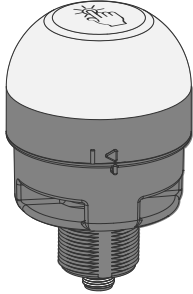


# K70 Pro Touch Audible Button



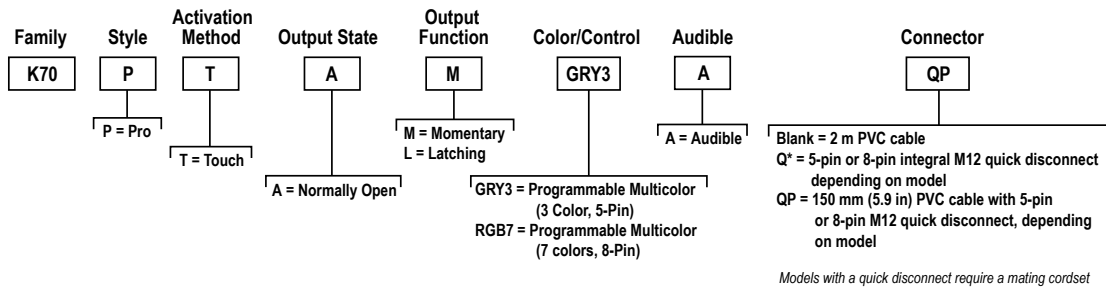
## Datasheet

70 mm Programmable Multicolor RGB Indicator with Audible and Touch Button Output

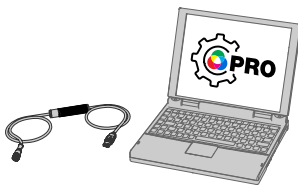


- Excellent immunity to false triggering by water spray, detergents, oils, and other foreign materials
- Programmable using Banner's Pro Editor software and Pro Converter Cable
- Integral audible can be used as standalone indicator or as an input to touch conditions
- 12 different tones available including intensity and input control
- 103 dB maximum sound intensity
- Rated IP65
- 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
- Configurable input/output with Pro Editor software

