BANNER S15LPRGB7Q In-Line RGB Indicator Instruction Manual

S15L Pro In-Line RGB Indicator
Instruction Manual

Contents

Features

15 mm Multicolor RGB Indicator

- Bright, programmable indicator light with RGB LEDs
- Rugged over molded indicator segment design meets IP65, IP67 and IP68

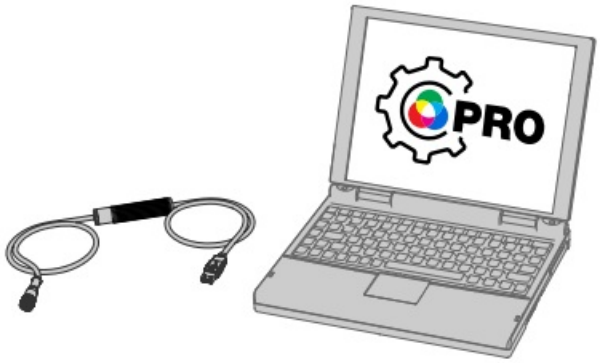
- Connect directly to a compatible sensor or anywhere in-line for easy visual indication
- Programmable color, flashing, and intensity settings

Models

Model	Housing	Style	Control	Connector
S15LPRGB7Q	S15	Pro	Discrete	Integral 5-pin M12 male/female quick-disconnect connector

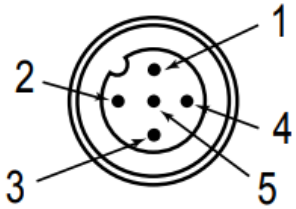
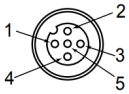
Configuration Instructions

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**.

Wiring

5-pin M12 Male 5-pin	M12 Female	Pin	Wire Color	Description
		1	Brown	Input 2: 12 V DC to 30 V DC
		2	White	Input 3: 12 V DC to 30 V DC
		3	Blue	DC Common
		4	Black	Input 1: 12 V DC to 30 V DC
		5	Gray	Input 4 (Default Flashing Input): 12 V DC to 30 V DC

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 will show Magenta.

Pro Editor Configuration for the S15L

Banner’s Pro Editor software offers an easy way to configure Pro Series-enabled touch and indicator devices, allowing users full control of device states. The easy-to-use configuration software provides a variety of tools and capabilities to solve a wide range of applications. Configure any Pro Series-enabled device using the free Pro Editor software, available for download at **www.bannerengineering.com/proeditor**.

Color 1 and Color 2 Options

Green	Yellow	Sky Blue	Rose
Red	Lime Green	Blue	White
Orange	Spring Green	Violet	Custom 1
Amber	Cyan	Magenta	Custom 2

Intensity 1 or Intensity 2 Options

Intensity	Description
High	100%
Medium	60%
Low	25%
Off	0%
Custom	Set a custom intensity percentage

Animation Settings

Animation	Description
Off	Device OFF, no animation displays
Steady	Color 1 is solid ON at the defined intensity
Flash	Color 1 flashes at the defined speed, color intensity, and pattern (normal, strobe, three pulse, SOS, or random)
Two Color Flash	Color 1 and Color 2 flash alternately at the defined speed, color intensities, and pattern (normal, strobe, three pulse, SOS, or random)
50/50	Color 1 is displayed on one side of the indicator and Color 2 is displayed on the other side of the indicator at the defined color intensities
50/50 Rotate	Color 1 is displayed on one side of the indicator and Color 2 is displayed on the other side of the indicator while alternating sides at the defined speed and color intensities
Intensity Sweep	Color 1 continuously increases and decreases intensity between 0% to 100% at defined speed and color intensity
Color Sweep	Color 1 and Color 2 define the end values of a line across the color gamut. The light continuously displays a color by moving along the line at the defined speed and color intensity
Wave	Color 1 increases and decreases intensity between 0% to 100% at defined speed and color intensity on one side of the indicator, then switches to other side of indicator; then Color 2 repeats same sequence
Double Wave	Color 1 increases intensity between 0% to 100% at defined speed and color intensity holding on one side of the indicator, then the other side of indicator increases intensity between 0% to 100%; then Color 2 repeats same sequence

