

VALU-BEAM SMA912 Series Sensors

Specifications

SUPPLY VOLTAGE: 24 to 130V ac (50/60Hz), except for SMA91E, ESR, and EF emitters, which operate from 10 to 250V ac or dc.

OUTPUT CONFIGURATION: solid-state switching element.

OUTPUT RATING: 500 mA continuous (60 VA); 5A inrush.

RESPONSE TIME: 4 milliseconds ON, 8 milliseconds OFF (except receiver-only units, which are 4 ms ON and 4 ms OFF). Response time specification of the load should be considered when important.

REPEATABILITY: 1.3 milliseconds, except for receiver-only units, which are 1.0 millisecond.

CONSTRUCTION: reinforced VALOX® housing, totally encapsulated, molded acrylic lenses, stainless steel hardware. Meets NEMA standards 1, 2, 3, 3S, 4, 4X, 12, and 13.

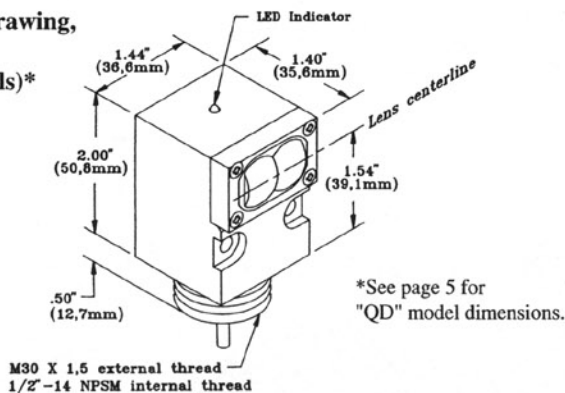
CABLE: 6' of PVC-jacketed 3-conductor cable standard. Three-pin quick-disconnect (QD) models are available optionally (one connector pin goes unused for emitters). Model MBCC-312 3-conductor cable for "QD" models must be purchased separately (see page 5).

ADJUSTMENTS: LIGHT/DARK OPERATE select switch and SENSITIVITY control potentiometer, both located on rear of sensor.

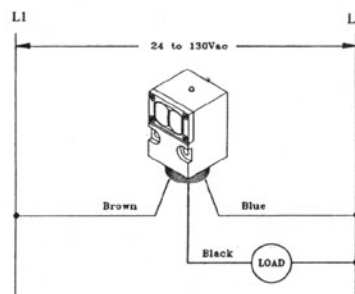
INDICATOR LED: top-mounted red "AID" system (patented) LED indicator lights when the sensor sees its own (or its emitter's) modulated light, and pulses at a rate proportional to the received signal strength. Model SMA91E emitter has a visible-red "tracer beam" which indicates "power on" and enables easy "line-of-sight" alignment.

OPERATING TEMPERATURE RANGE: -20 to +70 degrees C (-4 to +158 degrees F).

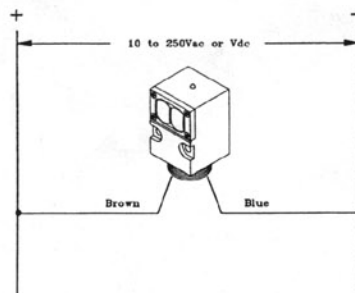
Dimension Drawing, Front View (cabled models)*



Hookup: All except emitters

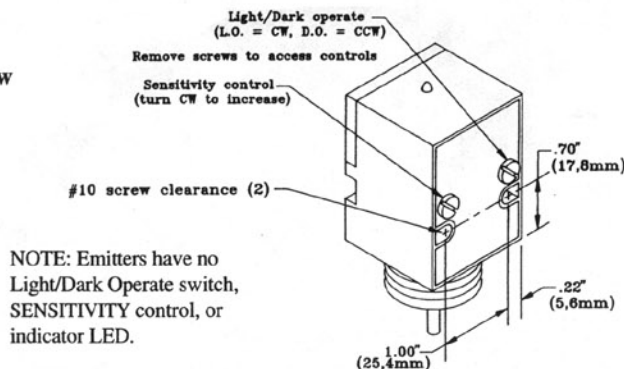


Hookup: SMA91 Emitters*



*There is no polarity for emitter hookup to ac voltage.

Rear View



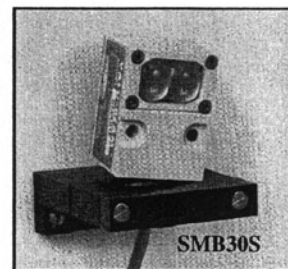
Mounting Brackets



Accessory mounting bracket model SMB900 (left) has curved mounting slots for versatility in mounting and orientation. The sensor mounts to the bracket by its threaded base, using a jam nut and lockwasher (both included). The bracket material is 11-gauge zinc-plated steel. The curved mounting slots have clearance for 1/4" screws.

Model SMB30S swivel-mount bracket (right) offers the ultimate in mounting versatility for VALU-BEAM and other sensors with M30 x 1,5 threads. The VALU-BEAM's base threads into the adjustable captive ball of the bracket, which is then locked in place. Bracket material is black VALOX®, and stainless steel mounting hardware is included.

Model SMB30C split-clamp bracket (not shown) is a VALOX® bracket similar to model SMB30S but without the adjustable ball. It grips the sensor by the sensor's threaded base. Hardware (included) is stainless steel.