## Models



## 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).

## Wiring

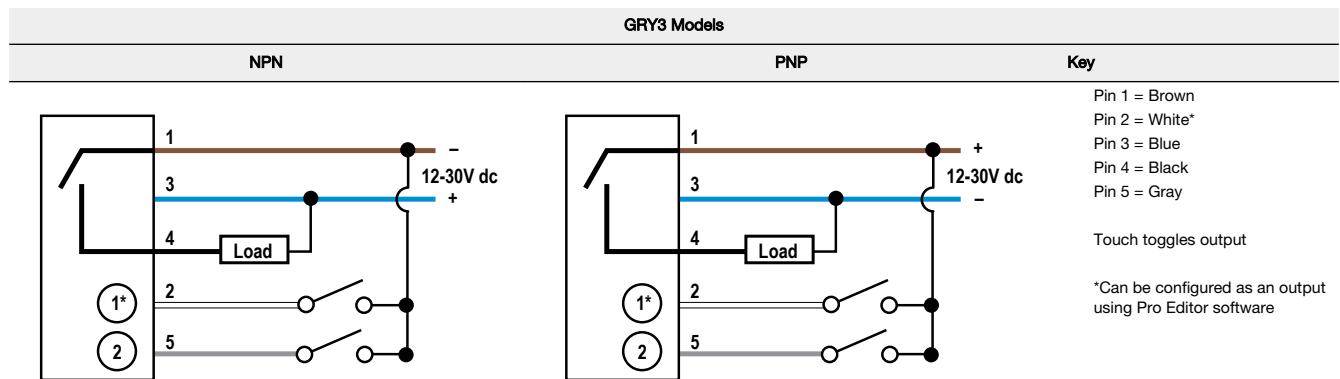


Table 1: GRY3 Multicolor Default Color/Function and Audible Definition

Audible	Green	Yellow	Continuous
Color	Green	Yellow	Red
Input 1	X	X	
Input 2		X	X

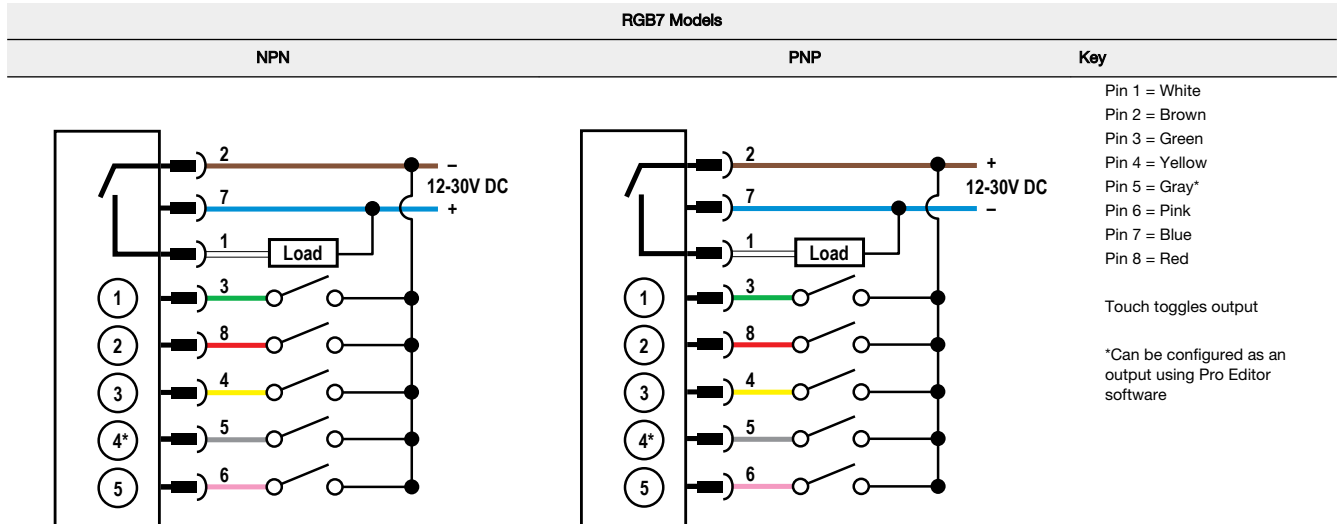


Table 2: RGB7 Multicolor Default Color/Function and Audible Definition

Color	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

Audible	Continuous	Jingle	Wobble
Input 4	X	X	
Input 5		X	X

## Specifications

### Supply Voltage

12 V DC to 30 V DC

### Supply Current

200 mA maximum current at 12 V DC (exclusive of load)  
90 mA maximum current at 24 V DC (exclusive of load)  
75 mA maximum current at 30 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 100 mA  
OFF-state leakage current: < 10  $\mu$ A at 30 V DC

### Audible Characteristics

Values shown apply to continuous tone. Frequency and intensity response will vary depending on the Audible Tone selected.  
Oscillation Frequency: 2.5 KHz  $\pm$  250 Hz

#### Audible Intensity

High Intensity: 103 dB at 1 m  
Medium Intensity: 98 dB at 1 m  
Low Intensity: 95 dB at 1 m

### 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

IP65

### Mounting

M30  $\times$  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

5-pin or 8-pin integral M12 quick disconnect, 2 m (6.5 ft) integral PVC cable, or 5-pin or 8-pin 150 mm (5.9 inch) PVC cable with an M12 quick disconnect, depending on model  
Models with a quick disconnect require a mating cordset

### 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

### 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)
- Audible Tones:** Pulse, Wobble, Strobe, Whoop, Staccato, Siren, Continuous 1, Continuous 2, Jingle, Melody 1, Melody 2, Melody 3
- Audible Intensity:** Low, Medium, High
- One pin configurable as either an input or an output

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 <sup>1</sup>		Lumen Output (Typical at 25 °C)
		x	y	
Green	532	0.181	0.735	46.6
Red	621	0.691	0.308	26.0
Yellow	578	0.473	0.474	36.4
Blue	467	0.137	0.056	9.0
White	5700K	0.328	0.337	30.9
Cyan	492	0.150	0.334	31.8
Magenta	-	0.379	0.177	19.1
Amber	590	0.552	0.414	32.4
Rose	-	0.508	0.230	22.3
Lime Green	565	0.393	0.535	40.5
Sky Blue	485	0.146	0.241	26.3
Orange	600	0.611	0.370	29.1
Violet	-	0.212	0.091	13.3
Spring Green	509	0.157	0.553	39.7

### 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.

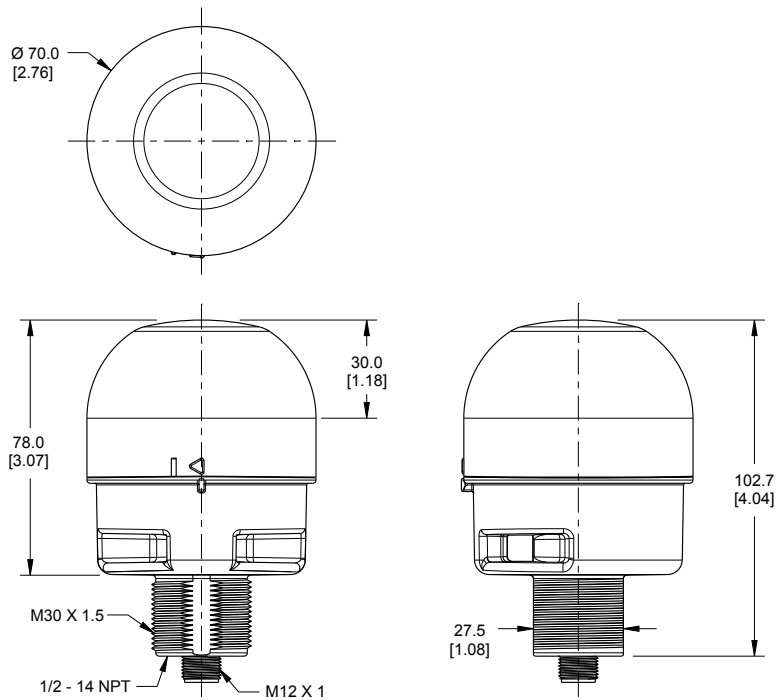
Overcurrent protection may be provided with external fusing or via Current Limiting, Class 2 Power Supply.  
Supply wiring leads < 24 AWG shall not be spliced.  
For additional product support, go to [www.bannerengineering.com](http://www.bannerengineering.com).

