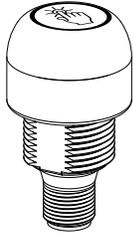


## Features

30 mm Programmable Multicolor RGB Indicator with Independent Momentary or Latching Touch Button Output



- Excellent immunity to false triggering by water spray, detergents, oils, and other foreign materials
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- Up to 7 colors in one unit
- Devices are completely self-contained—no controller needed
- Rated IP67 and IP69K per DIN 40050-9
- Ergonomically designed to eliminate hand, wrist, and arm stresses associated with repeated switch operation; no physical force required to operate
- 12 V DC to 30 V DC operation
- Can be actuated with bare hands or gloves; adjustable sensitivity using Pro Editor software
- Encapsulated construction option on Pro touch models for added protection against condensation and harsh environments

### 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

Model Key

Family	Style	Activation Method	Construction	Output State	Output Function	Color/Control	Connector <sup>(1)</sup>
K30	P = Pro	T = Touch	Blank = Ultrasonically welded	A = Normally Open	M = Momentary	GRY3 = Programmable Multicolor (3 colors, 5-pin)	Blank = 2 m (6.5 ft) integral PVC-jacketed cable
			E = Encapsulated and welded		L = Latching	RGB7 = Programmable Multicolor (7 colors, 8-pin)	Q = Integral 5-pin or 8-pin M12 male quick-disconnect connector, depending on model QP = 150 mm (5.9) PVC cable with a 5-pin or 8-pin M12 male quick-disconnect connector, depending on model <sup>(2)</sup>

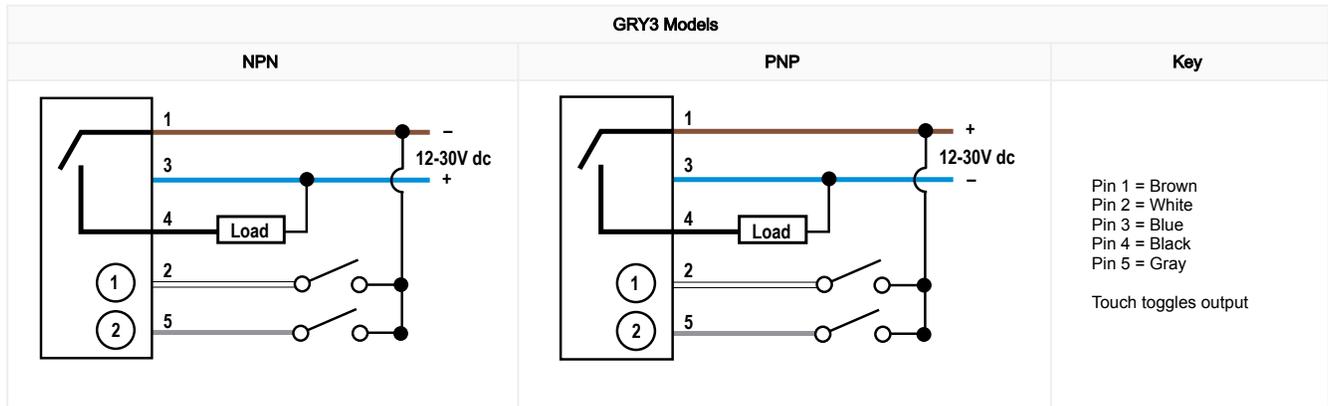
## Pro Editor



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](http://www.bannerengineering.com/proeditor).

