

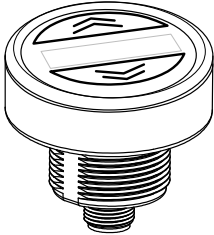
# K50 Pro Touch Display with PICK-IQ™



## Datasheet

50 mm Multicolor RGB Touch Button with Integral 4-Digit, 7 Segment Display

This datasheet contains limited information on the K50 Pro Touch Display with PICK-IQ™. For complete information on configuration, performance, troubleshooting, dimensions, and accessories, please refer to the PICK-IQ™ Devices Instruction Manual. Go to [www.bannerengineering.com](http://www.bannerengineering.com) and search 206185 to view the PICK-IQ™ Devices Instruction Manual or 209995 to view the Device Register Map. Use of this document assumes familiarity with pertinent industry standards and practices.



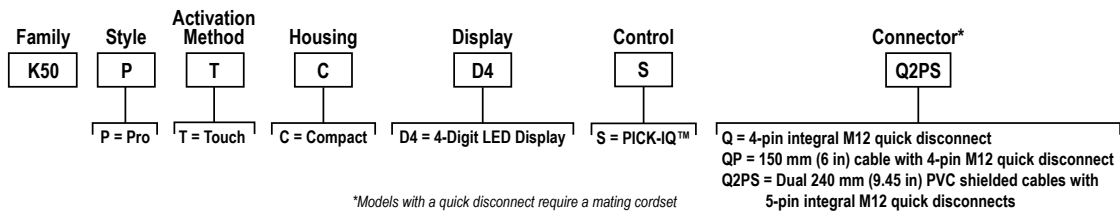
- 4-Digit, 7-segment LED display
- Two independent touch areas
- Excellent immunity to false triggering by water spray, oils, and other foreign materials
- Rated IP67 and IP69K per DIN 40050-9
- Can be actuated with bare hands or gloves
- PICK-IQ gives full access to color, flashing, rotating, display, and dimming settings as well as advanced animations such as dynamic sequence mode and LED control
- Output settings, including on and off delays, output function, and output state are also available with PICK-IQ
- PICK-IQ brings faster response speed and simplified programming to Modbus RTU communication



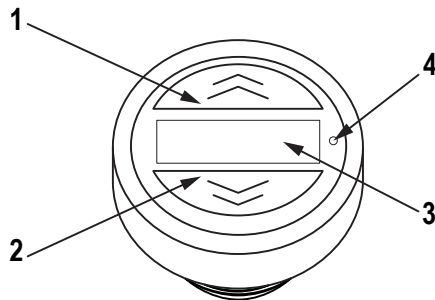
### WARNING:

- **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



## Features



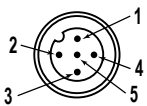
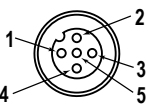
1. Sensor 1
2. Sensor 2
3. Display
4. Reference Mark: This will always be on the right side of the light, and is a fiducial for orientation when the display is off.

## Wiring

Compatible cordsets can be found in the PICK-IQ™ Devices Instruction Manual (206185).

Wiring for the Q Models				
4-pin M12 Male	4-pin M12 Female	Pin	Wire Color	Connection
		1	brown	10 V DC to 30 V DC
		3	blue	DC common
		4	black	RS-485 (-)
		2	white	RS-485 (+)



Wiring for the Q2PS Models				
5-pin M12 Male	5-pin M12 Female	Pin	Wire Color	Connection
		1	brown	10 V DC to 30 V DC
		3	blue	DC common
		4	black	RS-485 (-)
		2	white	RS-485 (+)
		5	gray	Shield

## Specifications

### Supply Voltage

10 V DC to 30 V DC

### Supply Current

220 mA maximum current at 10 V DC

90 mA maximum current at 24 V DC

70 mA maximum current at 30 V DC

### Supply Protection Circuitry

Protected against reverse polarity and transient voltages

### Touch Dwell Time

If touch dwells for longer than 60 seconds, the output reverts to the untouched state

### Touch Response Time

300 ms maximum

### Operating Conditions

-40 °C to +50 °C (-40 °F to +122 °F)