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

<sup>1</sup> Refer to the CIE 1931 (x,y) Chromaticity Diagram to show equivalent color with indicated color coordinates. Actual coordinates may differ  $\pm$  10%.

## Dimensions

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

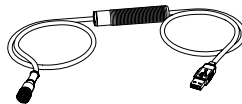


## Accessories

### Pro Editor Hardware

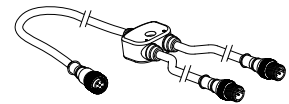
#### MQDC-506-USB

- 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



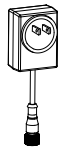
#### CSB-M1251FM1251M

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



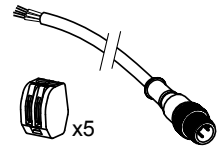
#### PSW-24-1

- 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



#### 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

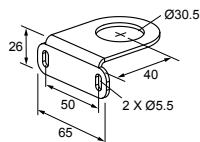
5-Pin Threaded M12 Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.5 m (1.5 ft)	Straight		
MQDC1-503	0.9 m (2.9 ft)			
MQDC1-506	2 m (6.5 ft)			
MQDC1-515	5 m (16.4 ft)			
MQDC1-530	9 m (29.5 ft)			
MQDC1-560	18 m (59 ft)			
MQDC1-506RA	2 m (6.5 ft)	Right-Angle		<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)			

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		
MQDC2S-815	5.04 m (16.54 ft)			
MQDC2S-830	10.04 m (32.95 ft)			
MQDC2S-850	16 m (52.49 ft)	Right-Angle		<p>1 = White 2 = Brown 3 = Green 4 = Yellow 5 = Gray 6 = Pink 7 = Blue 8 = Red</p>
MQDC2S-806RA	2 m (6.56 ft)			
MQDC2S-815RA	5 m (16.4 ft)			
MQDC2S-830RA	10 m (32.81 ft)			
MQDC2S-850RA	16 m (52.49 ft)			

## Brackets

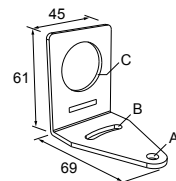
### LMB30LP

- Low profile
- 30 mm mounting hole
- 300 series stainless steel



### SMB30A

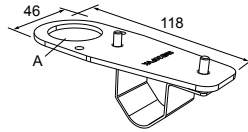
- Right-angle bracket with curved slot for versatile orientation
- Clearance for M6 (¼ in) hardware
- Mounting hole for 30 mm sensor
- 12-ga. stainless steel



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

**SMB30FVK**

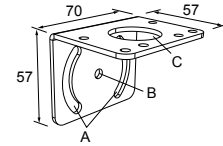
- V-clamp, flat bracket and fasteners for mounting to pipe or extensions
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A =  $\phi$  31

**SMB30MM**

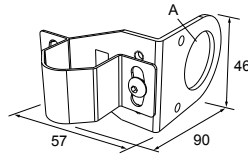
- 12-ga. stainless steel bracket with curved mounting slots for versatile orientation
- Clearance for M6 (1/4 in) hardware
- Mounting hole for 30 mm sensor



Hole center spacing: A = 51, A to B = 25.4  
Hole size: A = 42.6 x 7, B =  $\phi$  6.4, C =  $\phi$  30.1

**SMB30RAVK**

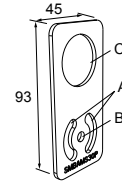
- V-clamp, right-angle bracket and fasteners for mounting sensors to pipe or extrusion
- Clamp accommodates 28 mm dia. tubing or 1 in. square extrusions
- 30 mm hole for mounting sensors



Hole size: A =  $\phi$  30.5

**SMBAMS30P**

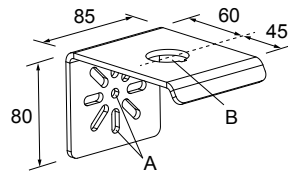
- Flat SMBAMS series bracket
- 30 mm hole for mounting sensors
- Articulation slots for 90°+ rotation
- 12-ga. 300 series stainless steel



Hole center spacing: A=26.0, A to B=13.0  
Hole size: A=26.8 x 7.0, B= $\phi$  6.5, C= $\phi$  31.0

**SSA-MBK-EEC1**

- Single 30 mm hole
- 8 gauge steel, black finish (powder coat)
- Front surface for customer applied labels



Hole size: A =  $\phi$  7, B =  $\phi$  30

## 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 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

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.