Specifications:

Model Number:	E-931-S35RRQ
Type:	Retro-Reflective
Sensing Range:	0.5' to 35' (0.1 - 11 m)
Voltage Supply:	12-240 VDC or 24-240 VAC
Response Time:	10ms (max.)
Light Source:	IR LED
LEDs:	Yellow LED (Alignment), Red LED (trigger)
Trigger Output:	SPDT Relay output
Switching Capacity:	250VAC/1A, 30VDC/2A
Enclosure:	IP 66 Waterproof
Ambient Temperature:	$-4^0 - 131^0F$ $(-20^0 - 55^0C)$
Mounting Brackets for Sensor and Reflector:	Included

Troubleshooting:

Trouble	Possible Origin(s)	Remedy(s)
Sensor does not detect the object.	1) Sensor sensitivity is not properly set. 2) Object may have a reflective surface which confuses sensor.	Change the angle of the sensor or readjust the sensitivity setting.
Yellow LED does not turn on.	1) Dirty sensor and/or reflector. 2) Reflector and/or sensor is misaligned.	1) Clean the sensor and reflector with a damp (not wet) cloth. 2) Adjust the reflector and/or sensor for proper alignment.
Red LED lights when object is detected, but no output.	No continuity between sensor and alarm device.	Check cable from sensor to alarm device. Test sensor.

Dimensions:

2³/₃₂" (53mm)   2¹⁵/₃₂" (63mm)   2³/₆₄" (52mm)   2¹⁵/₃₂" (63mm)   2³/₆₄" (52mm)   ¹³/₃₂" (10mm)

0.79" (20mm)   1.57" (40mm)   0.79" (20mm)   0.59" (15.1mm)   2.60" (66mm)   2.28" (58mm)   1.18" (30mm)   2-Ø4.5 thru hole   0.20" (5mm)   Ø6 cable 2M
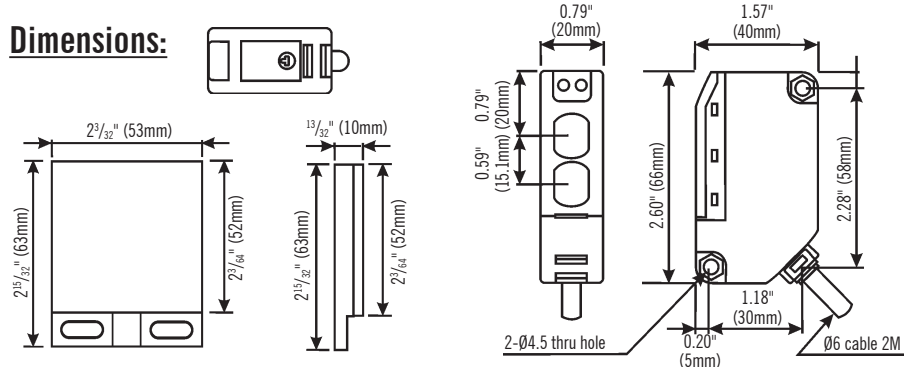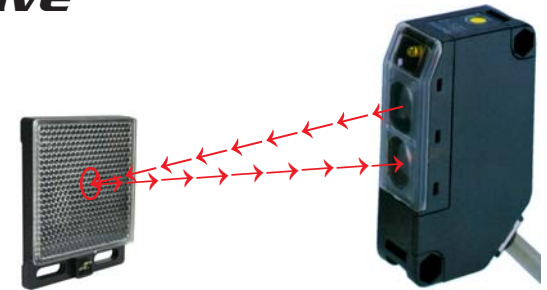
NOTICE: The information and specifications printed in this manual are current at the time of publication. However, the SECO-LARM policy is one of continual development and improvement. For this reason, SECO-LARM reserves the right to change specifications without notice. SECO-LARM is also not responsible for misprints or typographical errors.

ENFORCER®

Retro-Reflective Photoelectric Beam Sensor

E-931-S35RRQ
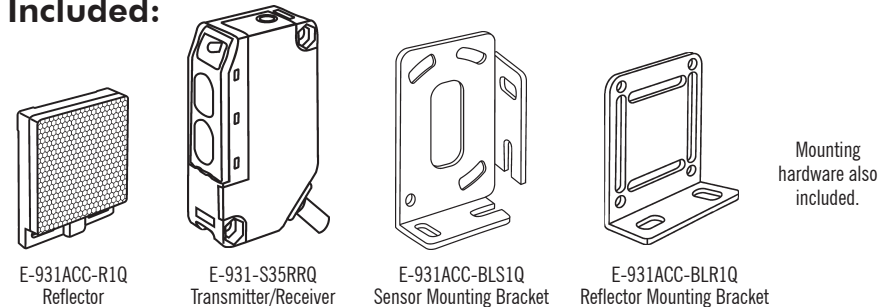
Range: 35ft. (11m)

INSTALLATION MANUAL

Features:

- Universal AC/DC power supply.
- Waterproof (IP 66) construction for indoor/outdoor usage.
- Dark ON operation (Light ON operation also available).
- Pre-wired 6-foot cord.
- Bracket and mounting hardware included for both sensor and reflector.
- Adjustable sensing distance.
- Compact size.

