

ENFORCER®

E-931-S50RRLQ

50ft Large Reflective Beam Sensor

Manual



Patented

- Up to 50ft (15m) sensing range
- Weatherproof (IP55)
- Beam status LED
- 12-250 VAC/VDC Operation
- Form C relay rated 0.5A@120VAC
- N.C. Tamper switch rated 0.5A@30VDC

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Features:

- Reflective beam provides reliable perimeter security, minimizing false alarms from falling leaves, birds, etc.
- Lensed optics reinforces beam strength and provides excellent immunity to false alarms due to rain, snow, mist, etc.
- Weatherproof, sunlight-filtering case for indoor and outdoor use
- Large reflective beam sensor
- Long-range sensing: Up to 50ft (15m)
- NO/NC Alarm output
- Non-polarized power inputs, 12~250 VAC/VDC
- Response time adjustable for nearly all situations
- Includes hoods for sensor and reflector

Specifications:

Type		50' Large Reflective Beam Sensor
Sensing range		50' (15m)
Response time		50~700 ms (Programmable)*
Current draw		100mA
LEDs	Red	No beam signal, triggered
	Yellow	Poor beam signal
	Green	Connected to power
Operating voltage		12~250 VAC/VDC
Alarm output		NO/NC Relay, 0.5A@120VAC, min. 1s
Tamper output		N.C. Switch, 0.5A@30VDC
IP Rating		IP55
Alignment angle		Horizontal: $\pm 90^\circ$, Vertical: $\pm 5^\circ$
Operating temperature		-13°~131° F (-25°~55° C)
Weight	Sensor	14.5-oz (410g) (with hood)
	Reflector	8.8-oz (250g) (with hood)
Material		PC Resin

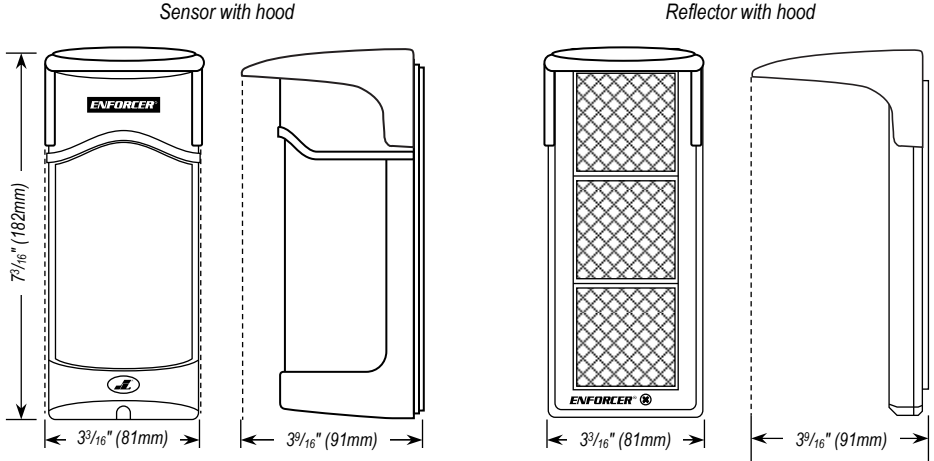
*Factory default is 50ms

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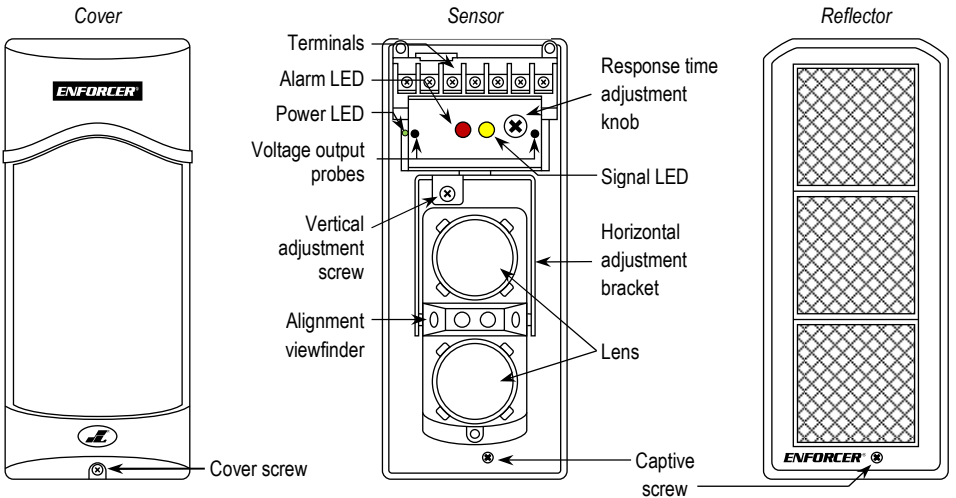
Parts List:

1x Sensor	2x Mounting brackets	4x Long screws
1x Reflector	2x Pole mounting brackets	6x Short screws
2x Hoods	1x L-Shaped mounting bracket	1x Rubber gasket
2x Mounting plates	4x Mounting screws	

Dimensions:



Overview:

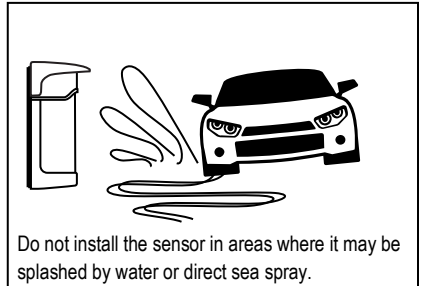
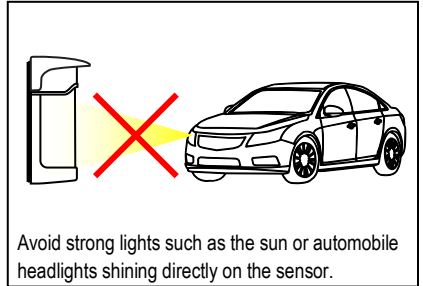
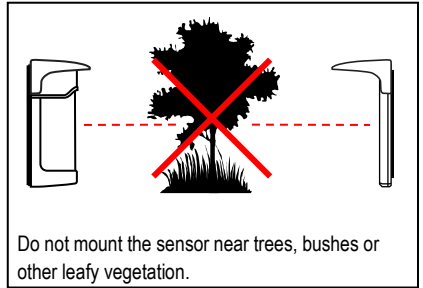


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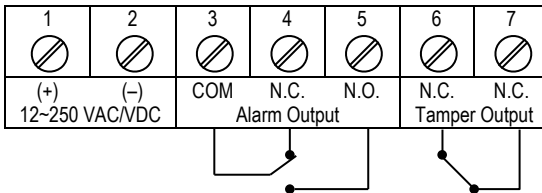
Choosing a Location:

To prevent erratic operation and/or false alarms:

- Wind will not directly cause false alarms, but could cause leaves or similar objects to fly or wave into the beams. Therefore, do not mount near trees, bushes or other leafy vegetation.
- Do not mount where the sensor could be suddenly exposed to a bright light, such as a floodlight or a passing automobile's headlights. Over time, a strong light can affect the life of the sensor.
- Do not let sunlight or any direct beam of light enter the sensor. If needed, mount so the reflector, not the sensor, faces the sun.
- Do not mount where animals could break the beams.
- Do not mount where the sensor could be splashed by water or mud.



Wiring Diagram:

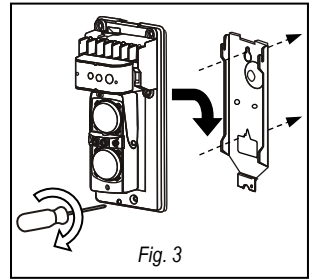
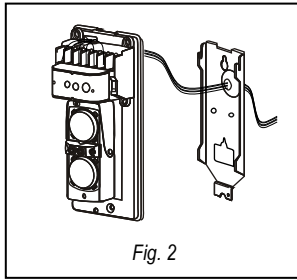
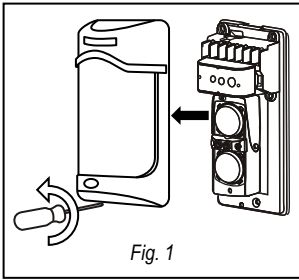


- Polarity does not matter for the power input
- Connect the N.C. tamper terminal to the tamper circuit of an alarm control panel

Installation:

Wall Mount (Sensor):

1. Loosen the cover screw at the bottom of the sensor and remove the cover (*fig. 1*).
2. Loosen the captive screw at the bottom of the sensor. Slide the mounting plate downwards and remove it from the unit.
3. Make a small hole in the rubber grommet.
4. Pull the wires from the wall or pole through the grommet and then through the opening above the terminals (*fig. 2*).
5. Connect the wires to the terminals. See Wiring Diagram on page 4.
6. Using the included mounting screws, secure the mounting plate to the wall or surface (*fig. 3*). Use optional anchors for brick or drywall (not included).
7. Slide the sensor into position on the mounting plate and secure it in place by tightening the captive screw.
8. Replace the cover and secure it by tightening the cover screw.

