

# MINI-BEAM® Sensors SM2A312LV, SM2A312LVAG and SM2A312LP

| AC MINI-BEAM Product Specifications |                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply Voltage and Current          | 24 to 240V ac (50 to 60 Hz); 250V ac max.                                                                                                                                                                                                                                                                                                                                                                            |
| Output Configuration                | SPST SCR solid-state relay with either normally closed or normally open contact (light/dark operate selectable); 2-wire hookup                                                                                                                                                                                                                                                                                       |
| Output Rating                       | Minimum load current 5 mA; maximum steady-state load capability 300 mA to 50° C ambient (122° F), 100 mA to 70° C ambient (158° F)<br><b>Inrush Capability</b> 3 amps for 1 second (non-repetitive); 10 amps for 1 cycle (non-repetitive).<br><b>Off State Leakage Current</b> less than 1.7mA rms<br><b>On State Voltage Drop</b> ≤5 volts at 300 mA load, ≤10 volts at 15 mA load.                                 |
| Output Protection Circuitry         | Protected against false pulse on power-up and inductive load transients.                                                                                                                                                                                                                                                                                                                                             |
| Output Response Time                | 4 milliseconds “on” and “off.” “Off” response time does not include load response time of up to 1/2 ac cycle (8.3 milliseconds). Response time specification of load should be considered when important. (300 millisecond delay on power-up).                                                                                                                                                                       |
| Repeatability                       | 1.3 milliseconds. Response time and repeatability specifications are independent of signal strength.                                                                                                                                                                                                                                                                                                                 |
| Adjustments                         | LIGHT/DARK OPERATE select switch, and 15-turn slotted brass screw GAIN (sensitivity) adjustment potentiometer (clutched at both ends of travel). Both controls are located on rear panel of sensor and protected by a gasketed, clear acrylic cover.                                                                                                                                                                 |
| Indicators                          | Red indicator LED on rear of sensor is “ON” when the load is energized                                                                                                                                                                                                                                                                                                                                               |
| Construction                        | Reinforced VALOX® housing, totally encapsulated, o-ring sealing, acrylic lenses, and stainless steel screws.                                                                                                                                                                                                                                                                                                         |
| Environmental Rating                | Meets NEMA standards 1, 2, 3, 3S, 4, 4X, 12, and 13; IEC IP66                                                                                                                                                                                                                                                                                                                                                        |
| Connections                         | PVC-jacketed 2-conductor 2 m (6.5ft) or 9 m (30ft) cables, or 3-pin micro-style quick disconnect (QD) fitting are available. QD cables are ordered separately. See page 8.                                                                                                                                                                                                                                           |
| Operating Temperature               | <b>Temperature:</b> -20 to +70° C (-4 to +158° F)<br><b>Maximum relative humidity:</b> 90% at 50° C (non-condensing)                                                                                                                                                                                                                                                                                                 |
| Application Notes                   | i) ac MINI-BEAMS may be destroyed from overload conditions<br>ii) Use on low voltage requires careful analysis of the load to determine if the leakage current or on-state voltage of the sensor will interfere with proper operation of the load<br>iii) The false-pulse protection feature may cause momentary drop-out of the load when the sensor is wired in series or parallel with mechanical switch contacts |
| Certifications                      |                                                                                                                                                             |

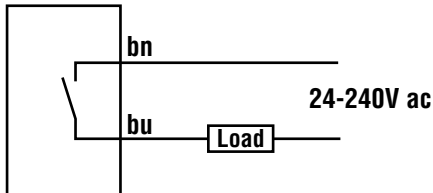
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## For MINI-BEAM:

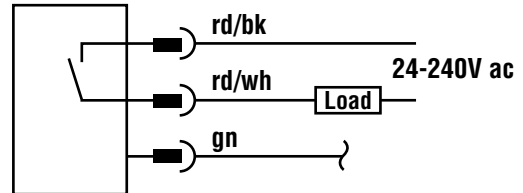
- i) 9 m (30 ft) cables are available by adding suffix “W/30” to the model number of any cabled sensor (e.g. - **SM2A312LP W/30**)
- ii) A 150 mm (6 in) long pigtail cable with attached QD connector is available by adding suffix “QDP” to the model number (e.g. - **SM2A312LPQDP**).
- iii) A model with a QD connector requires an optional mating cable (see accessories, page 8).

## MINI-BEAM AC Hookup Diagrams

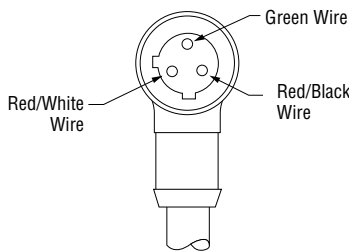
### AC Sensors with Attached Cable



### AC Sensors with Quick Disconnect (3-Pin Micro-Style)



### 3-Pin Micro-Style Pin-out (Cable Connector Shown)



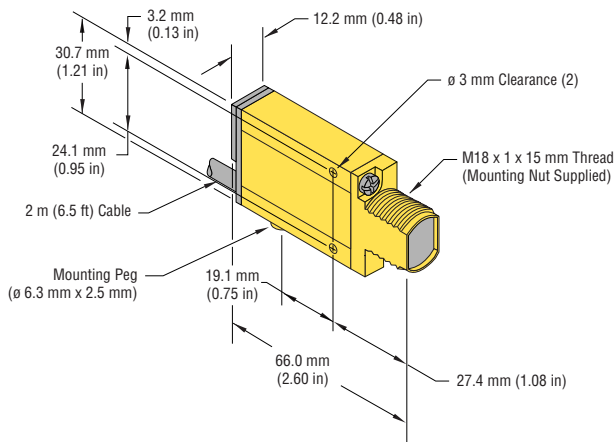
### Quick Disconnect (QD) Option

AC MINI-BEAM sensors are sold with either a 2 m (6.5 ft) or a 9 m (30 ft) attached PVC-covered cable, or with a 3-pin micro-style QD cable fitting.

AC QD sensors are identified by the letters “QD” in their model number suffix. Mating cables for QD MINI-BEAM sensors are model MQDC-315 (straight connector) or MQDC-315RA (right-angled connector). Cables are supplied in a standard length of 5 m (15 ft). For more information on QD cables, see page 8.

## MINI-BEAM Dimension Information

### MINI-BEAM AC Sensor with Integral Cable



### MINI-BEAM AC Sensor with Quick-Disconnect