Typical Applications:

- Safety sensor for garage doors or outdoor gates.
- Overhead doors security sensor.
- Industrial automation - Detect small objects on manufacturing line.
- Entry detection for store fronts.
- Assist in measuring parking distance.
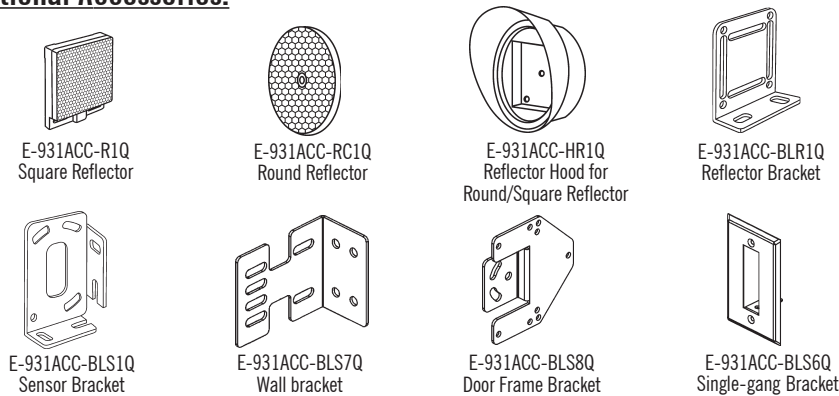- Alarm sensor.

Included:

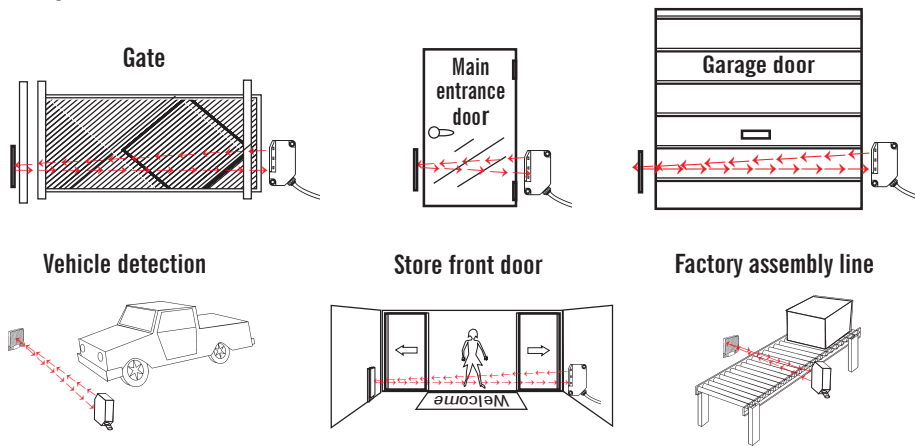| E-931ACC-R1Q Reflector	E-931-S35RRQ Transmitter/Receiver	E-931ACC-BLS1Q Sensor Mounting Bracket	E-931ACC-BLR1Q Reflector Mounting Bracket

Mounting hardware also included.

Caution:

- This sensor was not designed to prevent bodily injury or loss of life.
- This sensor was not designed for use in environments where there may be explosive gasses 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.
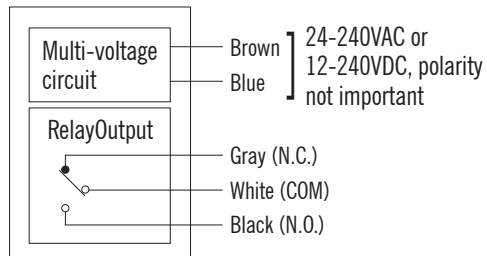
Optional Accessories:

E-931ACC-R1Q
Square Reflector

E-931ACC-RC1Q
Round Reflector

E-931ACC-HR1Q
Reflector Hood for
Round/Square Reflector

E-931ACC-BLR1Q
Reflector Bracket

E-931ACC-BLS1Q
Sensor Bracket

E-931ACC-BLS7Q
Wall bracket

E-931ACC-BLS8Q
Door Frame Bracket

E-931ACC-BLS6Q
Single-gang Bracket

Sample Installations:

Gate

Main entrance door

Garage door

Vehicle detection

Store front door

Factory assembly line

Wiring:

