Features

Segmented Multi-Color Point-Of-Use Indicator

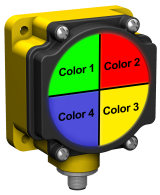
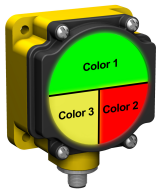
- Individual color segments can be lit separately or in combination
- For error-proofing and Andon[1] applications
- Provides operator guidance, even for those with limited color recognition ability
- Optional labels for enhanced segment identification
- Can be mounted on flat surface or pipe for elevated use
- PNP or NPN input, depending on model
- 1-color models offer flash functionality

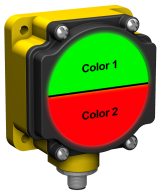
WARNING:

- **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

The most common models are shown. Some models are no longer available for order, but are still covered by the information in this document. Contact Banner Engineering for details or search for a desired model number at www.bannerengineering.com.

Model[2]		Colors[3]	Input
	K80L4GRYB1PQ	**1:** Green **2:** Red **3:** Yellow **4:** Blue	PNP
	K80L4GRYB1NQ		NPN
	K80L3THGRYX1PQ	**1:** Green **2:** Red **3:** Yellow	PNP
	K80L3THGRYX1NQ		NPN

Model[2]		Colors[3]	Input
	K80L2HGRXX1PQ	**1:** Green **2:** Red	PNP
	K80L2HGRXX1NQ		NPN
	K80L1WXXX1PQ	**1:** White	PNP
	K80L1YXXX1PQ	**1:** Yellow	
	K80L1RXXX1PQ	**1:** Red	
	K80L1GXXX1PQ	**1:** Green	
	K80L1BXXX1PQ	**1:** Blue	

Overview

The EZ-LIGHT® K80L Segmented Indicator is a color point-of-use indicator which can be used to send visual messages to an operator or to monitor multiple locations.

Up to four independently selected colors provide the ability to communicate up to four messages, or more if they are used in combination. For example, a green sector could be lit to communicate “all systems OK,” and blue could represent “service needed soon” or “a shoplifter is

[1] Andon lights on machines or production lines indicate operation status. They are often located overhead for workers or a supervisor to view them.
[2] Integral quick-disconnect connector models are listed.
- To order the 150 mm (6 in) PVC-jacketed cable model with a 5-pin M12 male quick-disconnect connector, replace the suffix "Q" with "QP" in the model number.
- To order the 2 m (6.5 ft) PVC-jacketed cable model, omit the suffix "Q" in the model number.
- To order the 150 mm (6 in) PUR-jacketed cable model with a 5-pin M12 male quick-disconnect connector, replace the suffix "Q" with "QPMA" in the model number.
- Models with a quick disconnect require a mating cordset.

[3] Contact Banner Engineering for other colors and color combinations.

on the floor.” Green plus red lit together could mean something different from either color lit individually. See wiring diagrams for color selection information.

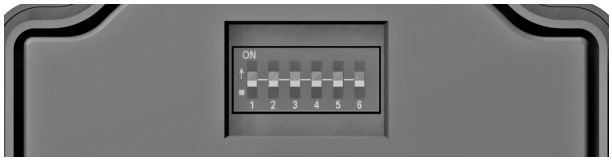
Indicator colors are fixed in a standardized location, which is helpful for people who have limited color recognition capability.

The K80L Segmented Indicator mounts easily on a flat surface, but can also be placed on various types of pipe for elevated use. Banner offers stainless steel pipe and other mounting accessories.

Setup for Alternate Operation

The Program DIP switch is located inside the K80L cover. Remove the four screws to remove the cover.

DIP Switches



Configuration for Flash Function (1-color models only)

