

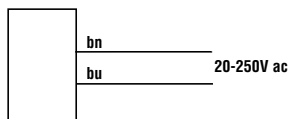
Additional information on this product is immediately available online at www.bannerengineering.com/116160



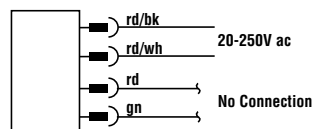
View or download additional information, including excess gain curves, beam patterns and accessories.
For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.



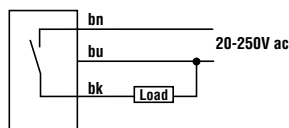
Cabled Emitters



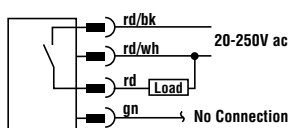
QD Emitters (4-pin Micro-Style)



All Other Cabled Models



All Other QD Models (4-pin Micro-Style)



Sensing Mode		Range	LED	Output	Model*	
	Opposed	20 m (66')	Infrared 950 nm	-	S183E	
				LO	S18AW3R	
DO	S18RW3R					
	Retro-reflective†	2 m (79")		LO	S18AW3L	
				DO	S18RW3L	
	Polarized Retro-reflective†	2 m (79")		Visible Red 680 nm	LO	S18AW3LP
			DO		S18RW3LP	
	Diffuse	100 mm (4")	Infrared 880 nm		LO	S18AW3D
		300 mm (12")			DO	S18RW3D
					LO	S18AW3DL
		DO			S18RW3DL	
	Fixed Field	25 mm (1") cutoff		LO	S18AW3FF25	
		50 mm (2") cutoff		DO	S18RW3FF25	
		100 mm (4") cutoff		LO	S18AW3FF50	
DO	S18RW3FF50					
			LO	S18AW3FF100		
			DO	S18RW3FF100		

* Standard 2 m (6.5') cable models are listed.

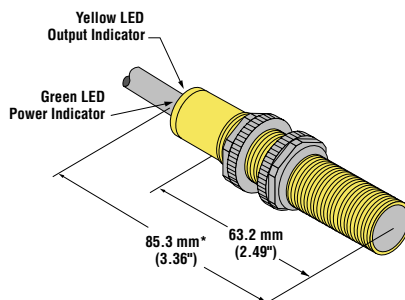
• **9 m (30') cable:** add suffix "W/30" (e.g., **S183E W/30**).

• **4-pin Micro-style QD models:** add suffix "Q1" (e.g., **S183EQ1**). A model with a QD connector requires a mating cable.

† Use polarized models when shiny objects will be sensed.

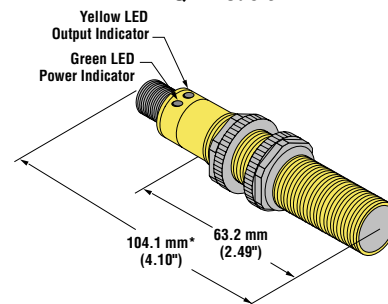
Dimensions

Cabled Models



*Polarized retro and fixed-field models = 86.3 mm (3.40")

QD Models



*Polarized retro and fixed-field models = 105.1 mm (4.14")



WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death.

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

EZ BEAM S18 Sensors – ac-Voltage Series

Specifications

Supply Voltage and Current

20 to 250V ac (50/60 Hz). Average current: 20 mA
Peak current: 200 mA at 20V ac, 500 mA at 120V ac, 750 mA at 250V ac

Supply Protection Circuitry

Protected against transient voltages

Output Configuration

SPST solid-state ac switch; Three-wire hookup; Choose light operate or dark operate models

Light Operate: Output conducts when sensor sees its own (or the emitter's) modulated light

Dark Operate: Output conducts when the sensor sees dark

Output Rating

300 mA maximum (continuous);

Fixed-Field Models: derate 5 mA/°C above +50°C (+122°F)

Inrush Capability 1 amp for 20 milliseconds, non-repetitive

OFF-state leakage current: < 100 microamps

ON-state saturation voltage: 3V at 300 mA ac; 2V at 15 mA ac

Output Protection Circuitry

Protected against false pulse on power-up

Output Response Time

Opposed Mode: 16 milliseconds ON, 8 milliseconds OFF

Other Models: 16 milliseconds ON and OFF

NOTE: 100 millisecond delay on power-up

Repeatability

Opposed Mode: 2 milliseconds

Other Models: 4 milliseconds

Repeatability and response are independent of signal strength.

