

ENFORCER®

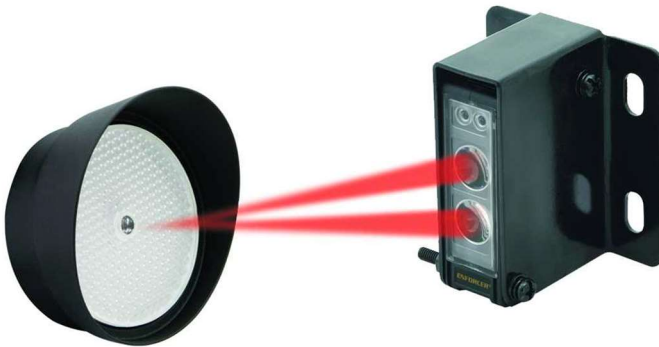
Retro-Reflective Photoelectric Beam Sensor

E-936-S45RRGQ

Installation Manual



Intertek
Conforms to
UL Std. 325



The ENFORCER E-936-S45RRGQ Retro-Reflective Photoelectric Beam Sensor provides reliable sensing of objects that enter the space between the sensor and reflector, thus breaking the infrared beam. It is suitable for various types of detection such as sensing approaching vehicles to open a garage door or outdoor gate, as an entry notification for stores, to assist in measuring parking distances, or an alarm notification, as well as many other uses.

- Range 45ft (14m)
- Weatherproof (IP66) construction for indoor/outdoor usage
- Pre-wired 6.5ft (2m) cord
- Bracket and mounting hardware included for both sensor and reflector
- Adjustable sensing range
- Compact size

Typical Applications

- Sensor for garage doors or outdoor gates
- Entry detection for store fronts
- Assist in measuring parking distance

IMPORTANT: The E-936-S45RRGQ conforms to UL Std. 325 for gate operators that use the N.C. or 10kΩ resistor for monitoring.

CAUTION

- This sensor was not designed to prevent bodily injury or loss of life.
- This sensor was not designed for use in environments where explosive gases may be present.
- Use of this sensor in certain security applications may be regulated by local laws or codes. SECO-LARM is not responsible for compliance with such laws or codes.

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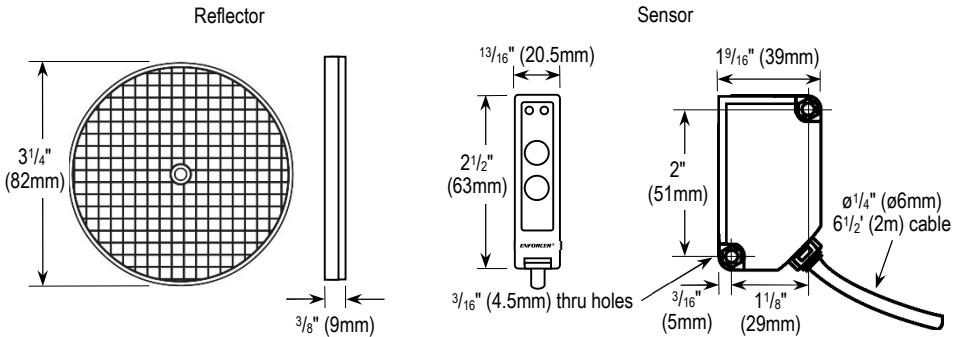
Parts List

1x Sensor	1x Adjustment screwdriver	4x 1 ³ / ₁₆ " Phillips wood screws
1x Round reflector	1x 1 ³ / ₁₆ " Phillips/slotted wood screw	2x 1 ³ / ₄ " Phillips machine screws
1x Plastic wall anchor	1x 5/8" Phillips/slotted machine screw	1x Reflector hood
2x Hex nuts	2x 1/4" Phillips/slotted machine screws	1x Manual
1x E-931ACC-BLS5Q Sensor mounting bracket	1x E-931ACC-BLS1Q Sensor mounting bracket	

Specifications

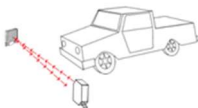
Type	Retro-reflective
Operating voltage	12-30V DC/AC 60Hz, 100mA
Sensing range	0.5-45 ft (0.2~14 m)
Current draw	70mA@12VDC
Standby	55mA@12VDC
Active	
Response time	10ms
Light source	IR LED
LED indicators	Yellow LED (Alignment), Red LED (Power on)
Trigger output	SPDT Relay output (NO/NC/COM with built-in 10kΩ resistor on N.O. output)
Switching capacity	2A@30VAC/VDC
IP Rating	IP66 Weatherproof
Operating temperature	-4~131° F (-20~55° C)
Sensor dimensions	1 ³ / ₁₆ "x2 ¹ / ₂ "x1 ⁹ / ₁₆ " (20.5x63x39 mm)

Dimensions

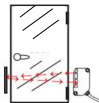


Sample Installations

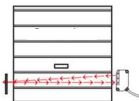
Parking Distance Monitor



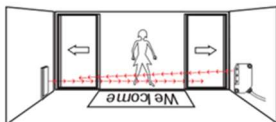
Main Entrance Door



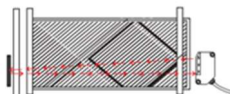
Garage Door



Store Entrance



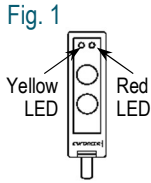
Entry Gate



Installation and Adjustment

LED Functions

- Red LED – When ON, indicates the sensor is powered.
- Yellow LED – When ON, indicates the sensor is properly aligned with the reflector, and not triggered.