Connection (5 wires)

Multi-voltage circuit — Brown / Blue] 24-240VAC or 12-240VDC, polarity not important

RelayOutput — Gray (N.C.) / White (COM) / Black (N.O.)
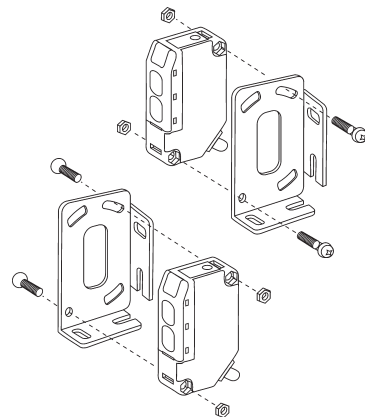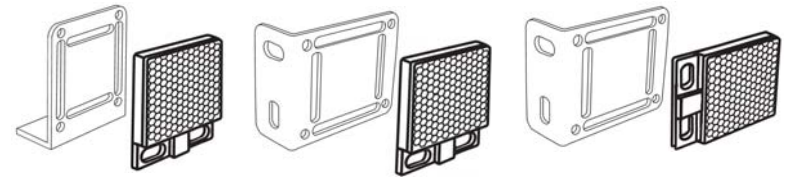
Note:
1. Can be connected to AC or DC voltage.
2. Maximum cable extension length is 325 feet (100m).
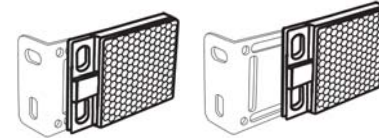
Mounting the Sensor:
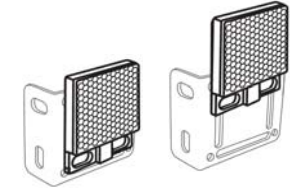

Mounting the Reflector:

Sample Fixed Mounting:

Samples For Horizontally Adjusting Mounting:

Samples For Vertically Adjusting Mounting:

Installation and Adjustment:

LED Functions:
- Red LED — When ON, it indicates the sensor is triggered.
- Yellow LED — When ON, it indicates that the sensor is properly aligned with the reflector, and the sensor is not triggered.

Sensitivity Adjustment Functions:
- Min. Setting — The infrared signal emitted by the sensor is at its minimum or weakest. This means the sensor can be easily triggered by small obstructing objects.
- Max. Setting — The infrared signal emitted by the sensor is at its maximum or strongest. This means the sensor cannot be easily triggered by small obstructing objects.

Installation:
1. Mount the reflector and the sensor so they face each other.
2. Connect power to the sensor. Typically the red LED will turn ON indicating that the sensor and reflector are not yet properly aligned. If the yellow LED is ON (red LED OFF), it indicates that the sensor and reflector are aligned (although it still may be necessary to slightly adjust the alignment).
3. Turn the sensitivity knob to Max.
4. To find the correct alignment, slowly adjust the angles of the sensor (and/or reflector) up and down and right and left.
   NOTE 1: Correct alignment is reached when the red LED turns OFF and the yellow LED turns ON.
   NOTE 2: If both LEDs are OFF, the sensor is at the edge of sensing the signal, and may not work properly.

Adjusting Sensitivity:
After the sensor and the reflector have been properly installed, the next step is to adjust the sensor sensitivity.
1. Turn the sensitivity knob counterclockwise to "Min."
2. Slowly turn the sensitivity knob clockwise until the yellow LED turns ON. Mark this position "A".
   NOTE: If the yellow LED is ON when the sensitivity knob has been adjusted to "Min.", then position "A" will be at "Min."
3. Put the object to be detected between the sensor and reflector (in about the place where the object would normally be detected by the sensor). The yellow LED should turn OFF (red LED is ON)
4. Slowly turn the sensitivity knob to clockwise until the yellow LED turns ON. Mark this position "B".
   NOTE: If the yellow LED does not turn ON even when the sensitivity knob has been adjusted to "Max." then position "B" will be at "Max.".
5. Turn the sensitivity knob counterclockwise until it is set at the center (midpoint) between points "A" and "B". This will be the suggested sensitivity setting.

Testing:
1. Power up the sensor. The yellow LED should be ON; the red LED should be OFF.
2. Pass the object to be detected between the sensor and reflector. The red LED should turn ON and the yellow LED should turn OFF. This indicates that the object has been detected.
   NOTE: If a shiny object, such as a chrome-plated or stainless-steel item, or something with reflective tape, will be passing between the sensor and reflector, the sensor may not be able to detect it. In this case, it may be necessary to turn the sensitivity knob counterclockwise until the desired sensitivity setting is obtained.

Sensitivity Adjuster

Red LED

Yellow LED