

Crestron **GLS-ODT-C-CN**
Dual-Technology Occupancy Sensor with Cresnet®, 2000 Sq. Ft.
Installation Guide



Further Inquiries
To locate specific information or resolve questions after reviewing this guide, contact Crestron's True Blue Support at 1-888-CRESTRON [1-888-273-7876] or, for assistance within a particular geographic region, refer to the listing of Crestron worldwide offices at www.crestron.com/offices.

To post a question about Crestron products, log onto Crestron's Online Help at www.crestron.com/onlinehelp. First-time users must establish a user account to fully benefit from all available features.

Future Updates
As Crestron improves functions, adds new features and extends the capabilities of the GLS-ODT-C-CN, additional information may be made available as manual updates. These updates are solely electronic and serve as intermediary supplements prior to the release of a complete technical documentation revision.

Check the Crestron Web site periodically for manual update availability and its relevance. Updates are identified as an "Addendum" in the Download column.

WARNING: To avoid fire, shock, or death; turn off power at circuit breaker or fuse and test that power is off before wiring!

NOTES: Observe the following points.

- To be installed and/or used in accordance with appropriate electrical codes and regulations.
- This product should be installed by a qualified electrician.
- Sensors must be mounted on a vibration free surface.

PREPARING AND CONNECTING WIRES
Strip the ends of the wires approximately 1/4 in (6 mm). Use care to avoid nicking the conductors. Twist together the ends of the wires that share a connection. Apply solder only to the ends of the twisted wires. Avoid tinning too far up the wires or the ends become brittle.

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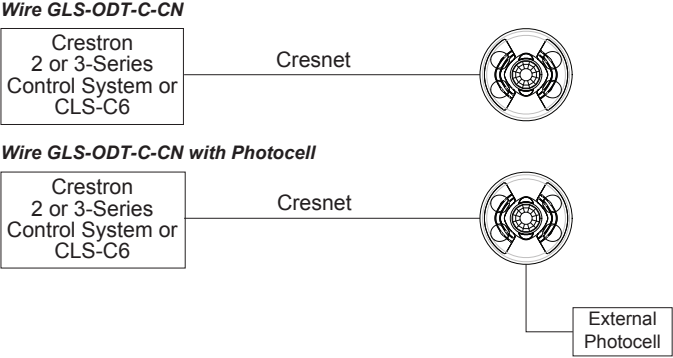
Installation Guide - DOC. 7427B
(2034427)
08.13

Specifications subject to change without notice.

This product is Listed to applicable UL Standards and requirements by Underwriters Laboratories Inc.

TYPICAL APPLICATION DIAGRAMS

The following diagrams illustrate the typical wiring of a GLS-ODT-C-CN.



DESCRIPTION

The Crestron® Dual-Technology Occupancy Sensor is a low-voltage passive infrared (PIR) and ultrasonic (US) sensor that is directly wired through Cresnet® to automatically control lighting or any other system wide device. The sensor is typically used to turn lights on when a room or area is occupied and to shut them off when the room or area is vacated. The exact behavior of the sensor can be configured via software or the IR remote (GLS-REMOTE-ODT/OIR, sold separately). The combination of ultrasonic motion detection, which provides maximum sensitivity, and passive infrared motion detection, which provides higher immunity to false triggering, yields a sensor with a 360 degree 2000 square feet coverage area with excellent performance. Additionally, a photocell allows for easy and custom adjustments for even the most robust of daylight harvesting applications.

INSTALLATION

These instructions include two typical ceiling installation options. 1. Install into drop ceiling or drywall (preferred), or, 2. Install into octagon electrical box.

The following items are included with the GLS-ODT-C-CN for installation:

- 1/2 Solid PIR mask (1)
- 1/12 Perforated PIR mask (1)
- Hole cutout template (1)

The following items are required for installation:

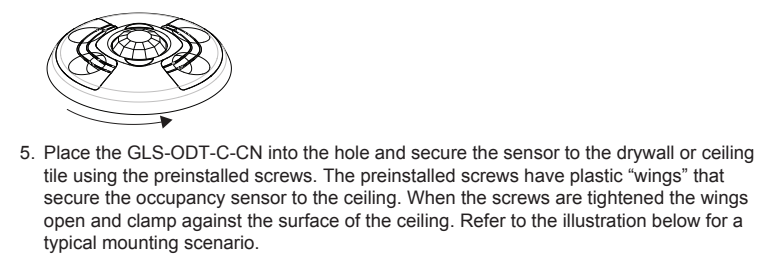
- Slotted/Phillips screwdriver
- Pencil
- Cutting tools

