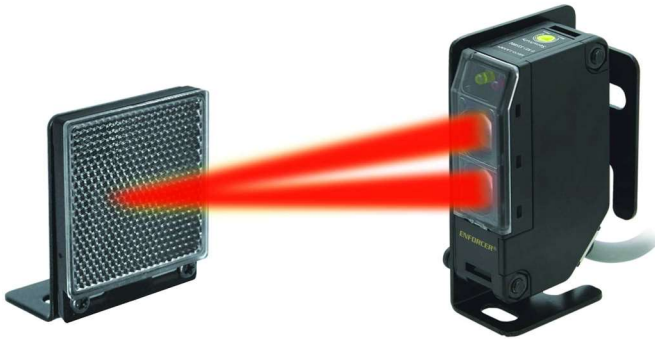


## Retro-Reflective Photoelectric Beam Sensor

E-931-S35RRQ

### Installation Manual



The ENFORCER E-931-S35RRQ 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, for measuring parking distances, industrial automation, or an alarm notification, as well as many other uses.

- Range 35ft (11m)
- Weatherproof (IP66) construction for indoor/outdoor usage
- Pre-wired 6ft (1.8m) cord
- Bracket and mounting hardware included for both sensor and reflector
- Adjustable sensing range
- Compact size

#### 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

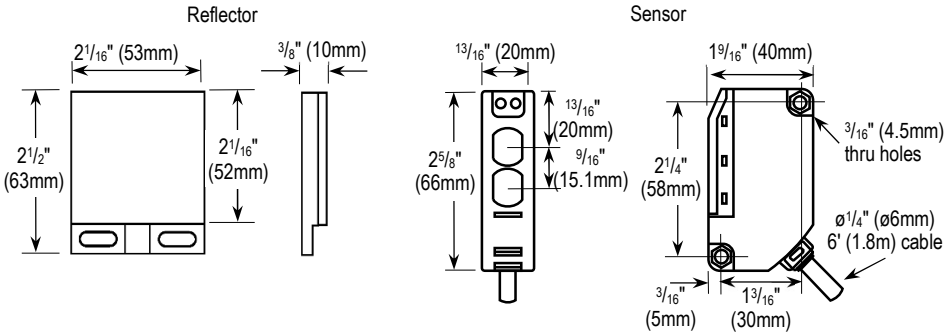
**Parts List**

1x Sensor	1x Sensor mounting bracket	All mounting hardware
1x Square reflector	1x E-931ACC-BLR2Q Reflector mounting bracket	1x Manual

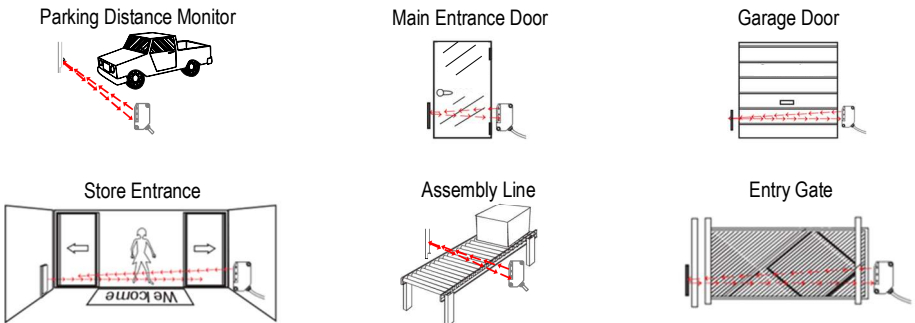
**Specifications**

Type	Retro-reflective
Operating voltage	24~240 VAC / 12~240VDC
Sensing range	0.5~35 ft (0.2~11 m)
Current draw	Standby: 25mA@12VDC Active: 60mA@12VDC
Response time	10ms. (max.)
Light source	IR LED
LED indicators	Yellow LED (Alignment), Red LED (Triggered)
Trigger output	SPDT Relay output (NO/NC/COM)
Switching capacity	1A@250VAC / 2A@30VDC
IP Rating	IP66 Weatherproof
Operating temperature	-4~131° F (-20~55° C)
Sensor dimensions	13/16" x 2 5/8" x 1 9/16" (20x66x40 mm)