**Humidity:** 90% at +50 °C maximum relative humidity (non-condensing)

**Storage:** -40 °C to +70 °C (-40 °F to +158 °F)

### Environmental Rating

IP67, IP69K per DIN 40050-9 <sup>1</sup>

### Certifications



**Banner Engineering Europe** 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)

### Construction

Base, Dome, and Nut: Polycarbonate

### Vibration and Mechanical Shock

Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 1.0 mm amplitude, 5 minutes sweep, 30 minutes dwell)

Meets IEC 60068-2-27 requirements (Shock: 30G 11 ms duration, half sine wave)

### Connections

Integral 4-pin M12 quick disconnect or dual 240 mm (9.4 in), shielded PVC cables with 5-pin M12 quick disconnects, depending on model

Models with a quick disconnect require a mating cordset

### 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](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

### Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates <sup>2</sup>		Lumen Output (Typical at 25 °C)
		x	y	
Green	522	0.154	0.700	3.2
Red	620	0.689	0.309	1.7
Yellow	576	0.477	0.493	4.7
Blue	466	0.140	0.054	0.6
White	5700K	0.328	0.337	4.7
Cyan	493	0.170	0.340	3.6
Magenta	-	0.379	0.172	2.1
Amber	589	0.556	0.420	3.2
Rose	-	0.515	0.220	1.9
Lime Green	562	0.388	0.561	3.9
Sky Blue	486	0.155	0.247	3.8
Orange	599	0.616	0.370	2.5
Violet	-	0.217	0.089	1.2
Spring Green	508	0.177	0.536	3.3

<sup>1</sup> Q2PS models must be installed to protect the cable and cable entrance from high-pressure spray to meet IP69K.

<sup>2</sup> Refer to the CIE 1931 (x,y) Chromaticity Diagram to show equivalent color with indicated color coordinates. Actual coordinates may differ ± 5%.

## Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise. Compatible brackets can be found in the PICK-IQ™ Devices Instruction Manual (206185).

Figure 1. Standard Models

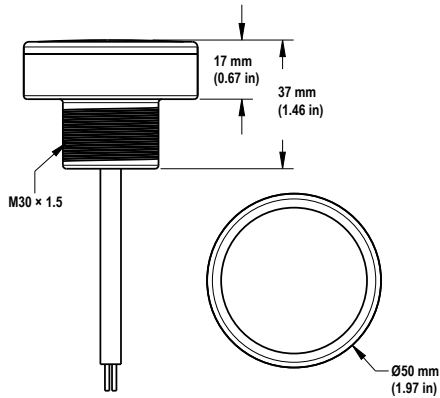


Figure 2. Quick-Disconnect Models

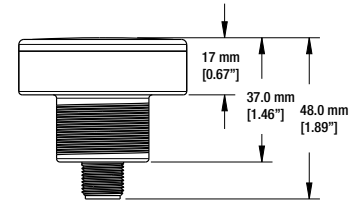
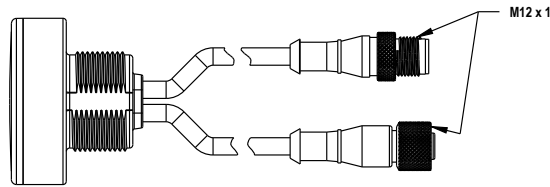


Figure 3. Dual M12 Cable



**Note:** The splitter cordset dimensions are functionally identical to the standard model.

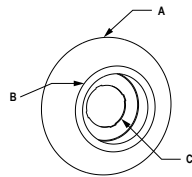
## Flange Accessory

### LMF3050B

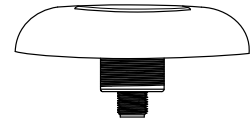
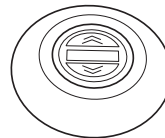
- 30 mm hole for mounting indicators or touch buttons
- Mounts flush to a flat surface to allow a gradual transition to the device
- Black polycarbonate material

Height: 18.8

Hole size: A =  $\phi$  100, B =  $\phi$  51.2, C =  $\phi$  30.5



### LMF3050B with K50 Pro Touch Mounted Inside



## 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.

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For patent information, see [www.bannerengineering.com/patents](http://www.bannerengineering.com/patents).

## FCC Part 15

This device complies with Part 15 of the FCC Rules. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. 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.

## Industry Canada

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.