NOTE: Before securing the sensor to the ceiling, rotate the device to ensure it faces the desired direction. Refer to the "Mounting/Masking Location" and "Detection Range" sections to choose the best orientation. Avoid areas where false tripping may occur due to outside motion such as an open door. Identify and avoid areas of possible vibrations and air currents (e.g., projectors, fans, vents) and mount the sensor at least 5 feet (2 meters) away from these items.

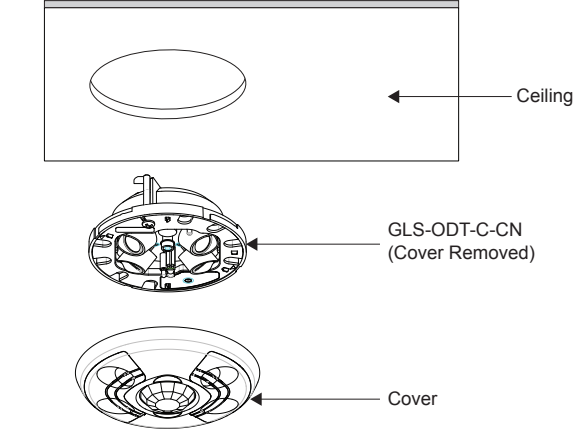
NOTE: Depending on installation requirements, the ultrasonic sensors on the GLS-ODT-C-CN can be enabled or disabled through the IR remote. The ultrasonic sensors are split into two banks—bank **A** and bank **B**—which are labeled under the cover of the sensor. If the sensor is installed and the orientation of the ultrasonic sensors is unknown, bank **A** is located on the red LED side of the sensor and bank **B** is located on the green LED side of the sensor.

Option 1. Install Into Drop Ceiling or Drywall

1. Select the location for mounting the sensor and proper masking for the application.
2. Use the supplied hole cutout template to mark the ceiling where the sensor is to be mounted.
3. Use cutting tools appropriate for the surface to create a hole in the ceiling.
4. Turn the sensor cover counterclockwise to separate it from the GLS-ODT-C-CN.

