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K50 Pro Indicator

Features

50 mm Programmable Multicolor RGB Indicator with Audible Models and an Optional Flashing Input Control



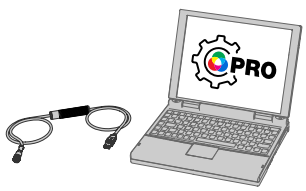
Standard model



Compact model

- Bright, uniform indicator light
- Seven default colors in one device (Green, Red, Yellow, Blue, White, Cyan, Magenta)
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- 30 mm threaded polycarbonate base
- Translucent polycarbonate dome
- Compact models available for lower profile applications
- Rugged IP66, IP67, IP69K per ISO 20653 and UL Type 4X and UL Type 13 design
- Bimodal inputs (PNP/NPN), depending on source wiring
- Models with integrated audible alarm available
- Variety of connector options
- Models constructed from FDA-grade materials available

Pro Editor



Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations.
For more information visit www.bannerengineering.com/proeditor.

Models

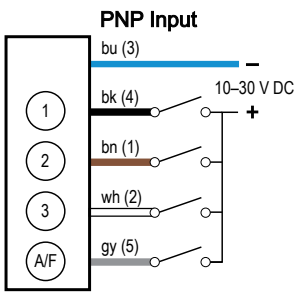
Family	Material	Color and Input	Audible Alarm(1)	Connector(2)
K50L2		**RGB7**	**A1**	**Q**
K50L2 = Dome K50CL2 = Compact(3)	Blank = Standard F = FDA-grade	RGB7 = RGB multicolor (7 colors)	Blank = No Audible A1 = Audible AL1 = Loud Audible ALS = Sealed Audible (IEC IP67)	Blank = 2 m integral PVC cable Q = 5-pin integral male M12 quick disconnect connector ** QP = 150 mm PVC cable with 5-pin male M12 quick disconnect connector

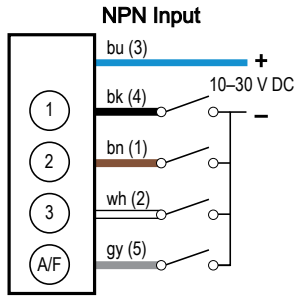
(1) Audible models are not available in FDA-grade materials or in compact models.
(2) Models with a quick-disconnect connector requires a mating cordset. See "Cordsets " on page 5.
(3) Compact models and integral quick-disconnect models are not available in FDA-grade materials.

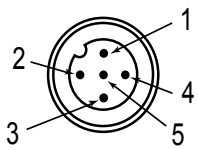
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Wiring Diagrams







The gray wire is the audible or flash input, depending on the model.

Default Color Definition

	Red	Yellow	Green	Cyan	Blue	Magenta	White
Input 1	X	X				X	X
Input 2		X	X	X			X
Input 3				X	X	X	X

An "X" denotes an active input. For example, when Input 1 and Input 3 are active, the indicator is magenta.

Specifications

Supply Voltage and Current

10 V DC to 30 V DC

- 220 mA at 10 V DC
- 190 mA at 12 V DC
- 115 mA at 24 V DC
- 100 mA at 30 V DC

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Leakage Current Immunity

400 µA

Input Response Time

250 milliseconds maximum

Flash

Default 1.5 Hz flash rate using flash input wire (not available on audible models)

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)

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)

Environmental Rating

Standard and Compact Models:

Non-Audible Models: IP66, IP67, IP69K per ISO 20653
A1 and AL1 Models: IP50
ALS Models: IP67
All Models: Meets UL Type 4X and UL Type 13 when mounted in a UL Type 4X or Type 13 enclosure
All Cabled Models also meet IP69K per ISO 20653 if the cable and cable entrance are protected from high-pressure spray

