5 m (16.4 ft)			
MQDC2S-830RA	10 m (32.81 ft)			
MQDC2S-850RA	16 m (52.49 ft)			

Brackets

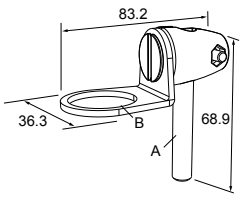
SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-gauge stainless steel

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



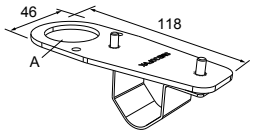
SMB30FA
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-gauge 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric- and inch-size bolt available

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



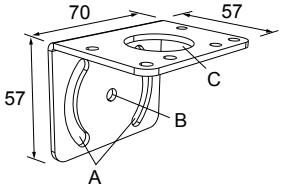
SMB30FVK
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

Hole size: A= ø 31



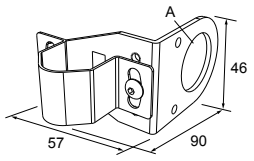
SMB30MM
- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

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



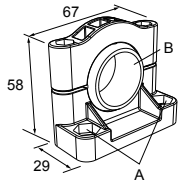
SMB30RAVK
- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

Hole size: A = ø 30.5



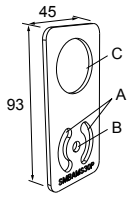
SMB30SC
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included

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



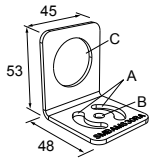
SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge 300 series stainless steel

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



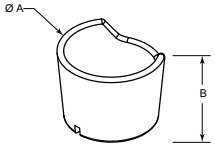
SMBAMS30RA
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge (2.6 mm) cold-rolled steel

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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