


Crestron GLS-ODT-C-NS

Dual-Technology Ceiling Mount Occupancy Sensor

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-NS, 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 website 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 end becomes brittle.

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Installation Guide - DOC. 7428A


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Specifications subject to change without notice.

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



As of the date of manufacture, the GLS-ODT-C-NS has been tested and found to comply with specifications for CE marking.



Regulatory Compliance

Federal Communications Commission (FCC) Compliance Statement
This device complies with part 15 of the FCC Rules. Operation is subject to the following 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.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada (IC) Compliance Statement
CAN ICES-3(B)/NMB-3(B)

DESCRIPTION

The Crestron® GLS-ODT-C-NS is a low-profile ceiling-mount occupancy sensor that delivers a powerful and cost-effective solution for reducing energy costs and enhancing the functionality of standalone lighting systems. It is designed for large areas up to 2,000 square feet to detect when the room is occupied, making it great for use in large spaces such as auditoriums, warehouses, and building lobbies. Dual-technology motion sensing, available with the GLS-ODT-C-NS, affords extreme reliability for control of lighting, HVAC, and other devices in the room. For power and control, the GLS-ODT-C-NS can connect directly to a GLPP, GLPAC, or GL-IPAC-SW8 (all sold separately). The GLS-SIM Sensor Integration Module (sold separately) gives the option to interface with a control system via Cresnet®.

INSTALLATION

These instructions include procedures for installation into a drop ceiling or drywall (preferred) and installation into an octagon electrical box.

NOTE: The sensor's Class 2/SELV wiring and connector need to be adequately separated from line voltage circuit conductors or uninsulated live parts of different circuits.

The following items are included with the GLS-ODT-C-NS 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:

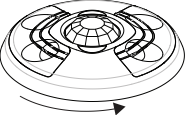
- Slotted or Phillips screwdriver
- Pencil
- Cutting tools

NOTE: Before securing the sensor to the ceiling, rotate the device to ensure it faces the desired direction. Refer to the "Mounting and Masking Location Diagram" 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-NS 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.

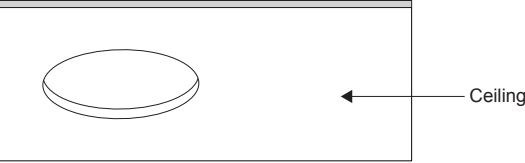
Install into a Drop Ceiling or Drywall

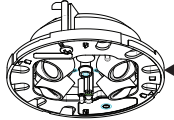
- Select the location for mounting the sensor and proper masking for the application.
- Use the supplied hole cutout template to mark the ceiling where the sensor is to be mounted.
- Use cutting tools appropriate for the surface to create a hole in the ceiling.
- Turn the sensor cover counter-clockwise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

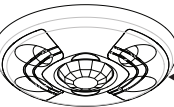


5. Place the GLS-ODT-C-NS into the hole and secure the sensor to the drywall or ceiling tile using the pre-installed screws. The pre-installed screws have plastic "wings" that secure the occupancy sensor to the ceiling. When the screws are tightened the wings open and clamp against the surface of the ceiling. Refer to the illustration below for a typical mounting scenario.

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







Ceiling

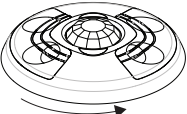
GLS-ODT-C-NS
(Cover Removed)

Cover

- Align the arrows on the device with the arrows under the cover. Place the cover on the device and twist to secure. The cover snaps into place.

Install into Octagon Electrical Box

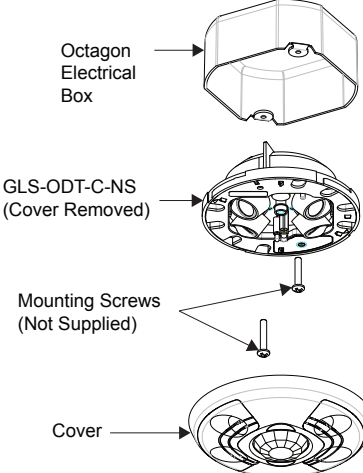
- Select the location for mounting the sensor and the proper masking for the application.
- Turn the sensor cover counter-clockwise to separate it from the device.



3. Using a Phillips screwdriver, unscrew the the pre-installed screws from the plastic wings and remove them from the sensor.

4. Mount the GLS-ODT-C-NS to the octagon electrical box using two screws (not supplied). The GLS-ODT-C-NS has several mounting holes that allow proper orientation of the sensor.