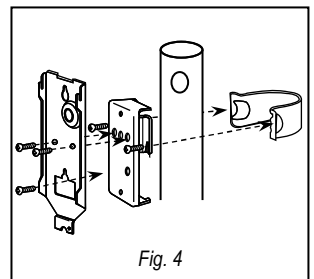


Wall Mount (Reflector):

1. Loosen the captive screw at the bottom of the reflector. Slide the mounting plate downwards and remove it from the unit.
2. Using the included mounting screws, secure the mounting plate to the wall or surface. Use optional anchors for brick or drywall (not included).
3. Slide the reflector into position on the mounting plate and secure it in place by tightening the captive screw.

Pole Mount (Sensor and Reflector):

1. Use a pole with a diameter of 1 $\frac{1}{2}$ " (38mm) to 1 $\frac{3}{4}$ " (45mm).
2. Fix mounting bracket to the pole with the pole bracket using the included long screws.
3. Remove the mounting plate from the back of the sensor and reflector units (*fig. 4*).
4. Secure the mounting plate of the unit to the mounting bracket using the included short screws.
5. Slide the sensor and reflector into position on the mounting plate and secure them in place by tightening the captive screw.



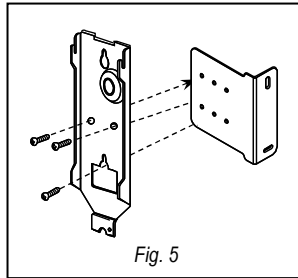
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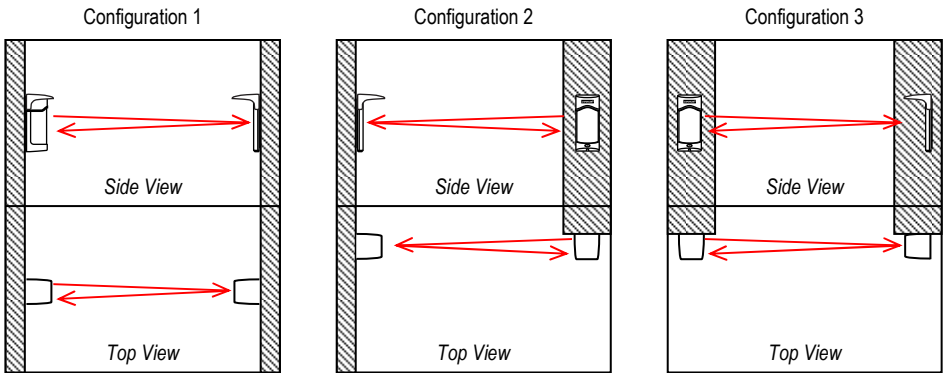
Installation (continued)

L-Shaped Mounting Bracket (Reflector):

1. Loosen the captive screw at the bottom of the reflector. Slide the mounting plate downwards and remove it from the unit.
2. Using the included short screws, attach the L-shaped mounting bracket to the mounting plate (fig. 5). Secure the bracket to the wall or surface using the included mounting screws. Use optional anchors for brick or drywall (not included).
3. Slide the reflector into position on the mounting plate and secure them in place by tightening the captive screw.



Sample Installations:

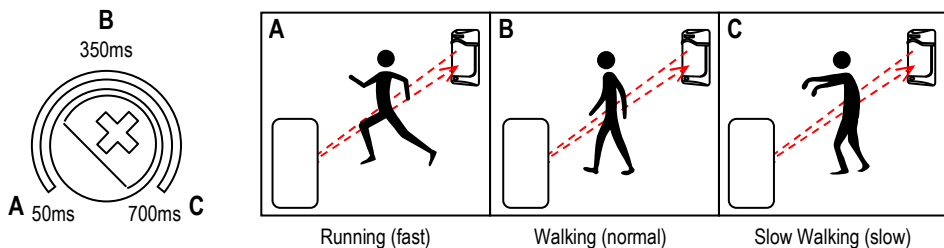


1. Configuration 1: Sensor and reflector are mounted facing each other.
2. Configuration 2: Sensor and reflector are mounted on perpendicular surfaces.
3. Configuration 3: Sensor and reflector are mounted on parallel surfaces, but the units are mounted perpendicular. The reflector is mounted with the L-shaped bracket.

