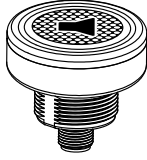# K50 Pro Compact with Audible Indicator

Datasheet

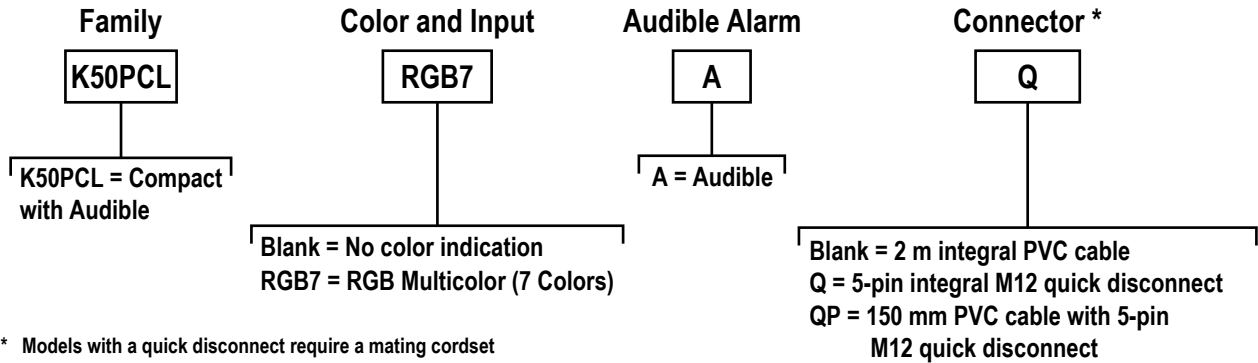*50 mm Compact Programmable Multicolor RGB Audible Indicator*

- Bright, uniform indicator light
- Designed with integrated audible alarm
- Available for lower profile applications
- 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 cover
- Rugged IP67, IP69K per DIN 40050-9 and UL Type 4X and UL Type 13 design
- Bimodal inputs (PNP/NPN), depending on source wiring
- Variety of connector options
- 14 different tones available including intensity and input control
- Two model options - with or without RGB indication

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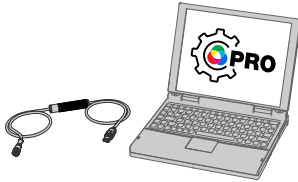
Use Banner's Pro Editor software and Pro Converter Cable to create custom configurations by selecting different colors, flash patterns, and animations.
For more information visit www.bannerengineering.com/proeditor.

Models

Family	Color and Input	Audible Alarm	Connector *
K50PCL	RGB7	A	Q

K50PCL = Compact with Audible

A = Audible

Blank = No color indication
RGB7 = RGB Multicolor (7 Colors)

Blank = 2 m integral PVC cable
Q = 5-pin integral M12 quick disconnect
QP = 150 mm PVC cable with 5-pin M12 quick disconnect

* Models with a quick disconnect require a mating cordset

Wiring Diagrams

PNP Input

NPN Input

10–30 V dc

Key
1 = Brown
2 = White
3 = Blue
4 = Black
5 = Gray

Table 1: RGB with Audible Indicator Default Values

Color	Red	Green	Yellow	Blue	Magenta	Cyan	White	Audible (No color)
Input 1	X		X		X		X	
Input 2		X	X			X	X	
Input 3				X	X	X	X	
Input 4 [1]								X

Table 2: Audible Indicator Only – Default Values for Low Intensity Tones

Audible	Continuous 2	Whoop	Pulse	Staccato	Siren	Jingle	Melody 1
Input 1	X			X	X		X
Input 2		X		X		X	X
Input 3			X		X	X	X
Input 4 [2]							

An "X" denotes an active input, for example when Input 1 and Input 3 are active, the indicator will show Magenta.

