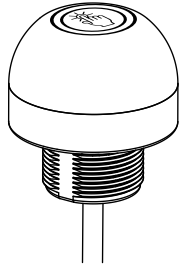


# EZ-LIGHT® Touch Gen 2 K50 FDA-Grade Illuminated Multipurpose Buttons



## Datasheet

General Purpose Multicolor Indicator with Independent Momentary Touch Button Output



- FDA-grade materials; rated to IEC IP67, IP68, and IP69K
- Laser marked information withstands aggressive cleaning procedures
- Excellent immunity to false triggering by water spray, detergents, oils, and other foreign materials
- Rugged, cost-effective, and easy-to-install multicolor indicator with touch button
- 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; require no physical force to operate
- Can be actuated with bare hands or in gloves
- 12 V to 30 V dc operation



**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 <sup>1</sup>	I/O Type	Output State	Color 1	Color 2	Color 3	Connection
K50APT2FGRYF2QP	PNP	N.O.	Green	Red	Yellow	150 mm (6 in) PVC cable with a 8-pin M12/Euro-style male, stainless steel, quick disconnect (QD)
K50RPT2FGRYF2QP		N.C.				
K50ANT2FGRYF2QP	NPN	N.O.				
K50RNT2FGRYF2QP		N.C.				

## Indicator and Output Behavior

Table 1: 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 -Vdc	Open or -Vdc	Open or -Vdc	Light Off	N.O.	Not touched	PNP Output Off
+V dc	Open or -Vdc	Open or -Vdc	Color #1 On		Touched	PNP Output On
+V dc	+V dc	Open or -Vdc	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 -Vdc	+V dc	Open or -Vdc	Color #2 On			
Open or -Vdc	+V dc	+V dc	Color #3 On			
Open or -Vdc	Open or -Vdc	+V dc	Color #3 On			
+V dc	Open or -Vdc	+V dc	Color #3 On			

<sup>1</sup> • To order the 2 m (6.5 ft) PVC cable model, omit the suffix "QP" in the model number. For example, K50APT2FGRYF2.



Table 2: 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
-Vdc	Open or +V dc	Open or +V dc	Color #1 On		Touched	NPN Output On
-Vdc	-Vdc	Open or +V dc	Color #2 On	N.C.	Not touched	NPN Output On
-Vdc	-Vdc	-Vdc	Color #3 On		Touched	NPN Output Off
Open or +V dc	-Vdc	Open or +V dc	Color #2 On			
Open or +V dc	-Vdc	-Vdc	Color #3 On			
Open or +V dc	Open or +V dc	-Vdc	Color #3 On			
-Vdc	Open or +V dc	-Vdc	Color #3 On			

## 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 at 10 mA dc; < 2.5 V at 150 mA dc  
OFF-state leakage current: < 10 µA at 30 V dc

Output Response Time

50 milliseconds On and Off

Power-Up Delay  
300 milliseconds

Indicators

- Color 1: Green
- Color 2: Red
- Color 3: Yellow

Indicator Lumens

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

Environmental Rating

IEC IP67, IP69K per DIN 40050-9.

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)

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

Connections

150 mm (6 in) PVC cable with a 8-pin M12/Euro-style male, stainless steel, quick disconnect (QD), or 2 m (6.5 ft) PVC integral cable

Construction

Base, dome, and nut: FDA-grade polycarbonate

Mounting

M30 × 1.5 Threaded base Max torque 4.5 N·m (40 in·lbf)

Certifications



Required Overcurrent Protection

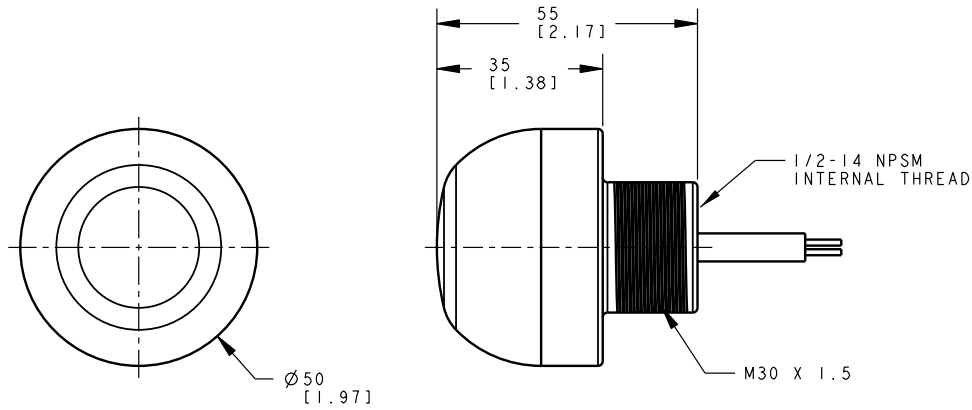


**WARNING:** Electrical connections must be made by qualified personnel in accordance with local and national electrical codes and regulations.

