K50 Pro Touch Display with PICK-IQ®

Overview

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 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 ISO 20653
- 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

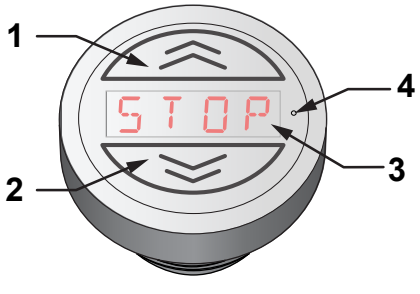
WARNING:

- **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

Family	Style	Activation Method	Housing	Display	Control	Connector[1]
K50	P	T	C	D4	S	Q2PS
	P = Pro	T = Touch	C = Compact	D4 = 4-Digit LED Display	S = PICK-IQ®	Q = Integral 4-pin M12 quick-disconnect connector QP = 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 quick-disconnect connector Q2PS = Dual 240 mm (9.45 in) PVC-jacketed cables with 5-pin M12 quick-disconnect connectors

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.

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

Original Instructions
12-Jun-25

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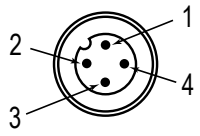
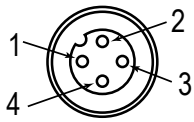
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p/n: 226237 Rev. B

ПРОМЭЛЕКТРОНИКА/ sales@prom-elec.com

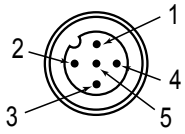
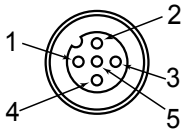
Wiring

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

Wiring for the Quick-Disconnect Models

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

Wiring for the Dual Cable Models

5-pin M12 Male	5-pin M12 Female	Pin	Wire Color	Connection
		1	brown	10 V DC to 30 V DC
		2	white	RS-485 (+)
		3	blue	DC common
		4	black	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 ISO 20653[(2)]

[(2)] Dual cable (Q2PS) models must be installed to protect the cable and cable entrance from high-pressure spray to meet IP69K.

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)

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 connector, 150 mm (6 in) PVC-jacketed cable with a 4-pin M12 quick-disconnect connector, or dual 240 mm (9.45 in) PVC-jacketed cables with 5-pin M12 quick-disconnect connectors, 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.

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

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Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates[3]		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

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)

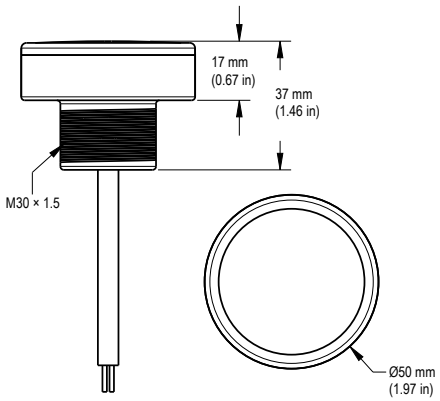
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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.

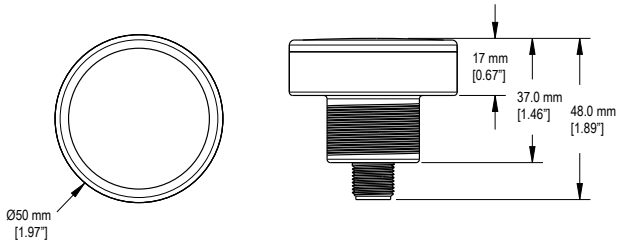
Dimensions

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

Standard Models



Quick-Disconnect Models



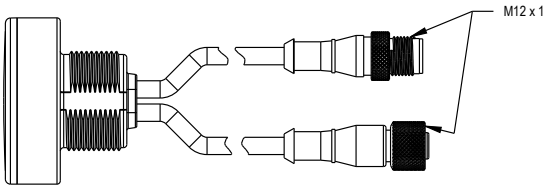
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[3] Refer to the CIE 1931 (x,y) Chromaticity Diagram to show equivalent color with indicated color coordinates. Actual coordinates may differ ± 5%.

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Dual M12 Cable



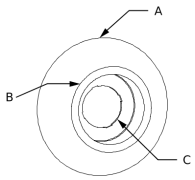
NOTE: The splitter cordset dimensions are functionally identical to the standard model.

Flange Accessory

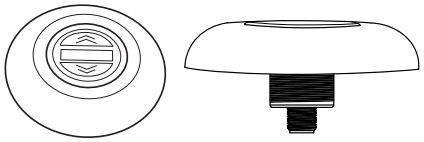
LMF3050B

- 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 = ø 100, B = ø 51.2, C = ø 30.5



LMF3050B with K50 Pro Touch Mounted Inside



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