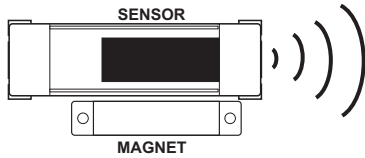


# AC-SOS Wireless A/C Shutoff Switch Installation Sheet

**IMPORTANT!** If door/window sensors are included with receiver module as part of a kit, they are already factory linked. If sensors are provided separately, they will require linking to the receiver module.



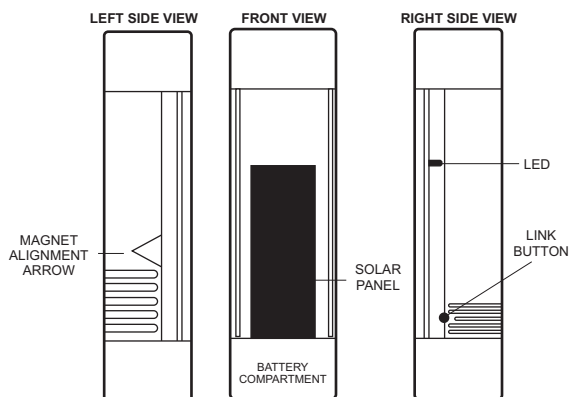
**Note:** A/C Shutoff Switch Receiver Module is for indoor use and installation only. Outdoor installation of the receiver module will require a water-tight enclosure. Door/Window sensors are only for indoor use. There are no door/window sensors available for outdoor use.

## SEQUENCE OF OPERATION:

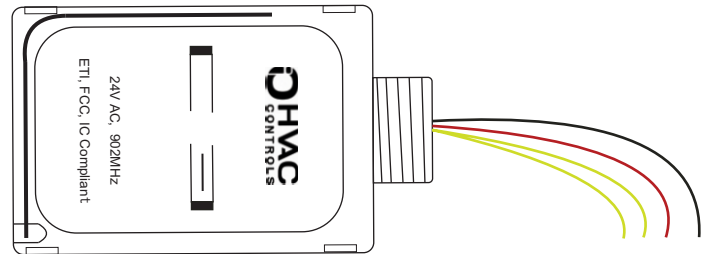
The A/C Shutoff Switch is a wireless monitoring and control system designed to reduce energy waste in vacation and managed properties. This is achieved by turning off the HVAC equipment when the doors or windows are left open for more than two minutes. When a door or window is opened, a magnet separates from the wireless sensor mounted on the door or window frame. The sensor then sends a signal to the receiver module. If the door or window remain open for more than 2 minutes, the module opens the normally closed contacts, shutting off the HVAC equipment.

## AC-SOS-TR DOOR/WINDOW SENSOR:

The AC-SOS-TR Door/Window Sensor is a wireless solar-powered sensor that is **factory linked** to the A/C Shutoff Switch receiver module and sends a wireless signal whenever a door or window opens or closes. The sensor is easy to install on door and window frames. As many as 30 AC-SOS-TR Door/Window Sensors can be used with a single A/C Shutoff Switch Receiver. Typical range is 100 feet.



## AC-SOS RECEIVER MODULE



Features include:

- Sends wireless signal to the A/C Shutoff Switch receiver whenever a door or window opens or closes.
- Harvests ambient solar energy to power the sensor and send wireless communications.
- Mounts easily on standard doors and windows.
- Supplemental battery power for extreme low-light conditions. Battery has been installed at the factory.

## AC-SOS-TR SPECIFICATIONS:

### Minimum Illumination:

400 lux hours per day  
e.g., 100 lux for 4 hours or 200 lux for 2 hours

### Start-up Time:

Less than 2.5 min @ 400 lux

### Operating Life in Darkness (after full charge):

Min 10 days signs-of-life only

### Operating Life in Darkness (with battery backup):

Min 5 years

### Maximum Sensor Gap:

0.25" (6mm)

### Sensor Dimensions:

3.00"L x 0.87"W x 0.59"D (76mm x 22mm x 15mm)

### Sensor Dimensions (with mounting plate):

3.15"L x 0.94"W x 0.73"D (80mm x 24mm x 19mm)

### Magnet Dimensions:

2.00"L x 0.40"W x 0.30"D (50mm x 10mm x 7mm)

### Environment:

Indoor use only  
-4 to 140 F (-20 to 60 C)  
5 to 93% relative humidity (non-condensing)

