VALU-BEAM 915 Series Sensors

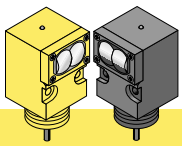
With Electromechanical Relay Output

VALU-BEAM 915 Series Features

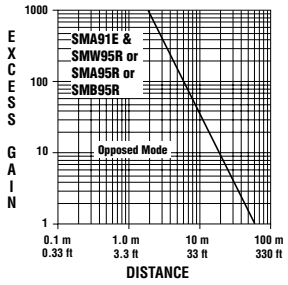
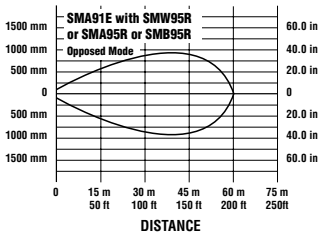
- Models available for:
  - 12 to 28V ac/dc
  - 90 to 130V ac
  - 210 to 250V ac
- SPDT electromechanical relay output is rated for up to 5 amps switching capacity
- Rear panel sensitivity adjustment; top-mounted alignment indicator
- Visible red beam on most models, simplifies alignment
- Choose models with integral 2 m (6.5') cable or Mini-style QD (quick-disconnect) connector; 9 m (30') cables are also available

Infrared, 880 nm

Opposed-mode sensors have higher excess gain than other models, and so should be used whenever possible. Visible red "tracer beam" simplifies sensor alignment.

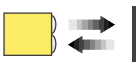


915 Series Opposed-Mode Emitter (E) and Receiver (R)

Models	Range	Cable*	Supply Voltage	Output Type	Excess Gain	Beam Pattern
SMA91E **SMW95R** **SMA91EQD** **SMW95RQD**	60 m (200')	2 m (6.5') 2 m (6.5') 3-Pin Mini QD 5-Pin Mini QD	**Emitter:** 10 to 250V ac/dc **Receiver:** 12 to 28V ac/dc	SPDT E/m Relay		Effective Beam: 13 mm 
SMA91E **SMA95R** **SMA91EQD** **SMA95RQD**		2 m (6.5') 2 m (6.5') 3-Pin Mini QD 5-Pin Mini QD	**Emitter:** 10 to 250V ac/dc **Receiver:** 90 to 130V ac			
SMA91E **SMB95R** **SMA91EQD** **SMB95RQD**		2 m (6.5') 2 m (6.5') 3-Pin Mini QD 5-Pin Mini QD	**Emitter:** 10 to 250V ac/dc **Receiver:** 210 to 250V ac			

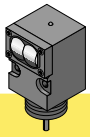
*NOTES:

- 9 m (30') cables are available by adding suffix **"W/30"** to the model number of any cabled sensor (e.g. **SMA91E W/30**).
- A model with a QD connector requires an accessory mating cable. See page 8 for more information.

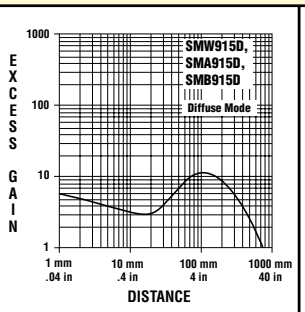
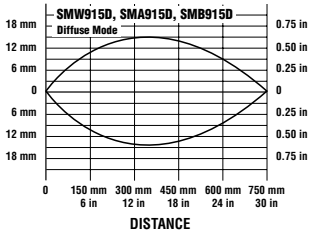
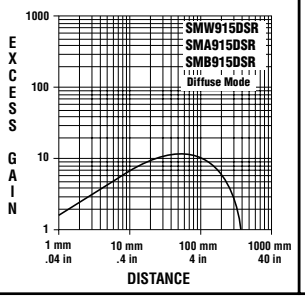
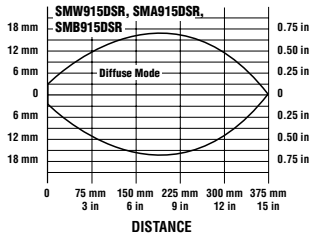


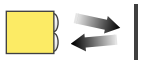
Infrared, 880 nm

These sensors detect the reflection of their own light from the object being sensed, and so require no special reflectors. They are ideal for applications where the reflectivity and profile of the object are sufficient to return a large portion of the emitted light back to the sensor. Choose DSR models for best response to objects at close range.



