High-Power Unsealed Linear Backlights

BANNER®
more sensors, more solutions

Datasheet

Lighting for use with Vision Systems
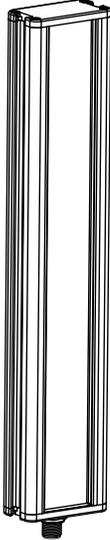
- Four high-intensity, visible wavelengths, plus IR
- The following array lengths are available:

  145 mm (5.7 in)
  290 mm (11.4 in)
  435 mm (17.7 in)
  580 mm (22.8 in)
  870 mm (34.2 in)
  1160 mm (45.6 in)

- High-power, solid-state LED array; continuous or strobed operation is selectable via sensor software (P4 models) or via hookup
- Optically isolated strobe signal
- Selectable Active High or Active Low strobe option
- Maintenance-free, rugged construction
- Built-in constant current regulation
- Very even light pattern
- Can also be used as a highly diffused area light
- Diffused backlight for any Vision System. See *www.bannerengineering.com* for a complete lighting tutorial

Model Key

| Light Source	LED Color	Linear Array	Array Length	Housing	Window Material	Relative Intensity	Intensity Control	Connector
LED	R	LB	145	X	W	6-	X	Q
	R = Red W = White B = Blue G = Green I = IR		145 mm (5.7 in) 290 mm (11.4 in) 435 mm (17.7 in) 580 mm (22.8 in) 870 mm (34.2 in) 1160 mm (45.6 in)	X = IP50	W = White Plastic		X = Not Adjustable	Q = QD

Specifications

Light Source

LED Color	Wavelength	Optional Filter[1]
Infrared	850 nm	FLTI
Red	620 nm to 630 nm	FTLR
Blue	465 nm to 485 nm	FLTB
Green	520 nm to 535 nm	FLTG
White	5000 K to 8300 K	FLTB or FLTG

Connections
   Integral 5-pin threaded M12/Euro-style male quick disconnect, accessory cordset required

Construction
   Housing: black anodized aluminum
   Window: acrylic

Supply Voltage and Current
   145 mm Models: 24 V dc ± 10% at 500 mA max.
   290 mm Models: 24 V dc ± 10% at 1 A max.
   435 mm Models: 24 V dc ± 10% at 1.5 A max.
   580 mm Models: 24 V dc ± 10% at 2 A max.
   870 mm Models: 24 V dc ± 10% at 3 A max.
   1160 mm Models: 24 V dc ± 10% at 4 A max.
   Strobe Voltage: 5 V dc to 24 V dc
   Built-in constant current regulator for LEDs

Useful Life
   When operated within specifications, output will decrease less than 30% after 50,000 hours

Operating Conditions
   Temperature: 0 °C to +50 °C (+32 °F to +122 °F)

Mounting
   4 M5 T-nuts included, brackets available

Environmental Rating
   IEC IP50

Certification

c (UL) US LISTED

Dimensions

A = Window
B = 5-pin Euro-style male connector

Array Length	Length "L"	Lighted Area "A"
145 mm	171 mm (6.73 in)	161 x 35 mm (6.33 in x 1.38 in)
290 mm	316.5 mm (12.46 in)	307 x 35 mm (12.09 in x 1.38 in)
435 mm	462 mm (18.19 in)	452 x 35 mm (17.80 in x 1.38 in)
580 mm	607.5 mm (23.92 in)	598 x 35 mm (23.54 in x 1.38 in)
870 mm	898.5 mm (35.37 in)	889 x 35 mm (35.00 in x 1.38 in)
1160 mm	1189.5 mm (46.83 in)	1180 x 35 mm (46.46 in x 1.38 in)

All measurements are listed in millimeters (inches), unless noted otherwise.

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[1] Recommended Ambient Light filter kit for use with *Presence*PLUS® Cameras.

Wiring

Wire Purpose	Cable Wire Color[2]	Wire Connections		*Presence*PLUS® Pro Controller Terminal Block
Power Wires	Brown (1)	+24 V dc		Pin 01[3]
	Blue (3)	common		Pin 02
Strobe Polarity Control	Gray (5)	Active Low: open		Pin 02 or open
		Active High: connect to common (Blue wire)		
Strobe Voltage Wires	White (2)	Active Low: 0 V dc = ON	+5 V dc to 24 V dc = OFF	Pin 04
		Active High: 0 V dc = OFF	+5 V dc to 24 V dc = ON	
	Black (4)	Strobe common		Pin 02

(1) +24V dc   (2) Strobe (+/0)
(4) Strobe Common   (3) Common
(5)Active High/Active Low
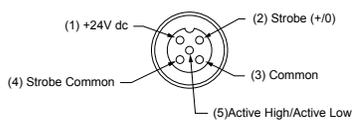
Figure 1. Pinouts for Mating Cable

NOTE: Connection to earth ground recommended.

Accessories

Cordsets

5-Pin Threaded M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC20-506	1.83 m (6 ft)	Straight	42 Typ. [1.65"] M12 x 1 ø 15 [0.59"]	1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC20-515	4.57 m (15 ft)			
MQDC20-530	9.14 m (30 ft)			
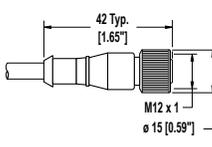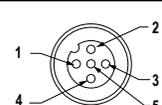
[2] For Banner-supplied wire.
[3] When connecting the light to a *Presence*PLUS® Pro controller terminal block, the controller supply must be 24 V dc ± 10%.

Brackets

SMBLAXRA
- Right-angle stainless steel bracket
- May be used individually or in combination with SMBLAXU to provide swivel adjustment

Includes:
- 2 Brackets
- 4 M5 screws (socket drive, button head)
- 4 M5 T-nuts

SMBLAXU
- U-shaped stainless steel bracket
- For use with SMBLAXRA to provide swivel adjustment

Includes:
- 2 Brackets
- 4 M5 screws (socket-drive, button head)
- 4 M5 T-nuts
- Four each stainless steel ¼-20 screws (socket drive, button head), lock nuts, washers

Combination View

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