Understanding Sensing Range Adjustment

The *Sensing Range* adjustment determines the strength of the infrared signal emitted by the sensor.

- Min. Setting – Weakest infrared signal – sensor easily be triggered by small objects but more susceptible to false alarms
- Max. Setting (default) – Strongest infrared signal – sensor less likely to be susceptible to false alarms

This allows adjusting the infrared signal strength in relation to the distance between sensor and reflector.

NOTE: If the infrared signal is too strong, the sensor may not trigger. If the infrared signal is too weak, the sensor may be susceptible to false alarms.

Installation

1. Mount the reflector and the sensor so they face each other (see *Mounting the Sensor*, pg. 4).
2. Connect power to the sensor (see *Wiring Diagram*, pg. 4). The red LED will turn ON, indicating that the sensor is powered on. If the yellow LED is ON, it indicates that the sensor and reflector are aligned (though it may still be necessary to further adjust the alignment).
3. Turn the sensing range adjustment to *Max*.
4. To find the best alignment, slowly adjust the angle of the sensor (and/or reflector) up, down, left or right.

NOTES:

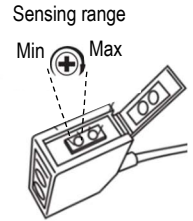
- Correct alignment is reached when the red LED is OFF and the yellow LED is ON.
- If adjusting the sensor will not turn the yellow LED on, the sensor is at the edge of its signal range and may not work properly.

Adjusting Sensing Range

After the sensor and the reflector have been properly installed, the next step is to adjust the appropriate setting for the sensing range.

1. Open the top cover of the sensor as shown in Fig. 2.
2. Peel back the tape covering the sensitivity adjustment access hole, taking care not to soil the tape so it can be easily reapplied.
3. Starting from the *Max.* position, slowly turn the knob counterclockwise until the yellow LED turns OFF, indicating the weakest acceptable signal for this situation. Then turn it clockwise somewhat above that point. The ideal is usually midway between the weakest point and *Max.*

Fig. 2



NOTE: When adjusting, if the weak point is near the *Max.* position, the knob should be set at *Max.*

4. Place the tape back over the sensing range access hole and snap the cover back into place, ensuring that the cover is firmly sealed

NOTE: Ensure that the tape is properly reapplied over the sensitivity adjustment access holes, so that water will not enter and cause damage.

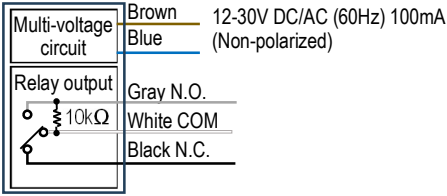
Testing

1. Power up the sensor. Both LEDs should be ON.
2. Pass a typical object to be detected between the sensor and reflector. The yellow LED should turn OFF indicating successful detection.

NOTES:

- If a shiny object, such as a chrome-plated item or one with reflective tape, comes in close proximity to the IR beam, the sensor may not be able to detect accurately. If so, you may need to adjust the sensing range counterclockwise until the desired results are obtained.
- Depending on the monitoring system used by the gate motor, it may be necessary to use either the N.C. output or the built-in 10kΩ resistor on the N.O. output. Please refer to the gate operator manual or the gate operator manufacturer for the preferred monitoring method.
- The E-936-S45RRGQ will not work with gate operators that monitor using the "heartbeat" method.

Wiring Diagram

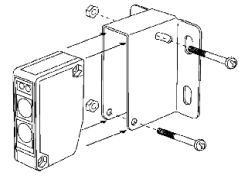


NOTES

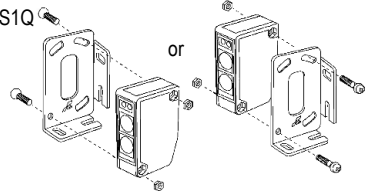
- Can be connected to AC or DC voltage
- Maximum cable extension length is 325ft (100m)

Mounting the Sensor

E-931ACC-BLS5Q Bracket










E-931ACC-BLS1Q Bracket



Troubleshooting

- | | |
|-----------------------------------|--|
| Sensor does not detect the object | • Change the angle of the sensor or readjust the sensitivity setting |
| Yellow LED does not turn on | • Clean the sensor and reflector with a damp (not wet) cloth |
| | • Adjust the reflector and/or sensor for proper alignment |

Accessories

<p>Square Reflector</p>  <p>E-931ACC-R2Q</p>	<p>Round Reflector</p>  <p>E-931ACC-RC1Q</p>	<p>Reflector Hood</p>  <p>E-931ACC-HR1Q</p>	<p>Reflector Bracket</p>  <p>E-931ACC-BLR2Q</p>
<p>Wall Bracket</p>  <p>E-931ACC-BLS7Q</p>	<p>Door Frame Bracket</p>  <p>E-931ACC-BLS8Q</p>	<p>Single-Gang Bracket</p>  <p>E-931ACC-BLS6Q</p>	

IMPORTANT: Users and installers of this product are responsible for ensuring that the installation and configuration of this product complies with all national, state, and local laws and codes. SECO-LARM will not be held responsible for the use of this product in violation of any current laws or codes.

California Proposition 65 Warning: These products may contain chemicals which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

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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