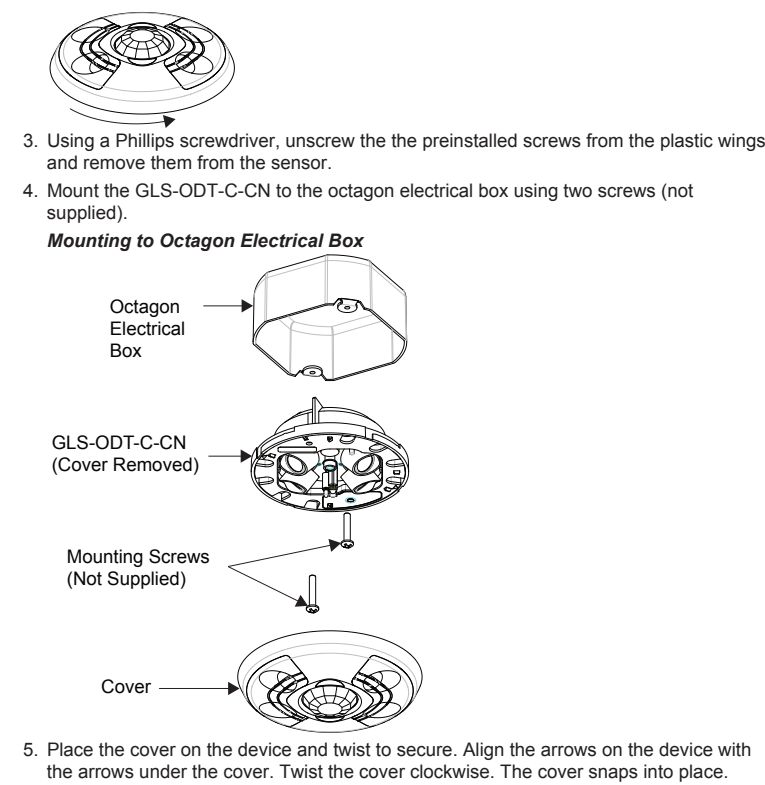


Mount GLS-ODT-C-CN to Drywall or Drop Ceiling



Option 2. Install Into Octagon Electrical Box

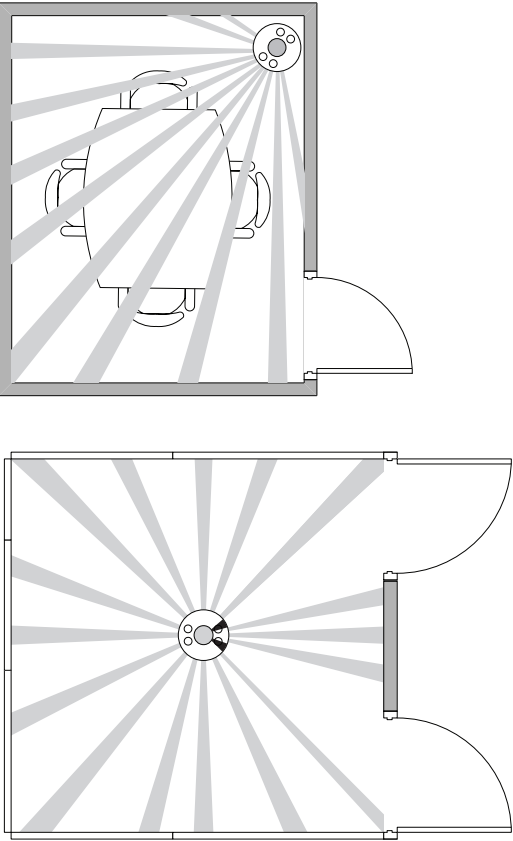
1. Select the location for mounting the sensor and proper masking for the application.
2. Turn the sensor cover counterclockwise to separate it from the device.