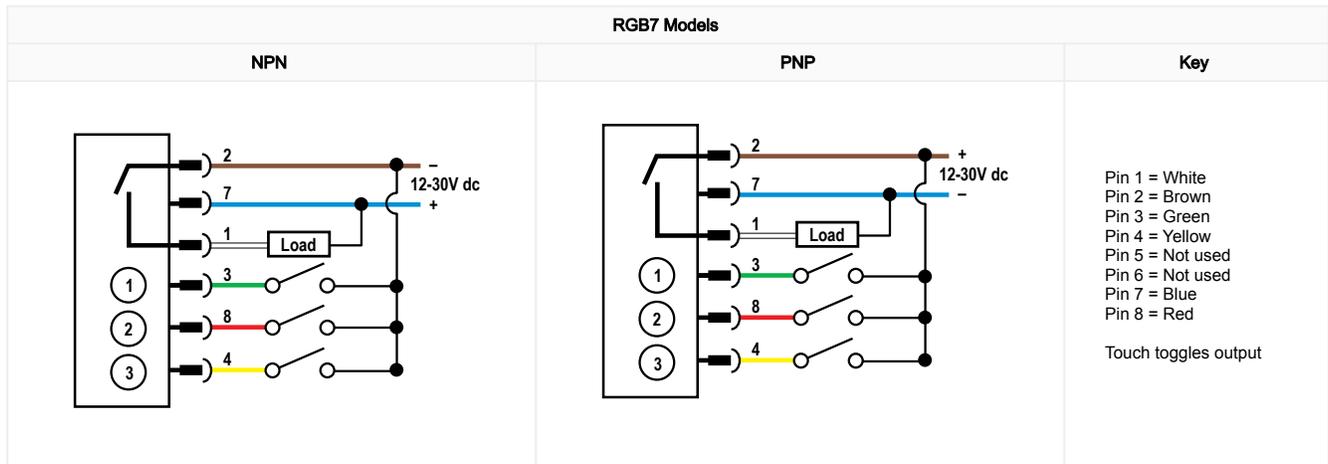
<sup>(1)</sup> Models with a quick-disconnect connector require a mating cordset.  
<sup>(2)</sup> This option is required for encapsulated models.

## Wiring Diagrams



GRY3 Multicolor Color/Function Definition

	Green	Yellow	Red
Input 1	X	X	
Input 2		X	X



RGB Multicolor Color/Function 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

## Specifications

### Supply Voltage

12 V DC to 30 V DC

### Supply Current

80 mA maximum current at 12 V DC (exclusive of load)  
40 mA typical current at 24 V DC (exclusive of load)

### Supply Protection Circuitry

Protected against reverse polarity and transient voltages

### Leakage Current Immunity

400  $\mu$ A

### Output Rating

Maximum load: 100 mA

ON-state saturation voltage: < 2 V DC at 10 mA; < 2.5 V DC at 150 mA

OFF-state leakage current: < 10  $\mu$ A at 30 V DC

### Output Response Time

Power-Up Delay: 500 milliseconds maximum

Input Response: 40 milliseconds maximum

Output Response: 300 milliseconds maximum

### Touch Dwell Time

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

**Operating Conditions**

−40 °C to +50 °C (−40 °F to +122 °F)

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

**Environmental Rating**

IP67, IP69K per DIN 40050-9

Cabled models also meet IP69K per DIN 40050-9 if the cable and cable entrance are protected from high-pressure spray

**Mounting**

M22 × 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 5-pin or 8-pin M12 male quick-disconnect connector, 2 m (6.5 ft) integral PVC-jacketed cable, or 150 mm (5.9 inch) PVC cable with a 5-pin or 8-pin M12 male quick-disconnect connector, depending on model

Integral 5-pin M12 male quick-disconnect connector

Models with a quick disconnect require a mating cordset

**Storage**

−40 °C to +70 °C (−40 °F to +158 °F)

**Pro Editor Configuration**

Connection to Pro Editor software enables control of:

- **Animation:** Steady, 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
- **Output State:** Normally Open, Normally Closed, Momentary, Latching, On Delay, Off Delay
- **Touch Sensitivity:** Low, Standard, High
- **Logic Type:** Three State Advanced Control (F2 Mode), Seven State Advanced Control (F2 Mode), Four State Full Logic (Custom)

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

**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 (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



### Default Indicator Characteristics

Color	Dominant Wavelength (nm) or Color Temperature (CCT)	Color Coordinates <sup>(1)</sup>		Lumen Output (Typical at 25 °C)	
		x	y	Touch Button Models	Encapsulated Models
Green	522	0.154	0.700	7.7	6.7
Red	620	0.689	0.309	3.1	2.9
Yellow	576	0.467	0.463	7.8	7.7
Blue	466	0.140	0.054	1.7	1.3
White	5700K	0.328	0.337	9.6	9.2
Cyan	493	0.157	0.331	8.7	7.5
Magenta	–	0.392	0.186	4.2	3.9
Amber	589	0.556	0.420	5.8	5.4
Rose	–	0.525	0.237	3.5	3.3
Lime Green	562	0.383	0.523	10	8.9
Sky Blue	486	0.145	0.240	9.2	7.9
Orange	599	0.616	0.370	4.6	4.3
Violet	–	0.224	0.099	3.4	3
Spring Green	508	0.155	0.524	8.0	6.9