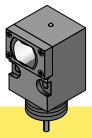
915 Series Diffuse Mode

Models	Range	Cable*	Supply Voltage	Output Type	Excess Gain	Beam Pattern
					Performance based on 90% reflectance white test card	
SMW915D **SMW915DQD**	760 mm (30")	2 m (6.5') 5-Pin Mini QD	12 to 28V ac/dc	SPDT E/m Relay		
SMA915D **SMA915DQD**		2 m (6.5') 5-Pin Mini QD	90 to 130V ac			
SMB915D **SMB915DQD**		2 m (6.5') 5-Pin Mini QD	210 to 250V ac			
SMW915DSR **SMW915DSRQD**	380 mm (15")	2 m (6.5') 5-Pin Mini QD	12 to 28V ac/dc	SPDT E/m Relay		
SMA915DSR **SMA915DSRQD**		2 m (6.5') 5-Pin Mini QD	90 to 130V ac			
SMB915DSR **SMB915DSRQD**		2 m (6.5') 5-Pin Mini QD	210 to 250V ac			

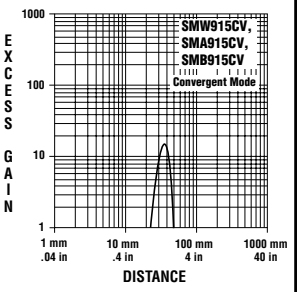
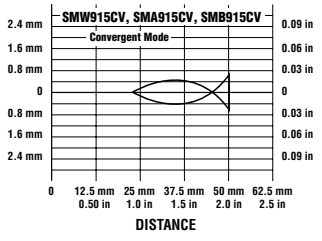


Visible red, 650 nm

Due to their narrow depth of field, these sensors excel at detecting small objects only a fraction of an inch in front of their backgrounds. The precise 0.06" dia. sensing spot focuses 1.5" in front of the sensor lens. The visible red beam simplifies alignment.



915 Series Convergent Mode

Models	Focus	Cable*	Supply Voltage	Output Type	Excess Gain	Beam Pattern
					Performance based on 90% reflectance white test card	
SMW915CV **SMW915CVQD**	38 mm (1.5")	2 m (6.5') 5-Pin Mini QD	12 to 28V ac/dc	SPDT E/m Relay		
SMA915CV **SMA915CVQD**	**Spot Size at Focus:** 1.5 mm (0.06")	2 m (6.5') 5-Pin Mini QD	90 to 130V ac			
SMB915CV **SMB915CVQD**		2 m (6.5') 5-Pin Mini QD	210 to 250V ac			

*NOTES:

- 9 m (30') cables are available by adding suffix **"W/30"** to the model number of any cabled sensor (e.g. **SMW915CV W/30**).
- A model with a QD connector requires an accessory mating cable. See page 8 for more information.

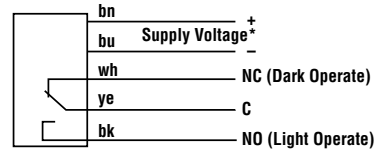
VALU-BEAM – 915 Series

915 Series Specifications

Supply Voltage and Current	**SMW915 Series:** 12 to 28V ac or dc at 50 mA maximum, exclusive of load **SMA915 Series:** 90 to 130V ac (50-60 Hz) at 20 mA maximum, exclusive of load **SMB915 Series:** 210 to 250V ac (50-60 Hz) at 20 mA maximum, exclusive of load **Exceptions:** SMA91E and ESR emitters, which operate from 10-250V ac (50-60 Hz) or dc (10 mA max.)
Supply Protection Circuitry	Protected against transient voltages
Output Configuration	One internal “form C” (single-pole double-throw) electromechanical relay
Output Rating	**Max. switching power (resistive load):** 150 W, 600 VA **Max. switching voltage (resistive load):** 250V ac or 30 V dc (120V ac max. per UL & CSA) **Max. switching current (resistive load):** 5A **Min. voltage and current:** 1 amp at 5V dc, 0.1 amp at 24V dc **Peak switching voltage:** 750V ac (transient suppression recommended) **Mechanical life of relay:** 10,000,000 operations
Output Protection Circuitry	Protected against false pulse on power-up
Output Response Time	20 milliseconds ON and OFF; independent of signal strength (NOTE: 100 millisecond delay on power-up; relay de-energized during this time)
Adjustments	Sensitivity control on rear of sensor allows precise gain setting (turn clockwise to increase gain)
Indicators	Top-mounted red LED indicator lights whenever the sensor sees “light” condition. Models SMA91E and SMA91ESR emitters have visible-red “tracer beam” which indicates “power on” and enables easy “line-of-sight” alignment.
Construction	Reinforced black thermoplastic polyester housing, totally encapsulated, molded acrylic lenses and stainless steel hardware
Environmental Rating	Meets NEMA standards 1, 2, 3, 3S, 4, 4X, 12 and 13; IEC IP66
Connections	**Emitters:** PVC-jacketed 2 m (6.5') or 9 m (30') cable or 3-pin Mini-style quick-disconnect (QD) fitting available. See page 8. **All Other Sensors:** PVC-jacketed 2 m (6.5') or 9 m (30') cable or 5-pin Mini-style quick-disconnect (QD) fitting available. See page 8.
Operating Conditions	**Temperature:** -40° to +50° C (-40° to +122°F) **Maximum relative humidity:** 90% at 50°C (non-condensing)
Application Notes	Install transient suppressor (MOV) across any output contact which switches an inductive load
Certifications	