Adjusting the Response Time: (IMPORTANT)

The sensor's response time can be adjusted by turning the response time adjustment knob. Response time can be adjusted according to how quickly an object breaks the sensor beam.

NOTE: A faster response time increases the chance of a false alarm. A slower response time increases the chance of missing a broken beam.



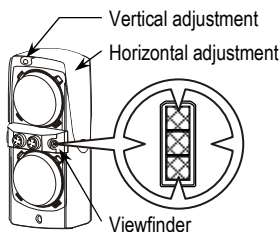
IMPORTANT: Note that the response time is set at the factory to the shortest time (50ms).

After installation is complete please adjust to best suit the site situation.

Adjusting the Alignment:

The sensor can be adjusted $\pm 5^\circ$ vertically and $\pm 90^\circ$ horizontally once the unit is mounted and power is connected.

1. Remove the sensor cover and look into one of the alignment viewfinders (located between the two lenses) at a 45° angle.
2. Adjust the horizontal and vertical angles of the lens until the reflector is clearly seen in the viewfinder.
3. Replace the sensor cover.

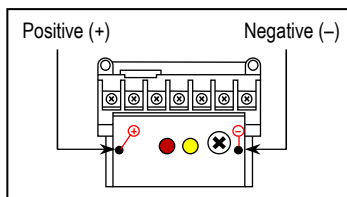


Fine-Tuning the Sensor:

Once the sensor is mounted and aligned, the sensor can be fine-tuned using the voltage output jack.

1. Set the range of a volt-ohm meter (VOM) to 1-10 VDC.
2. Insert the red (+) probe into the (+) terminal and the black (-) probe into the (-) terminal.
3. Measure the voltage (see table).
4. Adjust the horizontal and vertical angles until the VOM indicates the highest voltage.

NOTE: Do not interrupt the beam while adjusting alignment.



Voltage output	Alignment Quality
>2.8	Best
2.1~2.7V	Good
1.2~2.0V	Fair
<1.1V	Re-adjust

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Troubleshooting:

Sensor does not detect the object.

- Check the sensor's alignment.
 - Readjust the sensor's response time.
-

Alarm LED will not turn ON when the beam is interrupted

- Clean the sensor and reflector with a damp (not wet) cloth.
 - Adjust the reflector and/or sensor for proper alignment.
-

Alarm LED turns ON when object is detected, but there is no output

- Check wiring between the sensor and local alarm device.
-

Alarm LED is continuously ON

- Check the sensor's alignment.
 - Check for any objects between the sensor and reflector that may be causing false alarms.
-

Alarm output becomes erratic in bad weather

- Check the sensor's alignment.
 - Readjust the sensor's response time.
-

Frequent false alarms from leaves, birds, or other objects

- Readjust the sensor's response time.
 - Change the sensor's location.
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This product is protected by the following patents: U.S. pat. no. D485774 Taiwan pat. no. 89463 China pat. no. ZL03311103.0
Other international patents are pending.

WARRANTY: This SECO-LARM product is warranted against defects in material and workmanship while used in normal service for one (1) year from the date of sale to the original customer. SECO-LARM's obligation is limited to the repair or replacement of any defective part if the unit is returned, transportation prepaid, to SECO-LARM. This Warranty is void if damage is caused by or attributed to acts of God, physical or electrical misuse or abuse, neglect, repair or alteration, improper or abnormal usage, or faulty installation, or if for any other reason SECO-LARM determines that such equipment is not operating properly as a result of causes other than defects in material and workmanship. The sole obligation of SECO-LARM and the purchaser's exclusive remedy, shall be limited to the replacement or repair only, at SECO-LARM's option. In no event shall SECO-LARM be liable for any special, collateral, incidental, or consequential personal or property damage of any kind to the purchaser or anyone else.

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