Pulse Patterns

Pattern	Description
Normal	Alternating Color 1; Off or Color 2 at 50% duty cycle
Strobe	Continuous Color 1; Off or Color 2 flashes at 20% duty cycle
3-Pulse	Three consecutive Color 1 pulses at 10% duty cycle on Off or Color 2 background
SOS	Short pulse, short pulse, short pulse, long pulse, long pulse, long pulse, short pulse, short pulse, short pulse alternating Color 1 and Off or Color 2
Random	Random sequence of Color 1 and Off or Color 2 flashes

Speed

Speed	Description
Slow	0.5 Hz
Medium	1 Hz
Fast	5 Hz
Custom Flash Rate	Set a custom flash rate in Hz

I/O State Configuration Settings	Description
Basic	Configurations made in this state assign one wire to one state, with the following override control: • Pin 1 (Brown) overrides Pin 4 (Black) • Pin 2 (White) overrides Pins 1 and 4 (Brown and Black) • Pin 5 (Gray) overrides Pins 1, 2, and 4 (Brown, White, and Black)
Advanced	I/O state with full fifteen state options for maximum configuration. Configurations made in Advanced assign binary wiring combinations of all valid inputs to each state.
I/O Block	Three state control for use with I/O block. Configurations made in I/O Block assign states to the black, white, and combination of black and white wires for use with I/O blocks for which power (brown) and common (blue) are always on for five pin connections.

Specifications

Supply Voltage
12 V DC to 30 V DC
Supply Current
60 mA maximum current at 12 V DC 35 mA typical at 24 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 Hz flash rate through flash input wire
Operating Conditions
–40 °C to +45 °C (–40 °F to +113 °F)
Humidity: 90% at +50 °C maximum relative humidity (non condensing)
Storage Temperature: –40 °C to +70 °C (–40 °F to +158 °F)
Environmental Rating
IP65, IP67, IP68, UL Type 1
Construction
Coupling Material: Nickel-plated brass
Connector Body: PVC diffuse white
Vibration and Mechanical Shock
Meets IEC 60068-2-6 requirements (Vibration: 10 Hz to 55 Hz, 0.5 mm amplitude, 5 minutes sweep, 30 minutes dwell) Meets IEC 60068-2-27 requirements (Shock: 15G 11 ms duration, half sine wave)
Connections
Integral 5-pin M12 male/female quick-disconnect connector Models with a quick disconnect require a mating cordset 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

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

UK CA

c UL us LISTED 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(1)		Lumen Output (Typical at 25°C)
		x	y	
White	7000K	0.31	0.295	1.16
Green	527	0.175	0.7	1.8
Red	620	0.69	0.307	1.3
Orange	604	0.628	0.356	1.35
Amber	597	0.593	0.383	1.35
Yellow	588	0.537	0.426	1.35
Lime Green	577	0.466	0.481	1.8
Spring Green	513	0.178	0.562	1.6
Cyan	498	0.195	0.396	1.3
Sky Blue	489	0.17	0.303	1.1
Blue	465	0.144	0.055	0.25
Violet	–	0.337	0.144	0.7
Magenta	–	0.506	0.251	1
Rose	–	0.593	0.282	1.1

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 imits 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.

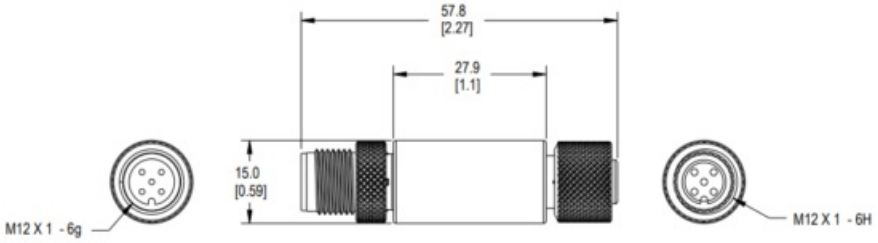
(Part 15.21) Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

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.