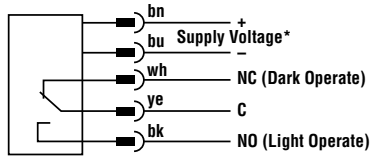
915 Series Hookups

Emitters with Attached Cable



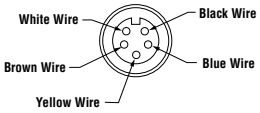
*see Specifications

Emitters with Quick-Disconnect (3-Pin Mini-Style)

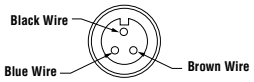


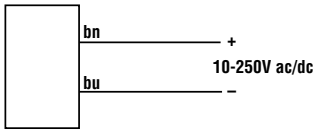
*see Specifications

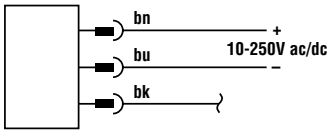
5-Pin Mini-Style Pin-out (Cable Connector Shown)



3-Pin Mini-Style Pin-out (Cable Connector Shown)



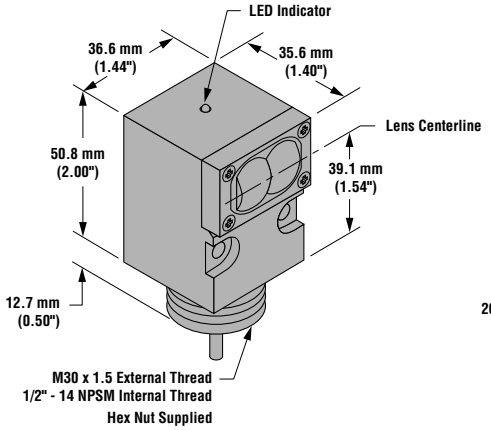




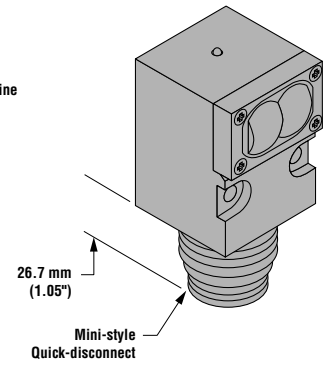
915 Series Dimensions

Opposed, Retro, and Diffuse Sensing Modes (model suffix E, ESR, R, RSR, LV, D & DSR)

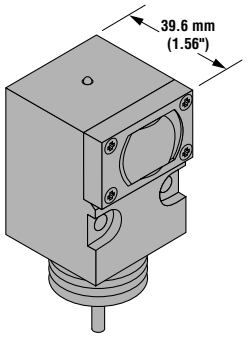
With Attached Cable



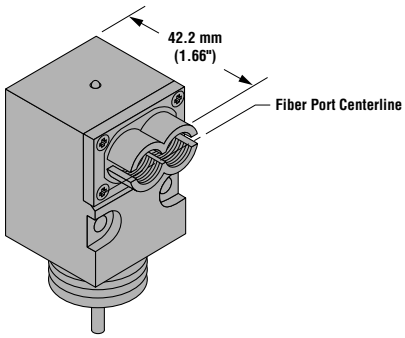
With Quick-Disconnect



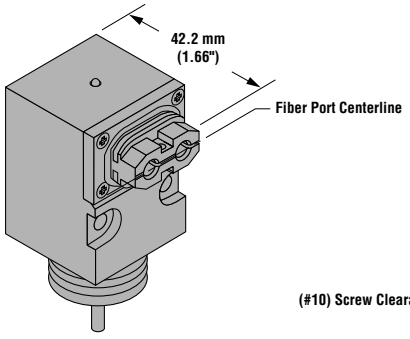
Convergent Sensing Mode (model suffix LVAG & CV)



Glass Fiber Optic Models (model suffix F)



Plastic Fiber Optic Models (model suffix FP)



Rear View, All Models