### Approvals:

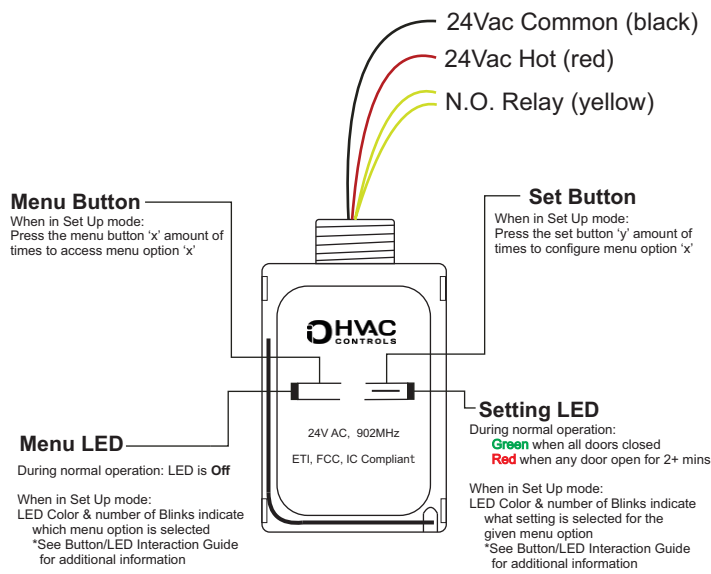
RoHS

### Agency Compliance:

FCC ID: SZV-STM 320U  
IC: 5713A-STM 320U

AC-SOS RECEIVER MODULE:

The AC-SOS Receiver Module is a wireless relay receiver with a N.O. relay output. The receiver module is powered by 24 Volts AC from the equipment transformer.



SPECIFICATIONS:

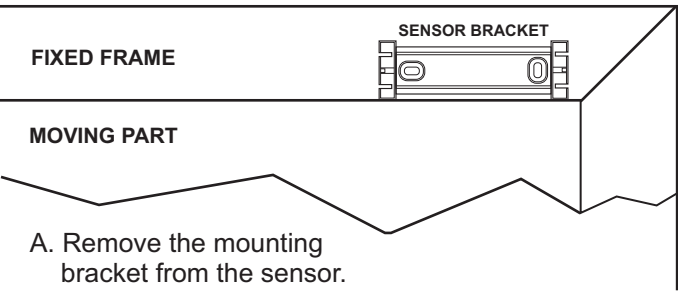
Wireless Relay Receiver (Indoor Use Only)

RF Communications	EnOcean 902 MHz
Dimensions	2.57" H x 1.65" W x 1.10" D (6.5 cm x 4.2 cm x 2.8 cm)
Weight	1.9 oz. (54 g)
Mounting	<ul style="list-style-type: none"><li>• Install inside standard electrical box</li><li>• Connect to electrical boxes and fixtures using threaded nipple</li></ul>
Environment	<ul style="list-style-type: none"><li>• Indoor use only</li><li>• 32° to 104°F (0° to 44°C)</li><li>• 20% to 95% relative humidity (non-condensing)</li></ul>
Agency Compliance	ETL, FCC, IC

PLANNING:

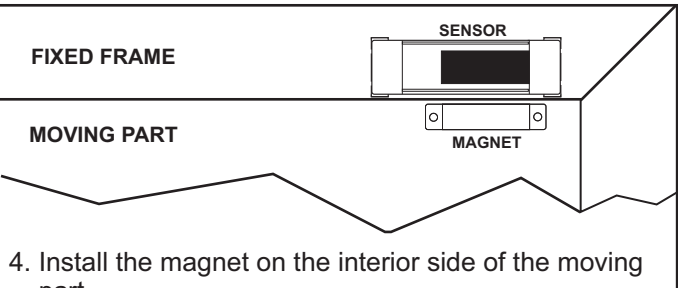
- Based on your requirements, decide where to install the sensor and the magnet. For door installations, locate the sensor:
  - On the knob side of the door jamb, away from hinges.
  - At least 1 ft. above the floor to avoid damage.For window installations, make sure the location does not expose the sensor to contact with water.
- Follow the installation and alignment requirements.

- Install the sensor on the interior side of the fixed frame.



- Remove the mounting bracket from the sensor.
- Position the bracket so that it is as close to the bottom edge of the frame.
- Position the mounting bracket and mark the two mounting screw drill points.
- Insert the first screw loosely and level the mounting bracket.
- Install the second screw, and then hand-tighten the first screw.
- Snap the sensor into the mounting bracket so that the arrow on the side is facing towards the moving part.