MOUNTING/MASKING LOCATION DIAGRAM

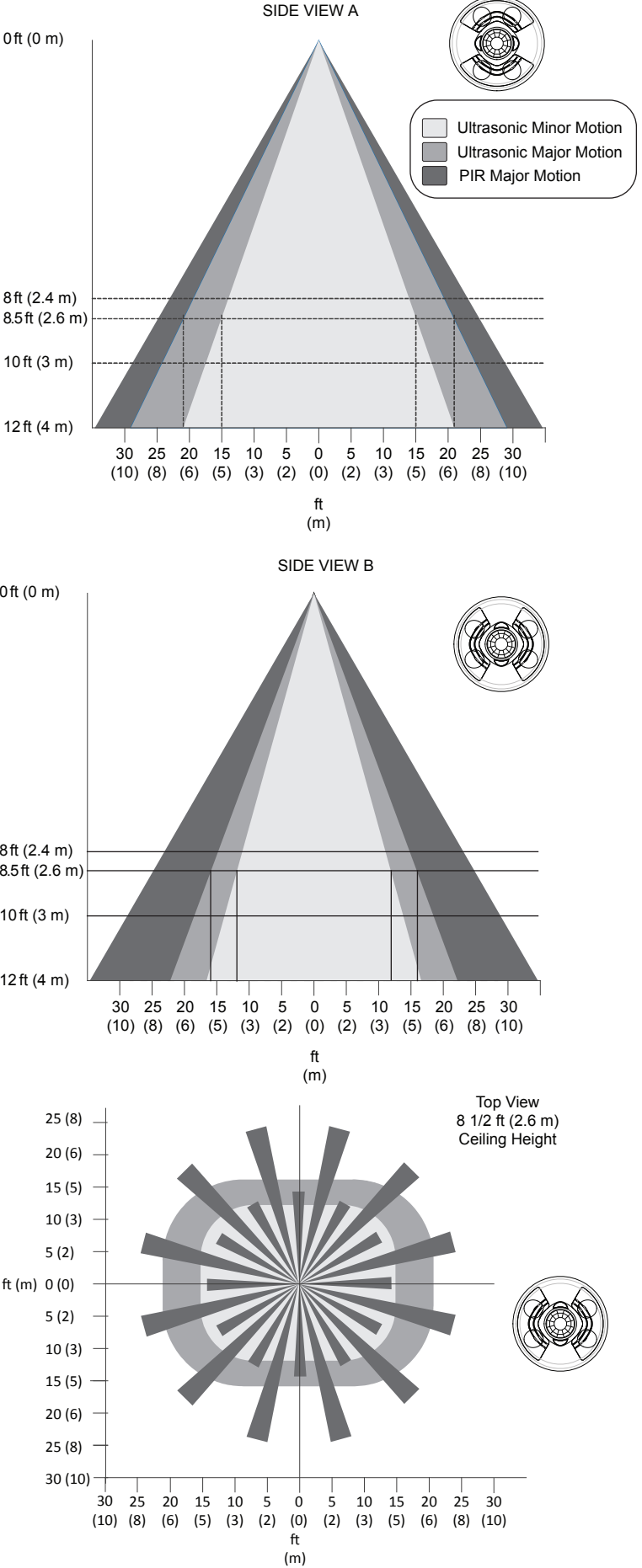
The supplied masks mount in the sensor cover to block the PIR sensor. The half mask is supplied to allow half of the sensor to be masked. The perforated mask has twelve 30° removable segments that allow masking particular areas to prevent undesirable triggers from affecting the sensor operation.