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.

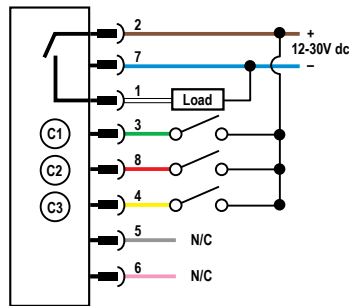
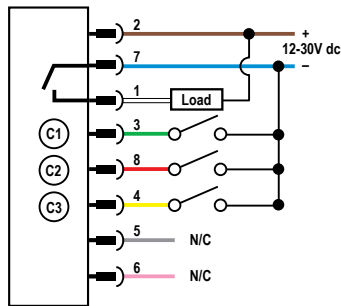
## Wiring Diagram

NPN (Sinking) Output Models

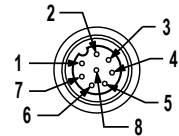
PNP (Sourcing) Output Models

Wiring Key

Pinout



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



## Accessories

### Cordsets

8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806	1.83 m (6 ft)	Straight		<ul style="list-style-type: none"> <li>1 = White</li> <li>2 = Brown</li> <li>3 = Green</li> <li>4 = Yellow</li> <li>5 = Gray</li> <li>6 = Pink</li> <li>7 = Blue</li> <li>8 = Red</li> </ul>
MQDC2S-815	4.57 m (15 ft)			
MQDC2S-830	9.14 m (30 ft)			
MQDC2S-850	15.2 m (50 ft)			

8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806RA	1.83 m (6 ft)	Right-Angle		
MQDC2S-815RA	4.57 m (15 ft)			
MQDC2S-830RA	9.14 m (30 ft)			
MQDC2S-850RA	15.2 m (50 ft)			

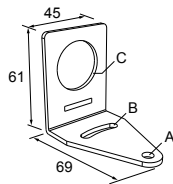
8-Pin Threaded M12/Euro-Style Cordsets with Open-Shield—Washdown, Stainless Steel				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC-WDSS-0806	1.83 m (6 ft)	Straight		
MQDC-WDSS-0815	4.57 m (15 ft)			
MQDC-WDSS-0830	9.14 m (30 ft)			

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

## Brackets

### SMB30A

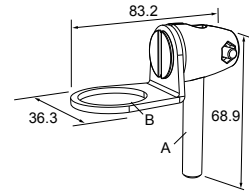
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



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

### SMB30FA

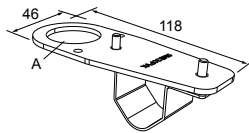
- Swivel bracket with tilt and pan movement for precise adjustment
- Mounting hole for 30 mm sensor
- 12-ga. 304 stainless steel
- Easy sensor mounting to extrude rail T-slot
- Metric and inch size bolt available



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

### SMB30FVK

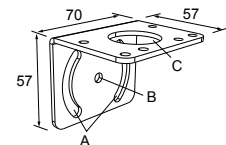
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A= ø 31

### SMB30MM

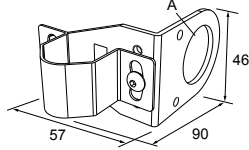
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor



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

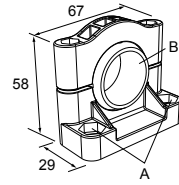
- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A =  $\varnothing$  30.5

## SMB30SC

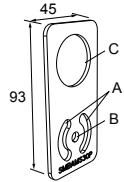
- Swivel bracket with 30 mm mounting hole for sensor
- Black reinforced thermoplastic polyester
- Stainless steel mounting and swivel locking hardware included



Hole center spacing: A= $\varnothing$  50.8  
Hole size: A= $\varnothing$  7.0, B= $\varnothing$  30.0

## SMBAMS30P

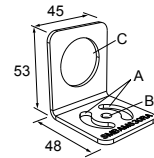
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90° + rotation
- 12-ga. 300 series stainless steel



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

## SMBAMS30RA

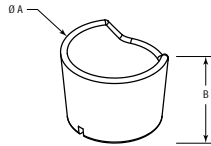
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90° + rotation
- 12-ga. (2.6 mm) cold-rolled steel



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

## TC-K50-CL

- Touch cover



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

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