Specifications

Supply Voltage and Current
12 V DC to 30 V DC
Standard Models: 210 mA maximum
- 199 mA at 12 V DC
- 83 mA at 24 V DC
- 69 mA at 30 V DC

Audible-Only Models: 25 mA maximum
- 22 mA at 12 V DC
- 14 mA at 24 V DC
- 13 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

Audible Characteristics
Values shown apply to continuous tone. Frequency and intensity response vary depending on the Audible Tone selected.
2.9 KHz ± 250 Hz
Audible Intensity:
  Low intensity at 2.9 KHz: 83 dB at 1 m
  Medium intensity at 2.9 KHz: 88 dB at 1 m
  High intensity at 2.9 KHz: 92 dB at 1 m

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

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
IP67, IP69K per DIN 40050-9
Meets UL Type 4X, and UL Type 12 or UL Type 13 when mounted in a UL Type 12 or Type 13 enclosure
All cabled models also meet IP69K per DIN 40050-9 if the cable and cable entrance are protected from high-pressure spray

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

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, Demo
- 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
- Audible Tones: Pulse, Wobble, Strobe, Whoop, Staccato, Siren, Continuous 1, Continuous 2, Jingle, Melody 1, Melody 2, Melody 3
- Audible Intensity: Low, Medium, High

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

Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates [3]		Lumen Output (Typical at 25 °C)
		x	y	
Green	532	0.181	0.735	8.9
Red	621	0.691	0.308	3.9
Yellow	578	0.473	0.474	11.6
Blue	467	0.137	0.056	1.6
Magenta	-	0.379	0.177	5.7
Cyan	492	0.150	0.334	10.1
Amber	590	0.552	0.414	7.8
Rose	-	0.508	0.230	4.7
Lime Green	565	0.393	0.535	11.5
Orange	600	0.611	0.370	6
Sky Blue	485	0.146	0.241	10.6
Violet	-	0.212	0.091	3.4
Spring Green	509	0.157	0.553	9.3
White	5700K	0.328	0.337	13.7

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.

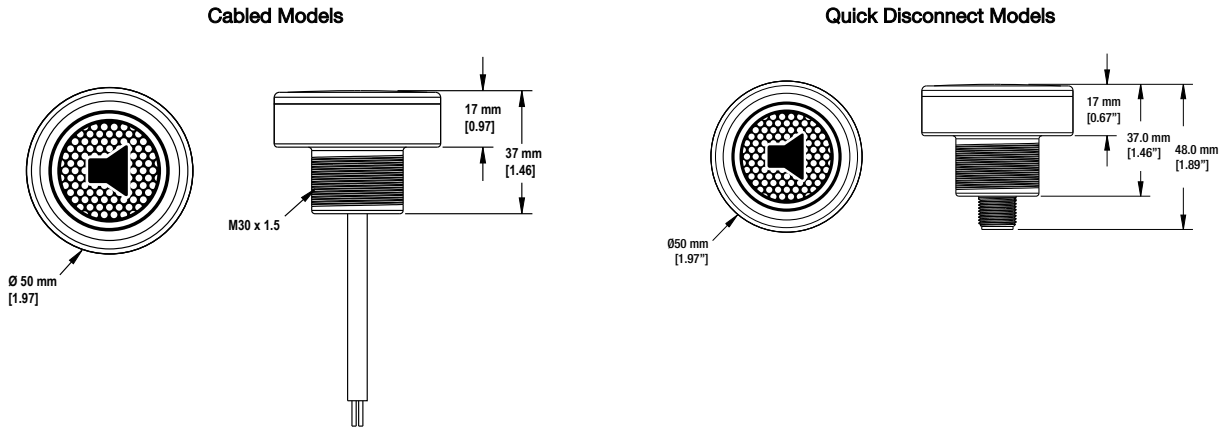| Supply Wiring (AWG)	Required Overcurrent Protection (Amps)
20	5.0
22	3.0
24	2.0
26	1.0
28	0.8
30	0.5

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[1] Input 4 controls audible functionality. Apply 12 V DC to 30 V DC to add audible to the color indication, or leave floating for color indication only.
[2] Input 4 controls audible intensity. Apply 12 V DC to 30 V DC for high intensity, or leave floating for low intensity.
[3] Refer to CIE 1931 chromaticity diagram or color chart, to show equivalent color with indicated color coordinates. Actual coordinates may differ by 10%.

Dimensions

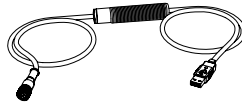All measurements are listed in millimeters [inches], unless noted otherwise.