Masking is not required in the corner mounting application shown below because it cannot see through a door. By masking a portion of the sensor, traffic through a hallway can be ignored as in the second example. The following illustrations provide typical application examples.



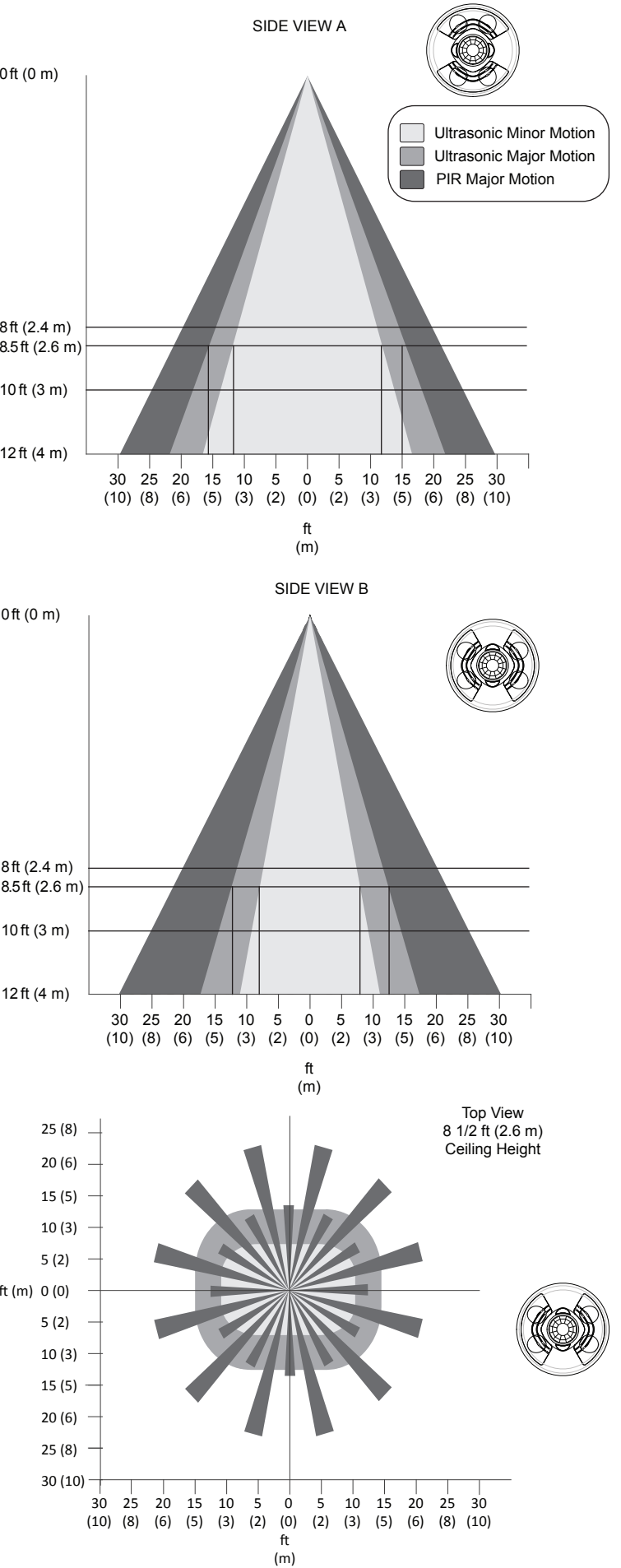
DETECTION RANGE

High Sensitivity Setting
The detection pattern for the high sensitivity setting is shown in the illustrations below. The first and second illustration show the side view of the detection range based upon the sensor orientation. The third illustration shows the detection range based on the top view of the sensor.



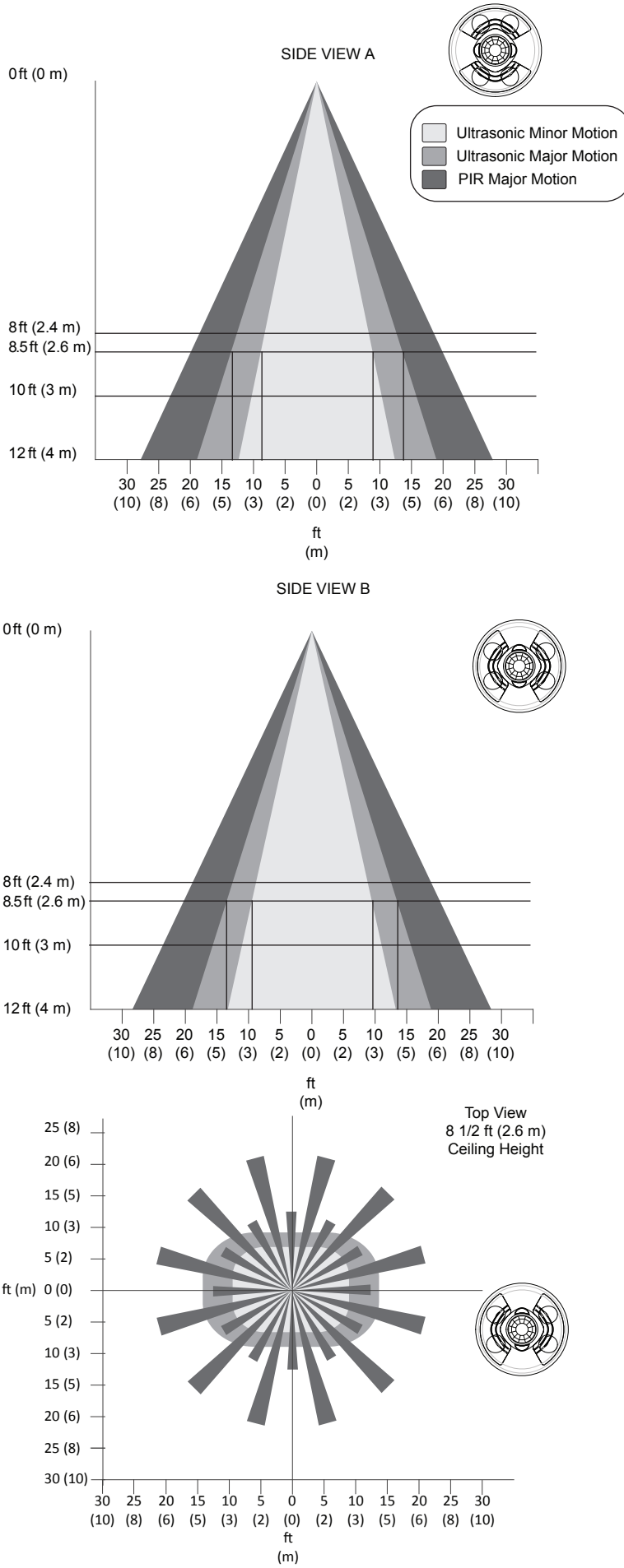
Medium Sensitivity Setting

The detection pattern for the medium sensitivity setting is shown in the illustrations below. The first and second illustration show the side view of the detection range based upon the sensor orientation. The third illustration shows the detection range based on the top view of the sensor.