FDA Models: IP66, IP67, IP69K per ISO 20653

Audible Alarm

All models have a steady tone

A1 Model: 75 dB at 1 meter (typical), 3 kHz ± 500 Hz

AL1 Model: 95 dB at 1 meter (typical), 2.7 kHz ± 500 Hz

ALS Model: 94 dB at 1 meter (typical), 2.9 kHz ± 250 Hz

Connections

Integral 5-pin M12 male quick-disconnect connector, 150 mm (6 in) PVC-jacketed cable with an M12 quick disconnect, or 2 m (6.5 ft) integral PVC-jacketed cable, depending on model

Models with a quick disconnect require a mating cordset

Mounting

M30 by 1.5 threaded base, maximum torque 4.5 N·m (40 inch-lbf)

Mounting nut included

Construction

Standard and Compact Model Base, Dome, and Nut: Polycarbonate

FDA Model Base, Dome, and Nut: FDA-grade polycarbonate

Pro Editor Configuration

Connection to Pro Editor software enables control of:

- Animation: On, Flash, Two Color Flash, 50/50, 50/50 Rotate, Chase, Intensity Sweep, Color Sweep, Sequence, Wave, Double Wave,
- Color: Green, Red, Yellow, Blue, White, Cyan, Magenta, Amber, Rose, Lime Green, Orange, Sky Blue, Violet, Spring Green
- Intensity: Low, Medium, High
- Speed: Slow, Standard, Fast

Pro Converter Cable required to interface between PC and indicator, see accessories

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Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates[4]		Lumen Output (Typical at 25 °C) [5]
		x	y	
Green	530 nm	0.170	0.711	21.4
Red	625 nm	0.688	0.310	6.3
Yellow	–	0.457	0.485	17.2
Blue	470 nm	0.133	0.072	4.7
White	5950 K	0.323	0.336	21.3
Cyan	–	0.154	0.321	25.1
Magenta	–	0.365	0.176	8.5

[4] Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates.
[5] Values shown apply to dome models only. Compact models are 20% lower.

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

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

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)

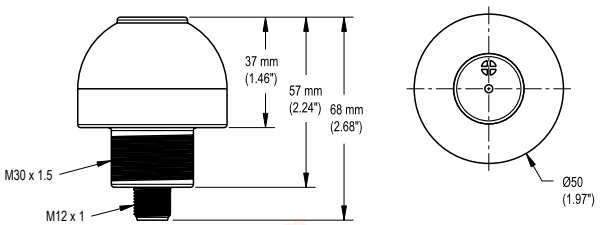
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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.

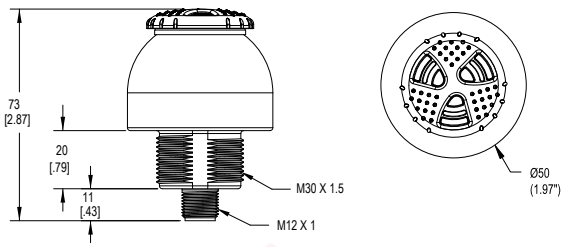
Dimensions

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

A1 and AL1 Audible Models



ALS Audible Models



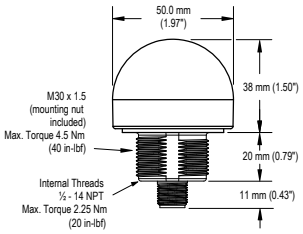
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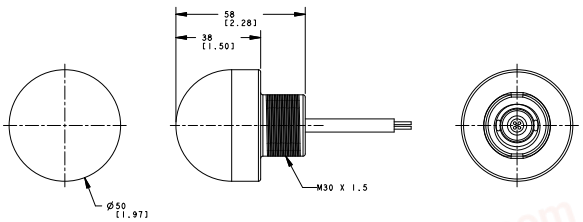
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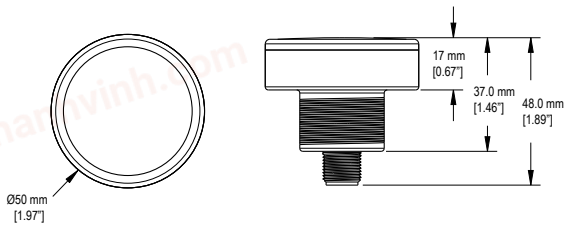
Non-Audible Models