Cabled Models

17 mm [0.97]
37 mm [1.46]
M30 x 1.5
Ø 50 mm [1.97]

Quick Disconnect Models

17 mm [0.67"]
37.0 mm [1.46"]
48.0 mm [1.89"]
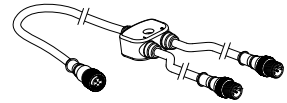Ø 50 mm [1.97"]

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 Pro Editor

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
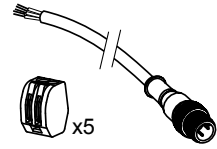
Cordsets

5-Pin Threaded M12 Cordsets—Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC1-501.5	0.5 m (1.5 ft)	Straight	44 Typ. M12 x 1 ø 14.5	
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)			1 = Brown
MQDC1-506RA	2 m (6.5 ft)	Right-Angle	32 Typ. [1.26"] 30 Typ. [1.18"] M12 x 1 ø 14.5 [0.57"]	2 = White
MQDC1-515RA	5 m (16.4 ft)			3 = Blue
MQDC1-530RA	9 m (29.5 ft)			4 = Black
MQDC1-560RA	19 m (62.3 ft)			5 = Gray

5-Pin Threaded M12 Stainless Steel Washdown Cordsets—Single Ended

Model	Length	Style	Dimensions	Pinout (Female)
MQDC-WDSS-0506	2 m (6.56 ft)	Straight	Ø15.5 mm, 43.5 mm, Ø4.8 mm	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 Threaded M12 to 4-Pin Threaded 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

Dimensions: 44.0 Typ., ø4.5, 18.0, 49.0 Typ., ø14.5, M12 x 1, 35.0, 43.0, M12 x 1, ø14.5

| Trunk	Branch 1	Branch 2
1 = Brown	1 = NC	1 = NC
2 = White	2 = Brown	2 = Gray
3 = Blue	3 = Blue	3 = Blue
4 = Black	4 = Black	4 = White
5 = Gray		

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

45, 61, C, B, A, 69
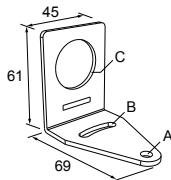
Hole center spacing: A to B=40
**Hole size:** A=ø 6.3, B= 27.1 x 6.3, C=ø 30.5

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

46, 118, A
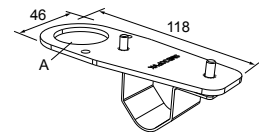
Hole size: A= ø 31

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

A, 46, 57, 90
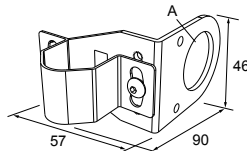
Hole size: A = ø 30.5

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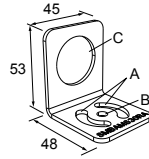- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel

45, C, A, B, 93
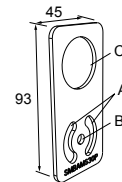
Hole center spacing: A=26.0, A to B=13.0
**Hole size:** A=26.8 x 7.0, B=ø 6.5, C=ø 31.0

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
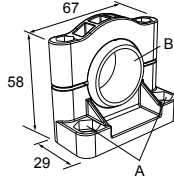
SMB30MM
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
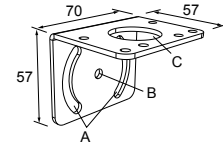
Hole center spacing: A = 51, A to B = 25.4
Hole size: A = 42.6 x 7, B = ø 6.4, C = ø 30.1

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

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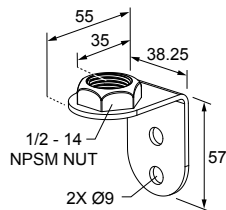- Metric and inch size bolt available
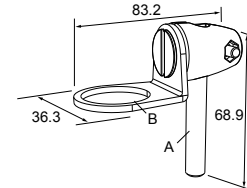
Bolt thread: SMB30FA, A= 3/8 - 16 x 2 in; SMB30FAM10, A= M10 - 1.5 x 50
Hole size: B= ø 30.1

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
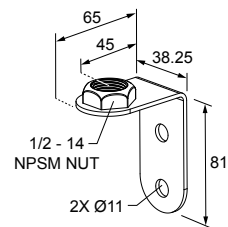
1/2 - 14 NPSM NUT

2X Ø9

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

1/2 - 14 NPSM NUT

2X Ø11

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

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For patent information, see 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.