Low Sensitivity Setting

The detection pattern for the low sensitivity setting is shown in the illustrations below. The first and second illustration show the side view of the detection range based upon the sensor orientation. The third illustration shows the detection range based on the top view of the sensor.



OPERATION

The descriptions below refer to a system which has been configured to turn the lights on when a room or area is occupied and turn them off when the room or area is vacated.

- Timeout** - The sensor is designed to turn the lights off if no motion is detected after a specified time. This length of time is called the delayed-off time and is set using the IR remote. The duration is the amount of time after the last instance of motion until the lights turn off.
- Short Timeout** - This walk-through feature is useful when a room is momentarily occupied. With this feature, the sensor turns the lights off shortly after the person leaves the room.
The short-timeout feature works as follows: When a person enters the room, the lights turn on. If the person leaves the room before the short-timeout threshold of 90 seconds has elapsed, the timeout reverts to 60 seconds in order to turn the lights off sooner. If the programmed timeout happens to be less than 60 seconds during normal operation, that timeout value takes precedence.
- PIR Only** - The PIR only feature allows the sensor to detect motion only with the PIR sensor.
- Ultrasonic Only** - The ultrasonic only feature allows the sensor to detect motion only with the ultrasonic sensors.
- LED Operation** - There are two LED indicators that flash when motion is detected. The LED flash can be disabled using the LED disable switch setting. Green flash indicates motion detection by ultrasonic technology. Red flash indicates motion detection by passive infrared technology.

PHOTOCELL ADJUSTMENT

The GLS-ODT-C-CN has a built in photocell that allows for complete daylight harvesting using the Crestron lighting system. Through programming, the photocell can dim lights or choose to not turn lights on at all if sufficient natural daylight is present. An external photo sensor can be connected directly to the occupancy sensor through the **EXT** port on the rear of the device to provide additional daylight harvesting capabilities.

VERIFY OPERATION

After the GLS-ODT-C-CN is installed its installation location and operation should be verified.

Confirm Installation Location

Verify the installation location by entering the room, closing any doors and sitting in the room while observing the device's LEDs. While sitting still, verify that the sensor only detects actual motion and is not affected by any projectors, fans, vents, etc. Monitor the LED activity on the device. A properly installed occupancy sensor should have no LED activity when there is no motion in the room.

Adjust Occupancy Sensitivity

NOTE: If multiple occupancy sensors are located in the same room, adjust one at a time.

- Press and hold **OCC SETUP** for 3 seconds on the IR remote to enter *Occupancy Setup* mode.
- Set the room sensitivity based on the illustrations in the "Detection Range" section on the previous page.
- Walk around the room to simulate typical room motion (e.g., sit at various places around a conference table and simulate typical motion for a conference room).
- Verify LED indication of motion (red for PIR and green for US).
- Adjust sensitivity levels, if necessary, to maintain occupancy of the room. If no motion is detected in main areas of the room, increase the sensitivity. If no motion is detected in the corners of the room, increase the timeout to allow greater chance of detecting motion.
- Repeat these steps until all expected motion is detected.

Adjust Vacancy Sensitivity

- In *Vacancy Setup* mode, verify that nothing triggers occupancy when the room is vacant. When in *Vacancy Setup* mode the occupancy sensor beeps to indicate motion. The occupancy sensor should beep when re-entering the room.
- Using the IR remote, place the sensor into vacancy setup mode by pressing the **VAC SETUP** button. Exit the room and close the door.
- Listen for beeps that indicate there is motion detected in the room.
- Walk by open door ways or entrances/exits to ensure that no false occupancies are being detected.
- If unwanted motion is detected, lower the PIR or US setting and retest.

SETUP AND CONFIGURATION

- Short Timeout** - Press **SHORT TIMEOUT - ENABLE** or **SHORT TIMEOUT - DISABLE** to enable or disable *Short Timeout* mode. Short timeout allows the timout to be set to 60 seconds when occupied for less than 90 seconds.
- LEDs** - Press **LED - ENABLE** or **LED - DISABLE** to enable or disable the LEDs of the device during normal operation.
- Timeout** - Press the desired **TIMEOUT - 30s/2m/5m/10m/15m/30m** button to set the timeout.

Setup and configuration of the GLS-ODT-C-CN is performed using the GLS-REMOTE-ODT/OIR remote. Refer to the GLS-REMOTE-ODT/OIR Operations Guide (Doc. 7541) at www.crestron.com/manuals.