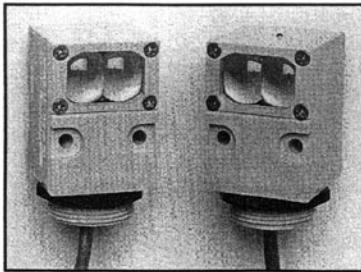
VALU-BEAM SMA912 Series Sensors

Sensing Mode

Models

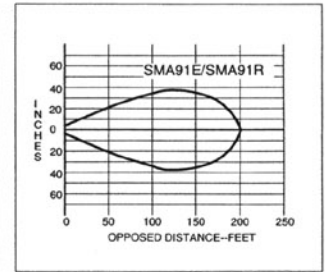
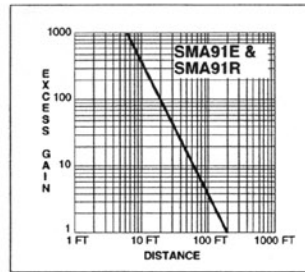
Excess Gain

Beam Pattern

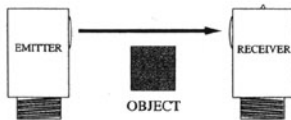


SMA91E & SMA91R

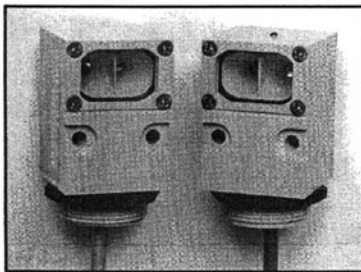
Voltage: 24 to 130V ac,
("E": 10-250V ac/dc)
Range: 200 feet (60 m)
Response: 8ms on/4 off
Repeatability: 1 ms
Beam: infrared, 880nm
Effective beam: 0.5" dia.



OPPOSED Mode

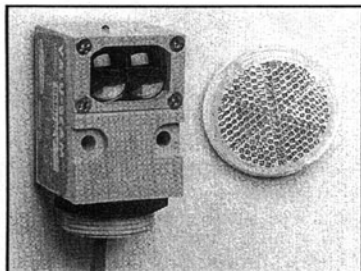
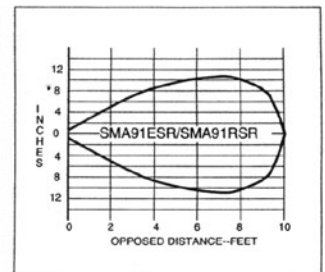
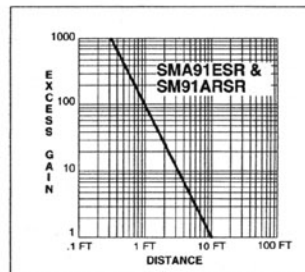


Opposed mode sensors have higher excess gain than other models, and therefore should be used whenever possible. The small size of these sensors makes them ideal for many conveyor applications, and their small effective beam size (particularly of the ESR/RSR models) enables them to reliably detect relatively small objects. VALU-BEAM opposed mode sensors have a visible red "tracer beam" which greatly simplifies sensor alignment. ESR/RSR models have a *wide* beam angle for very forgiving alignment within the 10 foot range. E/R models have a *narrow* beam spread and should be used when it is important to minimize optical "crosstalk" between adjacent emitter-receiver pairs at close range in multiple sensor arrays.



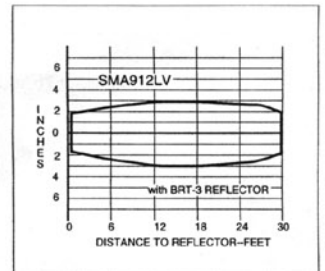
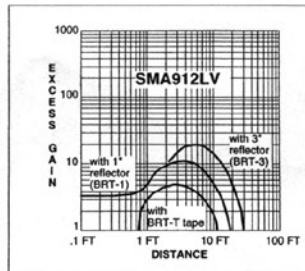
SMA91ESR & SMA91RSR

Voltage: 24 to 130V ac
Range: 10 feet (3 m)
Response: 8ms on/4 off
Repeatability: 1 ms
Beam: infrared, 880nm
Effective beam: 0.14" dia.

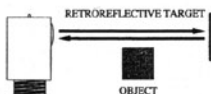


SMA912LV

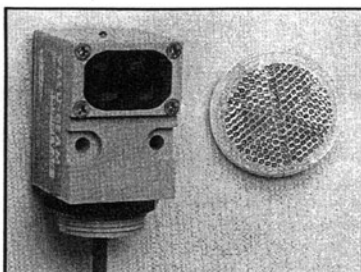
Voltage: 24 to 130V ac
Range: 6 inches to 30 feet (9 m)
Response: 4ms on/4 off
Repeatability: 1.3 ms
Beam: visible red, 650nm



RETROREFLECTIVE



A visible-red light beam reduces the potential for false signals from highly reflective objects ("proxing") and simplifies alignment. *AG (anti-glare) models polarize the emitted light and filter out unwanted reflections*, making their use possible in applications otherwise unsuited to retroreflective sensing (when reduced excess gain is acceptable). Maximum range with "LV" units is attained when using the model BRT-3 3" corner cube reflector. For details on retroreflective target materials, see the Banner product catalog.



SMA912LVAG

(anti-glare filter)
Voltage: 24 to 130V ac
Range: 1 to 15 feet (4.5 m)
Response: 4ms on/4 off
Repeatability: 1.3 ms
Beam: visible red, 650nm (with polarizing filter)