Indicators

Two LEDs (Green and Yellow)

Green ON steady: power to sensor is ON

Yellow ON steady: sensor sees light

Yellow flashing: excess gain marginal (1 to 1.5x) in light condition

Construction

PBT polyester housing; polycarbonate (opposed mode) or acrylic lens

Environmental Rating

Leakproof design rated NEMA 6P, DIN 40050 (IP69K)

Connections

2 m (6.5') attached cable, or 4-pin Micro-style quick-disconnect fitting

Operating Conditions

Temperature: -40° to +70°C (-40° to +158°F);

Maximum relative humidity: 90% at 50°C (non-condensing)

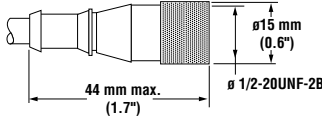
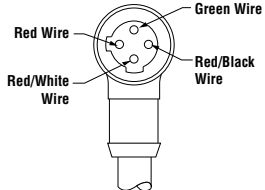
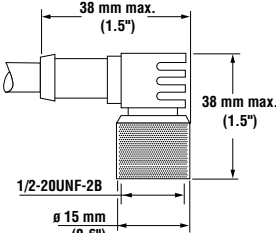
Vibration and Mechanical Shock

All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max., double amplitude 0.06" acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)

Certifications



Quick-Disconnect (QD) Cables

Style	Model	Length	Dimensions	Pin-Out
4-pin Micro-style Straight	MQAC-406 MQAC-415 MQAC-430	2 m (6.5') 5 m (15') 9 m (30')		
4-pin Micro-style Right-angle	MQAC-406RA MQAC-415RA MQAC-430RA	2 m (6.5') 5 m (15') 9 m (30')		

Additional information on this product is immediately available online at www.bannerengineering.com/116160



View or download additional information, including excess gain curves, beam patterns and accessories.

For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.

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.

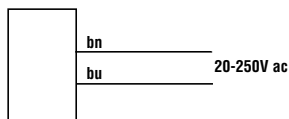
Additional information on this product is immediately available online at www.bannerengineering.com/116160



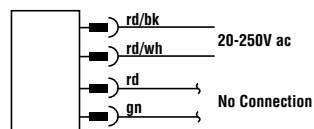
View or download additional information, including excess gain curves, beam patterns and accessories.
For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.



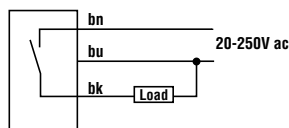
Cabled Emitters



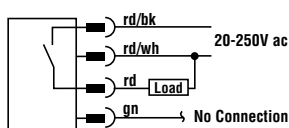
QD Emitters (4-pin Micro-Style)



All Other Cabled Models



All Other QD Models (4-pin Micro-Style)



Sensing Mode		Range	LED	Output	Model*	
	Opposed	20 m (66')	Infrared 950 nm	-	S183E	
				LO	S18AW3R	
DO	S18RW3R					
	Retro-reflective†	2 m (79")		LO	S18AW3L	
				DO	S18RW3L	
	Polarized Retro-reflective†	2 m (79")		Visible Red 680 nm	LO	S18AW3LP
			DO		S18RW3LP	
	Diffuse	100 mm (4")	Infrared 880 nm		LO	S18AW3D
		DO			S18RW3D	
		300 mm (12")			LO	S18AW3DL
		DO			S18RW3DL	
	Fixed Field	25 mm (1") cutoff	LO	S18AW3FF25		
		50 mm (2") cutoff	DO	S18RW3FF25		
		100 mm (4") cutoff	LO	S18AW3FF50		
			DO	S18RW3FF50		
			LO	S18AW3FF100		
			DO	S18RW3FF100		

* Standard 2 m (6.5') cable models are listed.

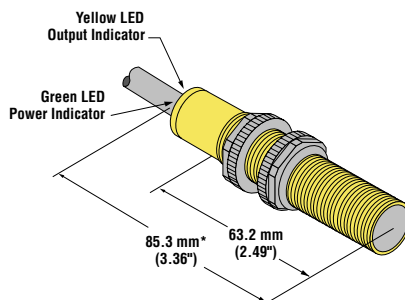
• **9 m (30') cable:** add suffix "W/30" (e.g., **S183E W/30**).

• **4-pin Micro-style QD models:** add suffix "Q1" (e.g., **S183EQ1**). A model with a QD connector requires a mating cable.

† Use polarized models when shiny objects will be sensed.