## FCC Part 15 Class 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.

## Industry Canada ICES-003(B)

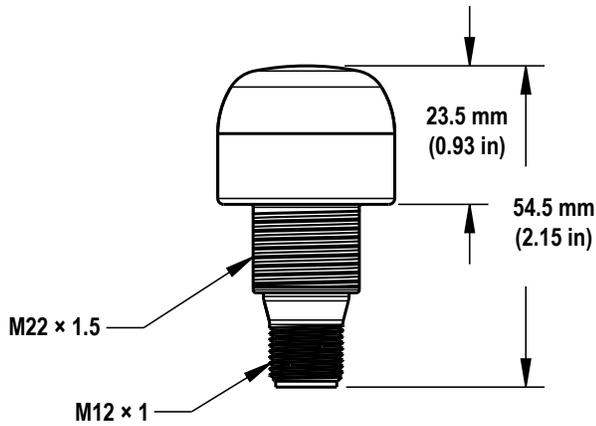
This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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.

<sup>(1)</sup> Refer to the CIE 1931 (x,y) Chromaticity Diagram to show equivalent color with indicated color coordinates. Actual coordinates may differ ± 5%.



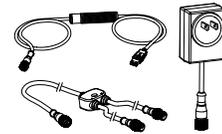
## Accessories

### Pro Editor Hardware

#### PRO-KIT

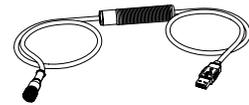
Includes:

- Pro Converter Cable (MQDC-506-USB)
- Splitter (CSB-M1251FM1251M)
- Power Supply (PSW-24-1)



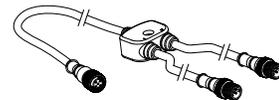
#### MQDC-506-USB

- 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



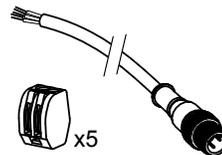
#### PSW-24-1

- 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



#### MQDC-801-5M-PRO

- 8-pin to 5-pin double-ended cordset
- 0.31 m (1 ft) PVC cable with M12 quick disconnects
- Required to connect 8-pin Pro Series-enabled devices to Pro Converter Cable (MQDC-506-USB), sold separately

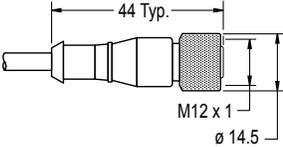
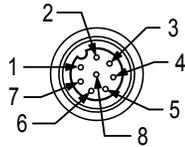


# Cordsets

5-Pin Threaded M12 Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.5 m (1.5 ft)	Straight		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
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		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
MQDC1-515RA	5 m (16.4 ft)			
MQDC1-530RA	9 m (29.5 ft)			
MQDC1-560RA	19 m (62.3 ft)			

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		<p>1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray</p>
MQDC-WDSS-0515	5 m (16.4 ft)			
MQDC-WDSS-0530	9 m (29.5 ft)			

8-Pin Threaded M12 Cordsets with Open-Shield—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC2S-806	2.04 m (6.7 ft)	Straight		<p>1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red</p>
MQDC2S-815	5.04 m (16.54 ft)			
MQDC2S-830	10.04 m (32.95 ft)			
MQDC2S-850	16 m (52.49 ft)			
MQDC2S-806RA	2 m (6.56 ft)	Right-Angle		<p>1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red</p>
MQDC2S-815RA	5 m (16.4 ft)			
MQDC2S-830RA	10 m (32.81 ft)			
MQDC2S-850RA	16 m (52.49 ft)			

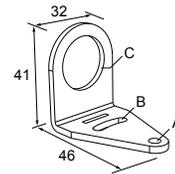
8-Pin Threaded M12 Cordsets with Open-Shield—Washdown, Stainless Steel												
Model	Length	Style	Dimensions	Pinout (Female)								
MQDC-WDSS-0806	2 m (6.56 ft)	Straight										
MQDC-WDSS-0815	5 m (16.4 ft)											
MQDC-WDSS-0830	9 m (29.53 ft)											
				<table border="0"> <tr> <td>1 = White</td> <td>5 = Gray</td> </tr> <tr> <td>2 = Brown</td> <td>6 = Pink</td> </tr> <tr> <td>3 = Green</td> <td>7 = Blue</td> </tr> <tr> <td>4 = Yellow</td> <td>8 = Red</td> </tr> </table>	1 = White	5 = Gray	2 = Brown	6 = Pink	3 = Green	7 = Blue	4 = Yellow	8 = Red
1 = White	5 = Gray											
2 = Brown	6 = Pink											
3 = Green	7 = Blue											
4 = Yellow	8 = Red											