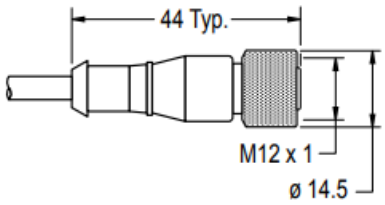
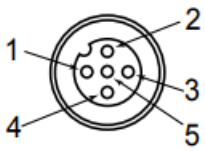
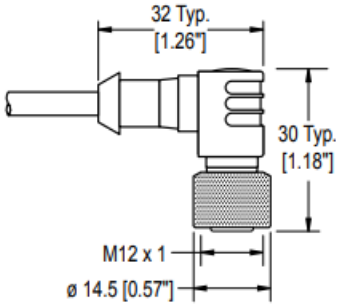
Dimensions

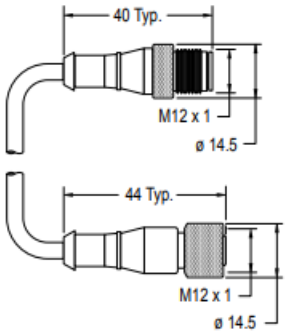
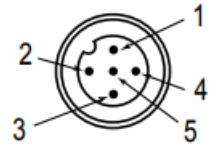
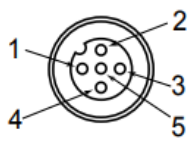
All measurements are listed in millimeters [inches], unless noted otherwise.



Accessories

Cordsets

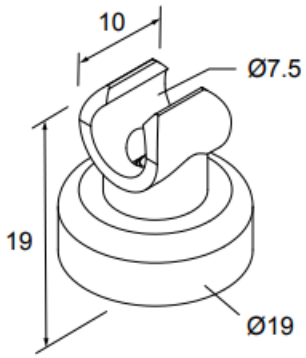
5-Pin Threaded M12 Cordsets—Single Ended				
Model	**Length**	**Style**	**Dimensions**	**Pinout (Female)**
MQDC1-501.5	0.5 m (1.5 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC1-503	0.9 m (2.9 ft)			
MQDC1-506	2 m (6.5 ft)			
MQDC1-515	5 m (16.4 ft)			
MQDC1-530	9 m (29.5 ft)			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

5-Pin Threaded M12 Cordsets—Double Ended					
Model	Length	Style	Dimensions	Pinout (Male)	Pinout (Female)
MQDEC-501SS	0.31 m (1.02 ft)				
MQDEC-503SS	0.91 m (2.99 ft)				
		Male Straight/ Female Straight		1 = Brown 2 = White 3 = Blue	4 = Black 5 = Gray
MQDEC-506SS	1.83 m (6 ft)				
MQDEC-512SS	3.66 m (12ft)				
MQDEC-515SS	5 m (16. 4 ft)				
MQDEC-530SS	9 m (29. 5 ft)				
MQDEC-550SS	15 m (4 9.2ft)				

Brackets
LMBM12MAG

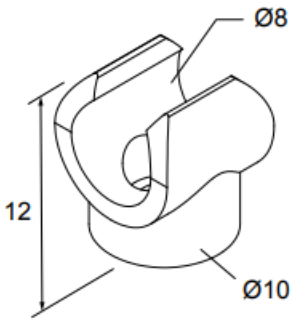
- Attaches to M12 cordset end

- Black polypropylene
- 11.8 kg (26 lb) pull force
- One piece



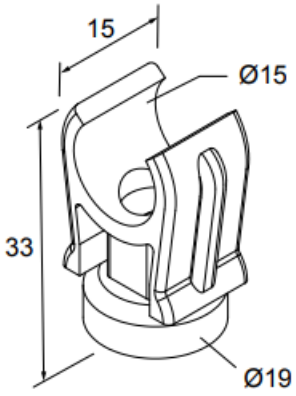
LMBM12SP

- Attaches to M12 cordset end
- Black polypropylene
- Supplied with thread-forming hardware
- Pack of seven