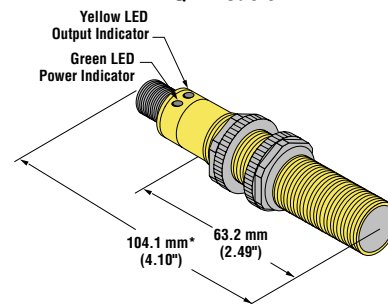
Dimensions

Cabled Models



*Polarized retro and fixed-field models = 86.3 mm (3.40")

QD Models



*Polarized retro and fixed-field models = 105.1 mm (4.14")



WARNING . . . Not To Be Used for Personnel Protection

Never use these products as sensing devices for personnel protection. Doing so could lead to serious injury or death.

These sensors do NOT include the self-checking redundant circuitry necessary to allow their use in personnel safety applications. A sensor failure or malfunction can cause either an energized or de-energized sensor output condition. Consult your current Banner Safety Products catalog for safety products which meet OSHA, ANSI and IEC standards for personnel protection.

EZ BEAM S18 Sensors – ac-Voltage Series

Specifications

Supply Voltage and Current

20 to 250V ac (50/60 Hz). Average current: 20 mA
Peak current: 200 mA at 20V ac, 500 mA at 120V ac, 750 mA at 250V ac

Supply Protection Circuitry

Protected against transient voltages

Output Configuration

SPST solid-state ac switch; Three-wire hookup; Choose light operate or dark operate models

Light Operate: Output conducts when sensor sees its own (or the emitter's) modulated light

Dark Operate: Output conducts when the sensor sees dark

Output Rating

300 mA maximum (continuous);

Fixed-Field Models: derate 5 mA/°C above +50°C (+122°F)

Inrush Capability 1 amp for 20 milliseconds, non-repetitive

OFF-state leakage current: < 100 microamps

ON-state saturation voltage: 3V at 300 mA ac; 2V at 15 mA ac

Output Protection Circuitry

Protected against false pulse on power-up

Output Response Time

Opposed Mode: 16 milliseconds ON, 8 milliseconds OFF

Other Models: 16 milliseconds ON and OFF

NOTE: 100 millisecond delay on power-up

Repeatability

Opposed Mode: 2 milliseconds

Other Models: 4 milliseconds

Repeatability and response are independent of signal strength.

Indicators

Two LEDs (Green and Yellow)

Green ON steady: power to sensor is ON

Yellow ON steady: sensor sees light

Yellow flashing: excess gain marginal (1 to 1.5x) in light condition

Construction

PBT polyester housing; polycarbonate (opposed mode) or acrylic lens

Environmental Rating

Leakproof design rated NEMA 6P, DIN 40050 (IP69K)

Connections

2 m (6.5') attached cable, or 4-pin Micro-style quick-disconnect fitting

Operating Conditions

Temperature: -40° to +70°C (-40° to +158°F);

Maximum relative humidity: 90% at 50°C (non-condensing)

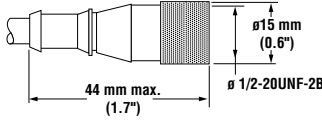
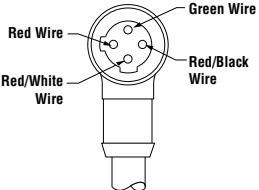
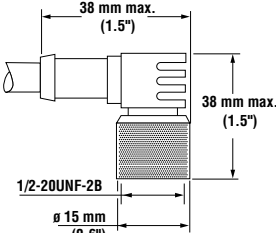
Vibration and Mechanical Shock

All models meet Mil. Std. 202F requirements. Method 201A (Vibration; frequency 10 to 60 Hz, max., double amplitude 0.06" acceleration 10G). Method 213B conditions H&I (Shock: 75G with unit operating; 100G for non-operation)

Certifications



Quick-Disconnect (QD) Cables

Style	Model	Length	Dimensions	Pin-Out
4-pin Micro-style Straight	MQAC-406 MQAC-415 MQAC-430	2 m (6.5') 5 m (15') 9 m (30')		
4-pin Micro-style Right-angle	MQAC-406RA MQAC-415RA MQAC-430RA	2 m (6.5') 5 m (15') 9 m (30')		

Additional information on this product is immediately available online at www.bannerengineering.com/116160



View or download additional information, including excess gain curves, beam patterns and accessories.

For further assistance, contact a Banner Engineering Applications Engineer at (763) 544-3164 or (888) 373-6767.

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.