NOTE: Press the setup button on the sensor to acknowledge Cresnet identification.

TROUBLESHOOTING

The following table provides corrective action for possible trouble situations. If further assistance is required, please contact a Crestron customer service representative.

TROUBLE	POSSIBLE CAUSE	CORRECTIVE ACTION
Lights do not turn on.	Circuit breaker or fuse has tripped.	Reset circuit breaker or replace fuse.
	Incorrect programming in control system.	Check control system logic or contact Crestron for assistance
	Connection on back of sensor is miswired.	Check that all Cresnet wires are wired to their respective terminals.
	Incorrect settings on device.	Increase the sensitivity to the next highest setting on the PIR, then increase the US sensors.
Lights do not turn off.	Incorrect mounting location.	Move the sensor into an area that can "see" the occupant or point of motion.
	Constant motion.	To test, reduce sensitivity level and remove motion source. If there is no change, then the mounting location must move.
	Sensor can "see" too far into hallway or other room.	To test, put the sensor into the <i>Setup</i> mode and walk by the area. If the red or green LED continues to blink, move sensor, use masks on the PIR, or disable one side of the US sensors.
	Incorrect settings on device.	Reduce the sensitivity and timeout levels one step at a time.
Lights remain on too long.	Incorrect programming in control system.	Check control system logic or contact Crestron for assistance.
	Timeout setting is too high.	Reduce the timeout one step at a time.

Return and Warranty Policies

Merchandise Returns / Repair Service

- No merchandise may be returned for credit, exchange or service without prior authorization from Crestron. To obtain warranty service for Crestron products, contact an authorized Crestron dealer. Only authorized Crestron dealers may contact the factory and request an RMA (Return Merchandise Authorization) number. Enclose a note specifying the nature of the problem, name and phone number of contact person, RMA number and return address.
- Products may be returned for credit, exchange or service with a Crestron Return Merchandise Authorization (RMA) number. Authorized returns must be shipped freight prepaid to Crestron, 6 Volvo Drive, Rockleigh, N.J. or its authorized subsidiaries, with RMA number clearly marked on the outside of all cartons. Shipments arriving freight collect or without an RMA number shall be subject to refusal. Crestron reserves the right in its sole and absolute discretion to charge a 15% restocking fee plus shipping costs on any products returned with an RMA.
- Return freight charges following repair of items under warranty shall be paid by Crestron, shipping by standard ground carrier. In the event repairs are found to be non-warranty, return freight costs shall be paid by the purchaser.

Crestron Limited Warranty

Crestron Electronics, Inc. warrants its products to be free from manufacturing defects in materials and workmanship under normal use for a period of three (3) years from the date of purchase from Crestron, with the following exceptions: disk drives and any other moving or rotating mechanical parts, pan/tilt heads and power supplies are covered for a period of one (1) year; touch screen display and overlay components are covered for 90 days; batteries and incandescent lamps are not covered.

This warranty extends to products purchased directly from Crestron or an authorized Crestron dealer. Purchasers should inquire of the dealer regarding the nature and extent of the dealer's warranty, if any.

Crestron shall not be liable to honor the terms of this warranty if the product has been used in any application other than that for which it was intended or if it has been subjected to misuse, accidental damage, modification or improper installation procedures. Furthermore, this warranty does not cover any product that has had the serial number altered, defaced or removed.

This warranty shall be the sole and exclusive remedy to the original purchaser. In no event shall Crestron be liable for incidental or consequential damages of any kind (property or economic damages inclusive) arising from the sale or use of this equipment. Crestron is not liable for any claim made by a third party or made by the purchaser for a third party.

Crestron shall, at its option, repair or replace any product found defective, without charge for parts or labor. Repaired or replaced equipment and parts supplied under this warranty shall be covered only by the unexpired portion of the warranty.

Except as expressly set forth in this warranty, Crestron makes no other warranties, expressed or implied, nor authorizes any other party to offer any warranty, including any implied warranties of merchantability or fitness for a particular purpose. Any implied warranties that may be imposed by law are limited to the terms of this limited warranty. This warranty statement supersedes all previous warranties.

The specific patents that cover Crestron products are listed at patents.crestron.com.

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