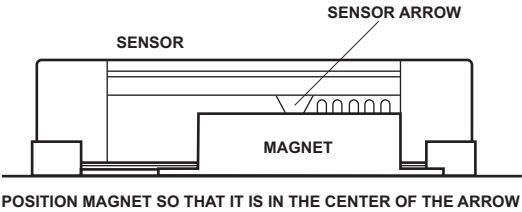
Note: If the frame is metal, use the two-sided tape included with the kit.



- Install the magnet on the interior side of the moving part.
- Remove the two-sided tape on the back of the magnet and position it so that it is centered with the sensor arrow with no more than a .25" gap between the magnet and the sensor.
- Mark the two mounting screw drill points and use the screws provided to secure the magnet to the surface.

Note: If the moving part is metal, use the two-sided tape attached to the magnet and make sure it is firmly secure to the surface.

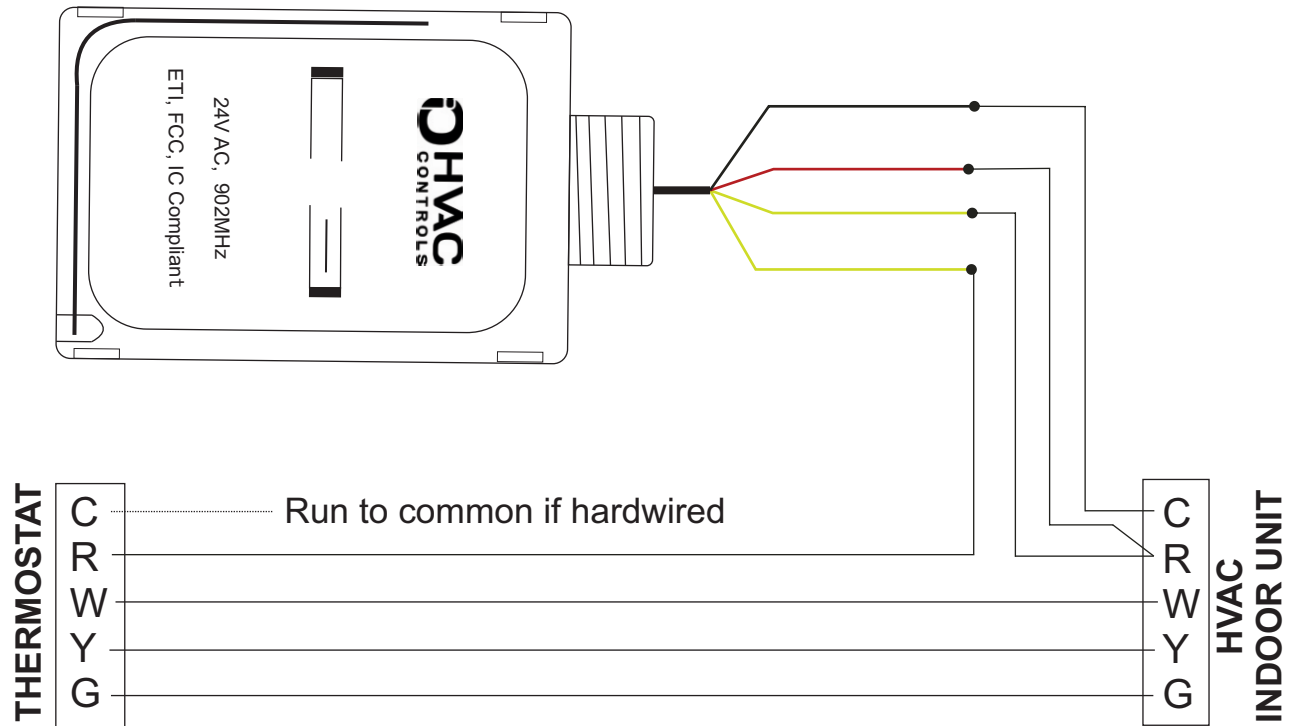
MAGNET ALIGNMENT SIDE VIEW



## RELAY RECEIVER INSTALLATION:

1. Mount the A/C Shutoff Switch Receiver on a non-metallic surface near the HVAC unit.

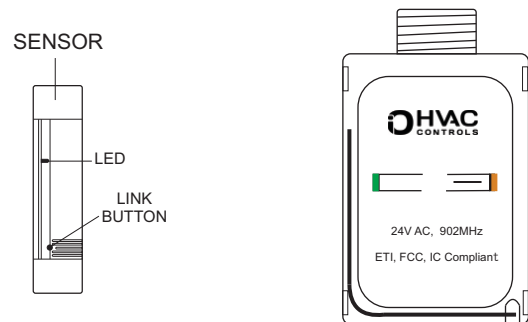
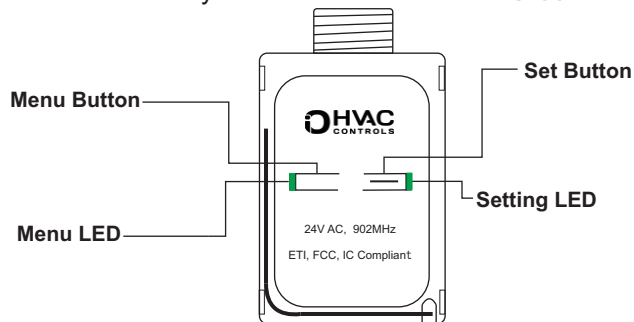
2. Turn off power to the HVAC system and wire as illustrated.



## LINKING ADDITIONAL SENSORS:

1. Apply power to the HVAC system and put the thermostat in the off position.
2. Take each door/window sensor that will be used and separate the magnet.
3. Press and hold the Menu & Set buttons simultaneously until the both LEDs turn **Green**.

4. The Menu LED will flash **Green** while the Setting LED will flash **Amber**. Use the paperclip provided in the kit and press the LINK button on the side of the sensor. The Setting LED will go solid **Green** for 3 seconds to confirm successful pairing before returning to flashing amber - ready to accept additional sensors.



5. Repeat Step 4 as many times as needed until all door/window sensors are paired.

## TEST, CHECK AND STARTUP:

1. Once all sensors are properly mounted and all windows and doors are closed, place the thermostat in the continuous fan mode.
2. Open a door or window to separate the magnet from the sensor.
3. After 2 minutes, the Green Setting LED on the Relay Receiver will turn Red and the air handler will stop running.
4. Test each sensor in this manner to confirm communications with the relay receiver.

## REPLACING DOOR/WINDOW SENSOR BATTERIES:

Each door/window sensor has a battery installed which is used to supplement the solar energy harvester. The battery maintains power where light levels are consistently too low. Only use a CR1225 battery replacement.

1. Remove the sensor from its mounting bracket.
2. Remove the bottom cap which is closest to the solar panel.
3. Remove the old battery and insert a new one with the positive (+) side up and slide it between the two contact terminals with your finger.
