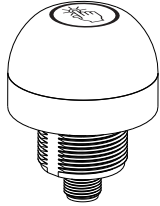# EZ-LIGHT® Touch K50 Series Illuminated **Multipurpose Buttons**

Datasheet

General Purpose Multicolor Indicator with Independent Momentary Touch Button Output

- Rugged, cost-effective, and easy-to-install multicolor indicator with touch button
- Waterproof IP69K 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; require no physical force to operate
- Can be actuated with bare hands or in gloves
- 12 V dc 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 [1]	I/O Type	Output State	Color 1	Color 2	Color 3	**Connection**
K50APTGRYF2Q	PNP	N.O.	Green	Red	Yellow	Integral 8-pin M12/Euro-style male quick disconnect (QD)
K50RPTGRYF2Q		N.C.				
K50ANTGRYF2Q	NPN	N.O.				
K50RNTGRYF2Q		N.C.				

Indicator and Output Behavior

Table 1: PNP Models

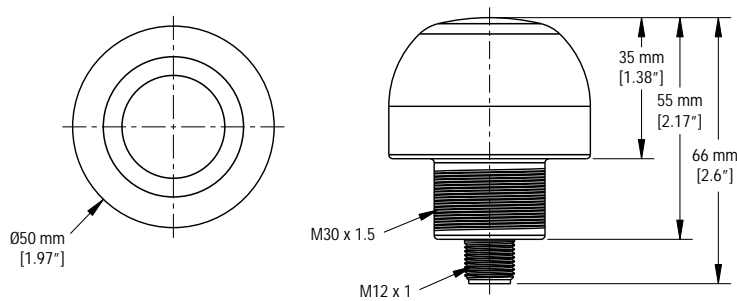| Input **Actions**				Touch **Button Actions**		
Input #1: Pin 3 Green Wire	Input #2: Pin 8 Red Wire	Input #3: Pin 4 Yellow Wire	LED Color	Output Type	Touch	Output: Pin 1 White Wire
Open or -Vdc	Open or -Vdc	Open or -Vdc	Light Off	N.O.	Not touched	PNP Output Off
+V dc	Open or -Vdc	Open or -Vdc	Color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

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[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/Euro-style quick disconnect, replace the suffix "Q" with "QP" in the model number. For example, K50APTGRYF2QP.
- Models with a quick disconnect require a mating cordset.
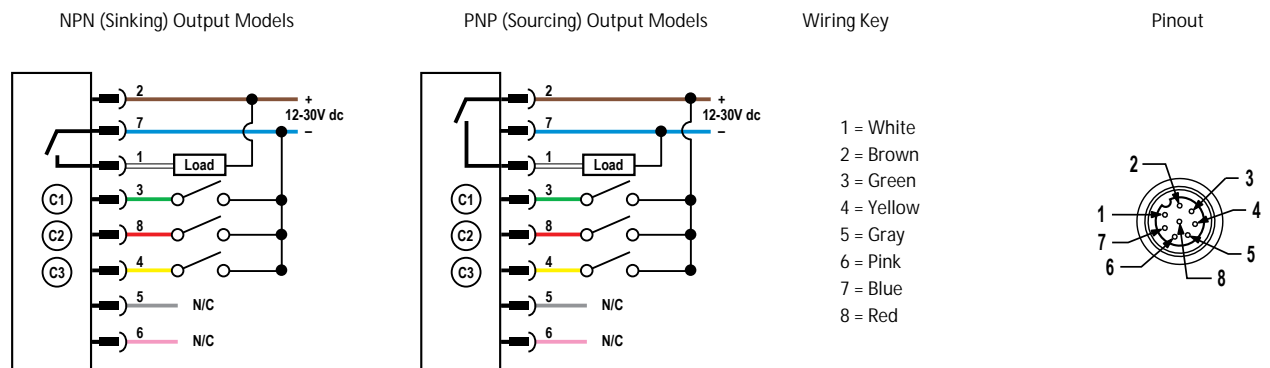
Table 2: NPN Models

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			

Dimensions

Ø50 mm [1.97"]

M30 x 1.5

M12 x 1

35 mm [1.38"]
55 mm [2.17"]
66 mm [2.6"]

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

Wiring Diagram

NPN (Sinking) Output Models

PNP (Sourcing) Output Models

Wiring Key

Pinout

12-30V dc

Load

C1
C2
C3

N/C
N/C

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

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

Connections
8-pin integral M12/Euro-style QD, 2 m (6.5 ft) PVC integral cable, or 8-pin 150 mm (6 in) M12/Euro-style PVC cable QD

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

Power-Up Delay
300 milliseconds

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**
IEC IP67, IP69K per DIN 40050-9.
Cabled models also meet IP69K if the cable and cable entrance are 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
–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 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.

Certifications

CE   c(UL)us LISTED

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.
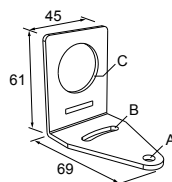For additional product support, go to *www.bannerengineering.com*.

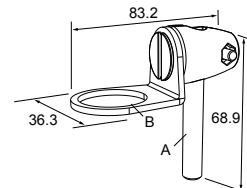| Supply Wiring (AWG)	Required Overcurrent **Protection** (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

Accessories

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
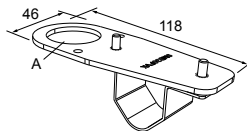Hole size: A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

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
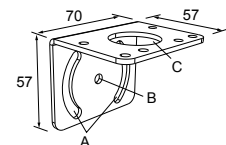Hole size: B= ø 30.1

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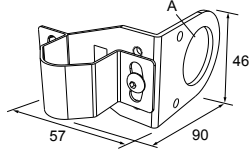• 30 mm hole for mounting sensors

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
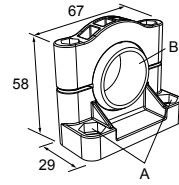Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1

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
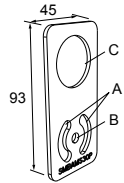
Hole size: A = ø 30.5

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
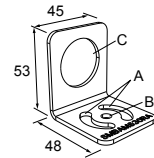Hole size: A=ø 7.0, B=ø 30.0

SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-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
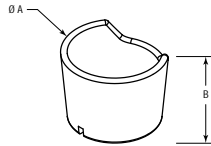
SMBAMS30RA
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. (2.6 mm) cold-rolled steel

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

TC-K50-CL
- Touch cover

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

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		
MQDC2S-815	4.57 m (15 ft)			
MQDC2S-830	9.14 m (30 ft)			
MQDC2S-850	15.2 m (50 ft)			
MQDC2S-806RA	1.83 m (6 ft)	Right-Angle		1 = White
MQDC2S-815RA	4.57 m (15 ft)			2 = Brown
MQDC2S-830RA	9.14 m (30 ft)			3 = Green
MQDC2S-850RA	15.2 m (50 ft)			4 = Yellow

Straight: 44 Typ. / M12 x 1 / ø 14.5

Right-Angle: 32 Typ. [1.26"] / 30 Typ. [1.18"] / M12 x 1 / ø 14.5 [0.57"]

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

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