## Brackets

### SMB22A

- Right-angle bracket with curved slot for versatile orientation
- 12-ga. stainless steel
- Mounting hole for 22 mm sensor

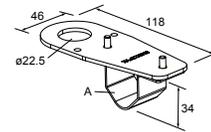
**Hole center spacing:** A to B = 26.0  
**Hole size:** A =  $\varnothing$  4.6, B = 4.6 x 16.9, C = 22.2



### SMB22FVK

- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

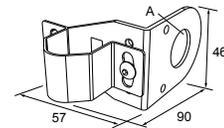
**Hole size:** A =  $\varnothing$  22.5



### SMB22RAVK

- V-clamp, right-angle bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm diameter tubing or 1 in. square extrusions
- 22 mm hole for mounting sensor

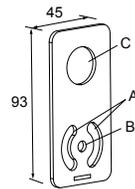
**Hole size:** A =  $\varnothing$  22.5



### SMBAMS22P

- Flat SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90+° rotation
- 12-ga. (2.6 mm) cold-rolled steel

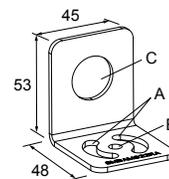
**Hole center spacing:** A = 26.0, A to B = 13.0  
**Hole size:** A = 26.8 x 7.0, B =  $\varnothing$  6.5, C =  $\varnothing$  22.5



### SMBAMS22RA

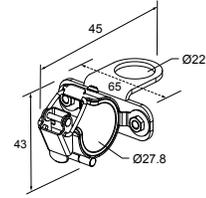
- Right-angle SMBAMS series bracket with 22 mm hole for mounting sensors
- Articulation slots for 90+° rotation
- 12-ga. (2.6 mm) cold-rolled steel

**Hole center spacing:** A = 26.0, A to B = 13.0  
**Hole size:** A = 26.8 x 7.0, B =  $\varnothing$  6.5, C =  $\varnothing$  22.5



**LMB22LPC**

- For 28 mm tubular racking
- Toolless mount to racking
- 22 mm mounting hole



## 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.

**THIS LIMITED WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS OR IMPLIED (INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), AND WHETHER ARISING UNDER COURSE OF PERFORMANCE, COURSE OF DEALING OR TRADE USAGE.**

This Warranty is exclusive and limited to repair or, at the discretion of Banner Engineering Corp., replacement. **IN NO EVENT SHALL BANNER ENGINEERING CORP. BE LIABLE TO BUYER OR ANY OTHER PERSON OR ENTITY FOR ANY EXTRA COSTS, EXPENSES, LOSSES, LOSS OF PROFITS, OR ANY INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES RESULTING FROM ANY PRODUCT DEFECT OR FROM THE USE OR INABILITY TO USE THE PRODUCT, WHETHER ARISING IN CONTRACT OR WARRANTY, STATUTE, TORT, STRICT LIABILITY, NEGLIGENCE, OR OTHERWISE.**

Banner Engineering Corp. reserves the right to change, modify or improve the design of the product without assuming any obligations or liabilities relating to any product previously manufactured by Banner Engineering Corp. Any misuse, abuse, or improper application or installation of this product or use of the product for personal protection applications when the product is identified as not intended for such purposes will void the product warranty. Any modifications to this product without prior express approval by Banner Engineering Corp will void the product warranties. All specifications published in this document are subject to change; Banner reserves the right to modify product specifications or update documentation at any time. Specifications and product information in English supersede that which is provided in any other language. For the most recent version of any documentation, refer to: [www.bannerengineering.com](http://www.bannerengineering.com).

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

Document title: K30 Pro Touch Button - Datasheet  
Part number: 223109  
Revision: C  
Original Instructions  
© Banner Engineering Corp. All rights reserved.