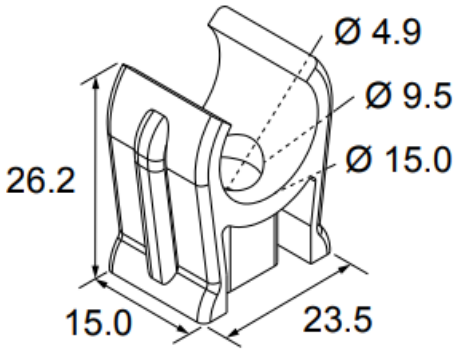
LMBS15MAG

- Attaches to S15 housing
- White polypropylene
- 11.8 kg (26 lb) pull force
- One piece



LMBS15SP

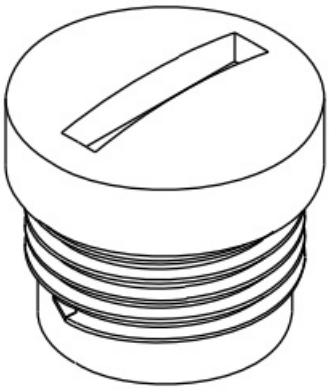
- Attaches to S15 housing
- White polypropylene
- Clearance for M5 or #10 hardware
- Pack of five



Quick-Disconnect Cap

ACC-CAP M12-10

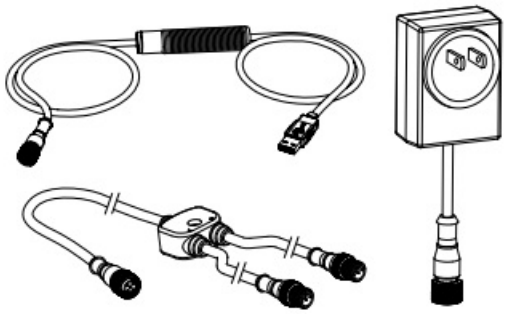
- 10 Caps
- Seal and protect exposed, unterminated cascade quick-disconnect connectors



Pro Editor Hardware

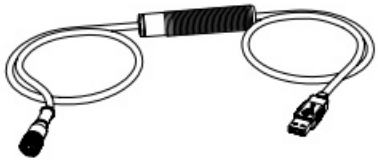
PRO-KIT
Includes:

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



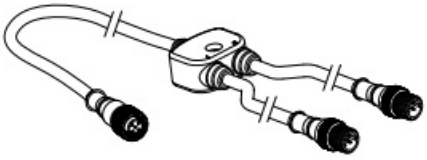
MQDC-506-USB

- 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

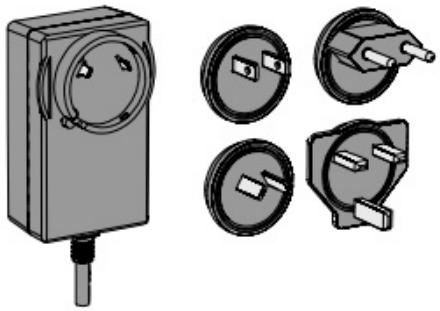


PSW-24-1

- 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

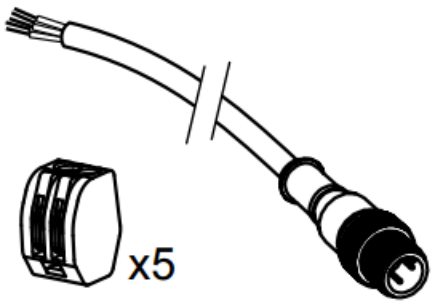
PSW-24-2

- 24 V DC, 2 A Class 2 UL Listed power supply
- 100 V AC to 240 V AC 50/60 Hz input
- 3.5 m (11.5 ft) PVC cable with M12 quick disconnect
- Includes Type A (US, Canada, Japan, Puerto Rico, Taiwan), Type C (Germany, France, South Korea, Netherlands, Poland, Spain, Turkey), Type G (United Kingdom, Ireland, Singapore, Vietnam), and Type I (China, Australia, New Zealand) AC detachable input plugs



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



Banner Engineering Corp Limited Warranty

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Facebook

www.bannerengineering.com
Original Instructions
p/n: 242116 Rev. A
April 18, 2024

Documents / Resources

	BANNER S15LPRGB7Q In-Line RGB Indicator [pdf] Instruction Manual S15LPRGB7Q In-Line RGB Indicator, S15LPRGB7Q, In-Line RGB Indicator, RGB Indicator, Indicator

References

- User Manual