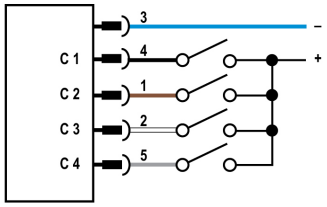
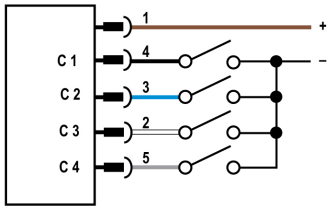
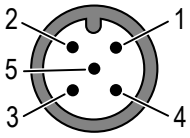
DIP Switch Positions						LED Function
SW1	SW2	SW3	SW4	SW5	SW6	
OFF	OFF	OFF	OFF	OFF	OFF	Color 1 ON solid
ON	OFF	OFF	OFF	OFF	OFF	Color 1 Flashes – 50% duty cycle; 2 Hz rate
OFF	ON	OFF	OFF	OFF	OFF	Color 1 Flashes – 50% duty cycle; 1 Hz rate
OFF	OFF	ON	OFF	OFF	OFF	Color 1 Flashes – 50% duty cycle; 0.5 Hz rate
OFF	OFF	OFF	ON	OFF	OFF	Color 1 Flashes – 25% duty cycle; 1 Hz rate
OFF	OFF	OFF	OFF	ON	OFF	Color 1 Flashes – 25% duty cycle; 0.5 Hz rate
OFF	OFF	OFF	OFF	OFF	ON	Color 1 Flashes – 25% duty cycle; 0.25 Hz rate

Configuration for Demo Mode (2-, 3-, and 4-color models only)

Change the switch 1 position to ON. The individual sectors' light depends on the input power, as described at right.

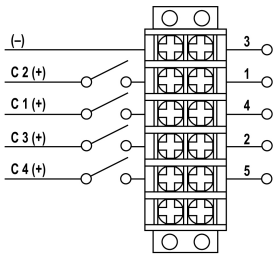
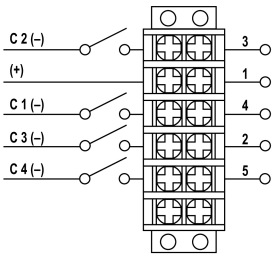
Black wire input	Colors 1 and 2 alternate
Brown wire input	Colors light simultaneously
White wire input	Colors light in rotation (3- and 4-color models only)

Wiring

PNP	NPN	5-pin M12 Male Pinout	Key
			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray C = Color

NOTE: Wiring shown is for 4-color segmented models. Depending on the model and number of segments, pins 5, 3, 2 and 1 may not be used.

Terminal Block Locations

PNP Internal Terminal Blocks	NPN Internal Terminal Blocks	Wiring Key
		1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray C = Color

Specifications

Supply Voltage and Current

18 V DC to 30 V DC

K80L4 models: at 35 mA maximum per LED color, at 90 mA maximum with all LEDs ON

K80L3 models: at 50 mA maximum with 1 color ON, at 35 mA maximum with color 2 or 3 ON, at 90 mA maximum with all LEDs ON

K80L2 models: at 50 mA maximum with color 1 or 2 ON, at 90 mA maximum with all LEDs ON

K80L1 models: at 90 mA maximum

Supply Protection Circuitry

Protected against reverse polarity and transient voltages

Construction

Base: ABS/polycarbonate

Translucent face: acrylic

Indicators

LEDs are independently selected: Green, Red, Yellow, Blue, or White; 1-4 colors, depending on model. For other colors, contact Banner Engineering for availability.

Input Response Time

Indicator ON: Initial Light – 250 ms maximum, additional lights – 10 ms maximum

Indicator OFF: 10 ms maximum

Adjustments

The K80L Segmented features a 6-position Program DIP switch inside the indicator cover. For normal operation, no adjustment should be necessary; these switches should remain all in the down position. For alternate operation (flash functionality for 1-color models, Demo mode for 2-, 3-, and 4-color models), see Setup for Alternate Operation.

Connections

Integral 5-pin M12 male quick-disconnect connector standard; 150 mm (6 in) PVC-jacketed cable with a 5-pin M12 male quick-disconnect connector; or terminal-wired, depending on model.

Vibration and Mechanical Shock

All models meet MIL-STD-202F, Method 201A (Vibration: 10 Hz to 60 Hz maximum, 0.06 inch (1.52 mm) double amplitude, 10G maximum acceleration) requirements. Also meets IEC 60947-5-2 (Shock: 30G 11 ms duration, half sine wave) requirements.