4. Replace the bottom cap and reinsert the sensor back into its mounting bracket making sure that the arrow on the side is facing the magnet.

**WARNING:** Ensure the battery is properly oriented. Improper handling of lithium batteries may result in heat generation, explosion, or fire. Dispose of old battery in a safe and proper manner. Keep away from children. If swallowed, promptly seek medical attention.



## TROUBLESHOOTING:

Problem	Solution Checklist
The sensor does not generate a wireless signal	<ul style="list-style-type: none"> <li>• Verify there is a faintly audible click when the contact is closed and opened</li> <li>• Verify the LED blinks once when the contact is closed and opened</li> <li>• Verify the solar cell is charged properly</li> <li>• Check that the magnet is oriented to the sensor properly</li> <li>• Check that the alignment arrows are not spaced more than .25 inch (6.4 mm)</li> </ul>
The linked device does not respond to wireless signal	<ul style="list-style-type: none"> <li>• Check for environment or range issues. Tip: Re-orienting the sensor may overcome adverse RF conditions</li> <li>• Verify the device is linked</li> <li>• Check the transceiver connection and the wiring for errors</li> <li>• Check if appropriate devices are linked according to good system planning</li> </ul>



902 MHz: Contains:  
FCC: SZV-STM320U  
IC: 5713A-STM320U

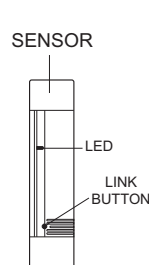
This device complies with part 15 of the FCC rules and Industry Canada ICES-003. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

IMPORTANT! Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

## REMOVING SENSORS:

*NOTE: Removing sensors can result in difficulty during the troubleshooting process. Contact iO tech support before proceeding*

1. Apply power to the HVAC system and put the thermostat in the off position.
2. Take each door/window sensor that will be used and separate the magnet.
3. Press and hold the Menu & Set buttons simultaneously until the both LEDs turn **Green**.
4. The Menu LED will flash **Green** while the Setting LED will flash **Amber**.



5. Click the 'Set' Button 3 Times. The Menu LED will flash **Green** once while the Setting LED will flash **Amber** three times.
6. Use the paperclip provided in the kit and press the LINK button on the side of the sensor. The Setting LED will go solid **Red** for 3 seconds to confirm successful unpairing before returning to flashing amber - ready to unpair additional sensors.