**Dimensions**



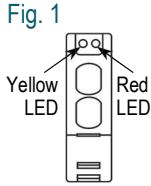
**Sample Installations**



## Installation and Adjustment

### LED Functions

- Red LED – When ON, indicates the sensor is triggered.
- 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

### Installation

1. Mount the reflector and the sensor so they face each other (see *Mounting the Reflector*, below and *Mounting the Sensor*, pg. 4).
2. Connect power to the sensor (see *Wiring Diagram*, pg. 4). The red LED will probably light, indicating that the sensor and reflector are not yet aligned. If the yellow LED lights (red LED OFF), 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 knob 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 both LEDs are OFF, the sensor is at the edge of signal range and may not work properly.

### Adjusting Sensing Range

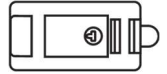
After the sensor and the reflector have been properly installed, the next step is to adjust the appropriate setting for the sensing range.

1. Starting from the *Min.* position, slowly turn the sensing range adjustment (see Fig. 2) clockwise until the yellow LED turns ON. Mark this as position A.

Fig. 2



**NOTE:** If the yellow LED is on at the *Min.* setting, consider this as position A.



2. Place an object similar to what you desire to detect between the sensor and reflector at the point where you would normally want it to be detected. The yellow LED should turn off and the red LED should turn on.
3. Slowly turn the sensing range adjustment clockwise until the yellow LED turns on again. Mark this as position B.

**NOTE:** If the yellow LED does not turn on even at the *Max.* position, then consider *Max.* as position B.

4. Turn the sensing range adjustment counterclockwise to a point approximately midway between points A and B.

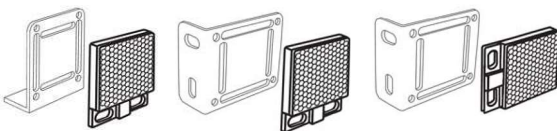
### Testing

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

**NOTE:** 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.

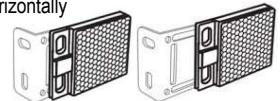
## Mounting the Reflector

Sample fixed mounting

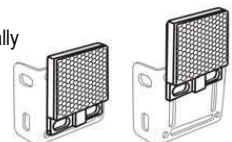


Adjusting the reflector

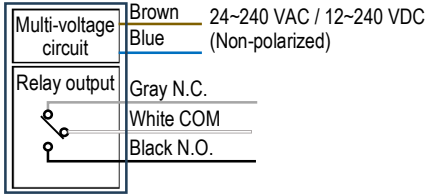
Horizontally



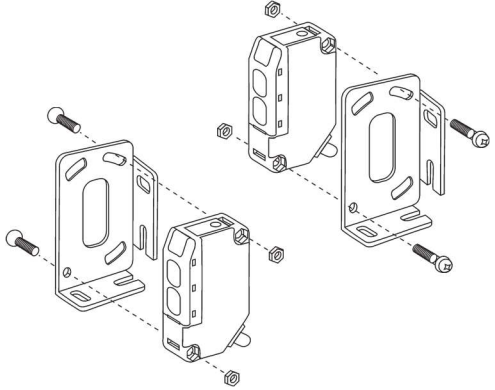
Vertically



**Wiring Diagram**



**Mounting the Sensor**



**NOTES**

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

**Troubleshooting**

- |   |   |
|---|---|
| Sensor does not detect the object                     | <ul style="list-style-type: none"> <li>• Change the angle of the sensor or readjust the sensitivity setting</li> </ul>  |
| Yellow LED does not turn on                           | <ul style="list-style-type: none"> <li>• Clean the sensor and reflector with a damp (not wet) cloth</li> <li>• Adjust the reflector and/or sensor for proper alignment</li> </ul> |
| Red LED lights when object is detected, but no output | <ul style="list-style-type: none"> <li>• Check cable from sensor to alarm device and test sensor</li> </ul>   |

**Accessories**

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

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**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](http://www.P65Warnings.ca.gov).

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