Environmental Rating

IP67, NEMA 6

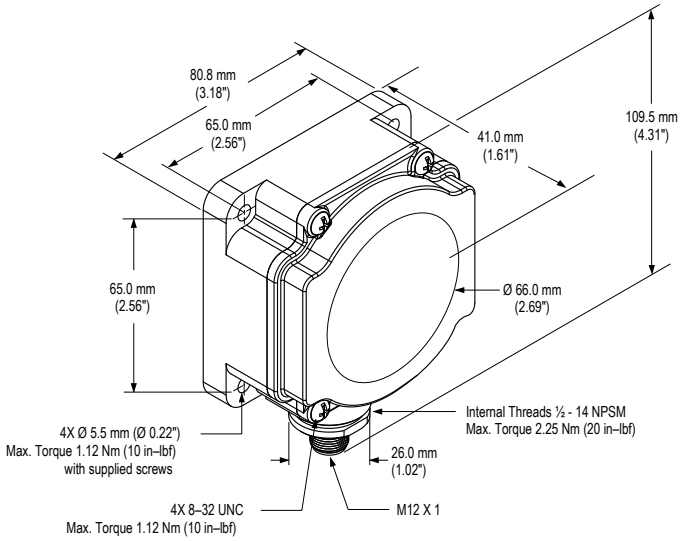
Certifications

CE

Banner Engineering BV
Park Lane, Culliganlaan 2F bus 3
1831 Diegem, BELGIUM

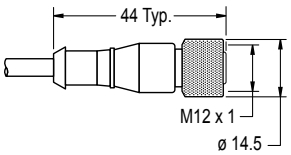
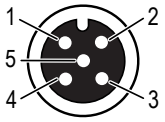
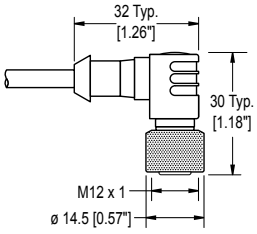
Dimensions

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



Accessories

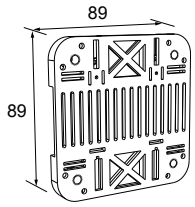
Cordsets

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)			

Bracket

SMBDX80DIN

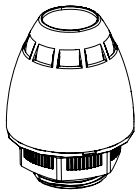
- Black reinforced thermoplastic
- Bracket for mounting on a 35 mm DIN rail
- CAD Files: DXF, PDF, IGS, STP



Elevated Mounting Systems

Black Anodized Aluminum, ½ in. NPT Pipe Models	Clear Anodized Aluminum, ½ in. NPT Pipe Models	Description
SOP-E12-150A, 150 mm (6 in) long	**SOP-E12-150AC**, 150 mm (6 in) long	• Elevated-use stand-off pipe • Threaded at both ends • Compatible with most industrial environments • CAD Files: ◦ **SOP-E12-150A**: DXF, PDF, IGS, STP ◦ **SOP-E12-300A**: DXF, PDF, IGS, STP ◦ **SOP-E12-600A**: DXF, PDF, IGS, STP ◦ **SOP-E12-900A**: DXF, PDF, IGS, STP
SOP-E12-300A, 300 mm (12 in) long	**SOP-E12-300AC**, 300 mm (12 in) long	
SOP-E12-600A, 600 mm (24 in) long	-	
SOP-E12-900A, 900 mm (36 in) long	**SOP-E12-900AC**, 900 mm (36 in) long	

304 Stainless Steel, ½ in. NPT Pipe Models	Description
SOP-E12-150SS, 150 mm (6 in) long	• Elevated-use stand-off pipe • Threaded at both ends • Compatible with most industrial environments • CAD Files: ◦ **SOP-E12-150x**: DXF, PDF, IGS, STP ◦ **SOP-E12-300x**: DXF, PDF, IGS, STP ◦ **SOP-E12-600x**: DXF, PDF, IGS, STP ◦ **SOP-E12-900x**: DXF, PDF, IGS, STP
SOP-E12-300SS, 300 mm (12 in) long	
SOP-E12-600SS, 600 mm (24 in) long	
SOP-E12-900SS, 900 mm (36 in) long	

Mounting Base Model	Description	
SA-E12M30 - Black acetal	• Streamlined black acetal or white UHMW mounting base adapter/ cover • Adapter from ½ in. NPSM/DN15 pipe to 30 mm (1-3/16 in) drilled hole • Mounting hardware included • CAD files: DXF, PDF, IGS, STP	
SA-E12M30C - White UHMW		

Accessory Quadrant Labels

Transparent self-adhesive cover labels for printing in a standard laser printer; print your own labels to easily identify each quadrant. Clear protective labels provide additional protection for laser print work in many industrial environments. Six labels per sheet; 5 sheets per package.

Model	Description	Size
SALK-K80L4-0	1-quadrant transparent laser label (includes 30 labels)	8.5 in × 11 in

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