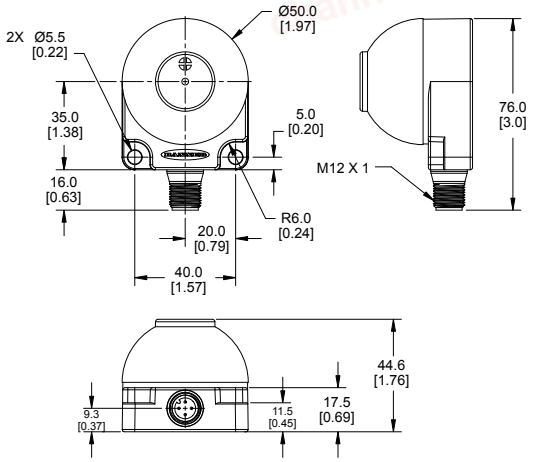
Cabled Models



Compact Models



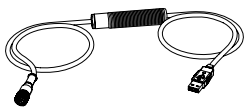
Flush-mount Models



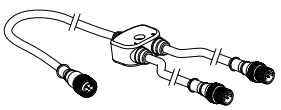
Accessories

Pro Editor Hardware

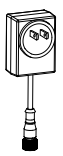
MQDC-506-USB
- Pro Converter Cable
- 1.83 m (6 ft) length 5-pin M12 quick disconnect to Device and USB to PC
- Required for connection to the configuration software



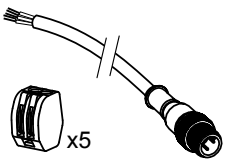
CSB-M1251FM1251M
- 5-pin parallel Y splitter (Male-Male-Female)
- For full Pro Editor preview capability
- Requires external power supply, sold separately



PSW-24-1
- 24 V DC, 1 A power supply
- 2 m (6.5 ft) PVC cable with M12 quick disconnect
- Provides external power with splitter cable, sold separately



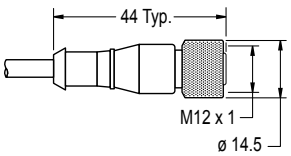
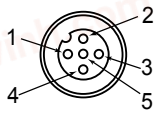
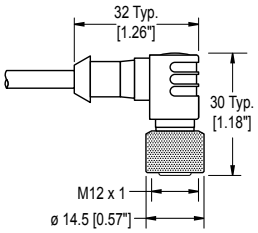
ACC-PRO-CABLE5
- Mating accessory for cabled and terminal models
- 150 mm (6 inch) PVC cable with M12 quick disconnect
- Lever wire nuts included (qty 5)
- Required to connect cabled models and screw terminal models to Pro Converter Cable, sold separately

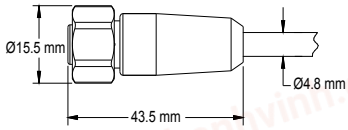
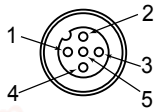


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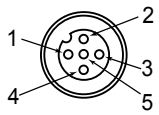
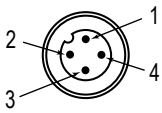
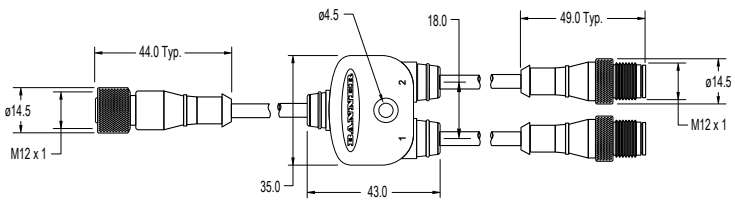
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Cordsets

5-Pin Single-Ended M12 Female Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC1-501.5	0.5 m (1.5 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC1-503	0.9 m (2.9 ft)			
MQDC1-506	2 m (6.5 ft)			
MQDC1-515	5 m (16.4 ft)			
MQDC1-530	9 m (29.5 ft)			
MQDC1-560	18 m (59 ft)			
MQDC1-5100	31 m (101.7 ft)			
MQDC1-506RA	2 m (6.5 ft)	Right-Angle		
MQDC1-515RA	5 m (16.4 ft)			
MQDC1-530RA	9 m (29.5 ft)			
MQDC1-560RA	19 m (62.3 ft)			

5-Pin Single-Ended M12 Female Stainless Steel Washdown Cordsets				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC-WDSS-0506	2 m (6.56 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC-WDSS-0515	5 m (16.4 ft)			
MQDC-WDSS-0530	9 m (29.5 ft)			

Splitter Cables for Use with IO-Blocks

5-Pin M12 to 4-Pin M12 Combiner Cordset with Flat Junction			
Model	**Branches (Male)**	**Trunk (Female)**	**Pinout**
CSF-M12F51M12M41	4-pin Quick Disconnect, 2 × 0.31 m (1.02 ft)	5-pin Quick Disconnect, 0.31 m (1.02 ft)	Female  Male  1 = brown (trunk); no connection (branches 1 and 2) 2 = white (trunk); brown (branch 1); gray (branch 2) 3 = blue (trunk; branches 1 and 2) 4 = black (trunk); black (branch 1); white (branch 2) 5 = gray (trunk only)
			

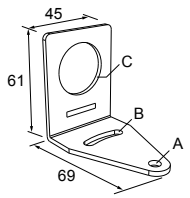
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Brackets

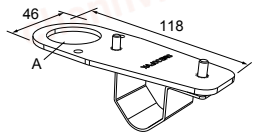
SMB30A
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-gauge stainless steel

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



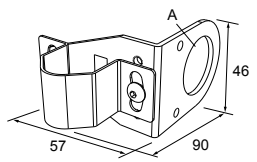
SMB30FVK
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

Hole size: A= ø 31



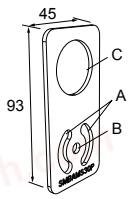
SMB30RAVK
- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors

Hole size: A = ø 30.5



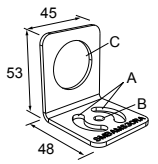
SMBAMS30P
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge 300 series stainless steel

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



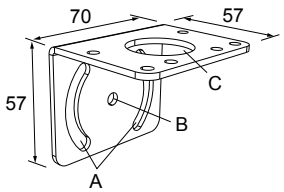
SMBAMS30RA
- Right-angle SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-gauge (2.6 mm) cold-rolled steel

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



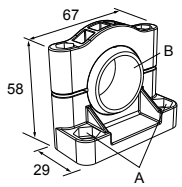
SMB30MM
- 12-gauge stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor

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



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



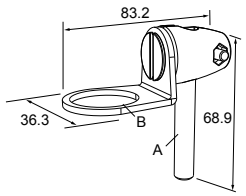
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SMB30FA

- 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

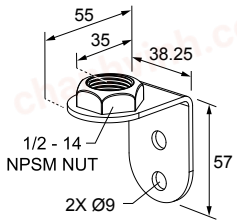
Bolt thread: SMB30FA, A= 3/8 - 16 × 2 in; SMB30FAM10, A= M10 - 1.5 × 50
Hole size: B= ø 30.1



LMBE12RA35

- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 35 mm

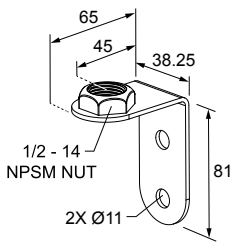
Hole center spacing: 20.0



LMBE12RA45

- Direct mounting of stand-off pipe, with common bracket type
- Zinc-plated steel
- 1/2-14 NPSM nut
- Mounting distance from the wall to the center of the 1/2-14 NPSM nut is 45 mm

Hole center spacing: 35.0



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

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