Mounting to Octagon Electrical Box



Octagon Electrical Box

GLS-ODT-C-NS
(Cover Removed)

Mounting Screws
(Not Supplied)

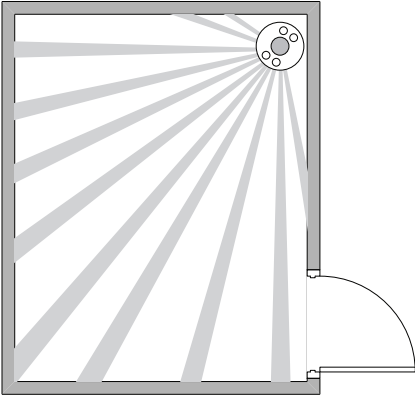
Cover

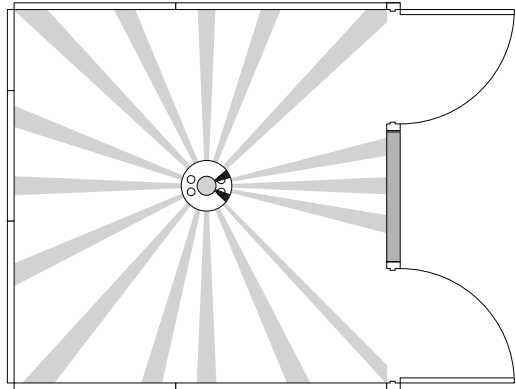
- Align the arrows on the device with the arrows under the cover. Place the cover on the device and twist to secure. The cover snaps into place.

MOUNTING AND 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 the masking of particular areas to prevent undesirable triggers from affecting the sensor operation.

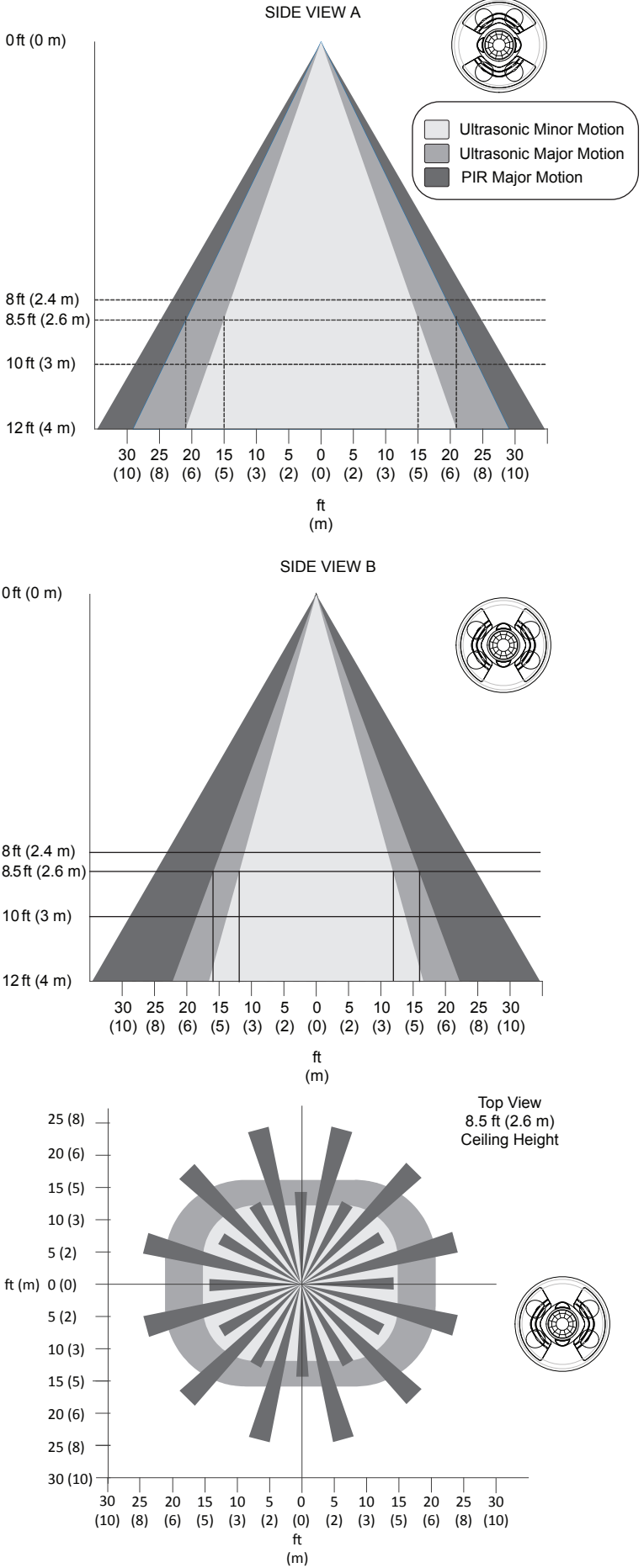
Masking is not required in the corner mounting application shown below because it cannot detect motion through a door. By masking a portion of the sensor, traffic through a hallway can be ignored as in the second example. The following illustrations provide typical application examples.





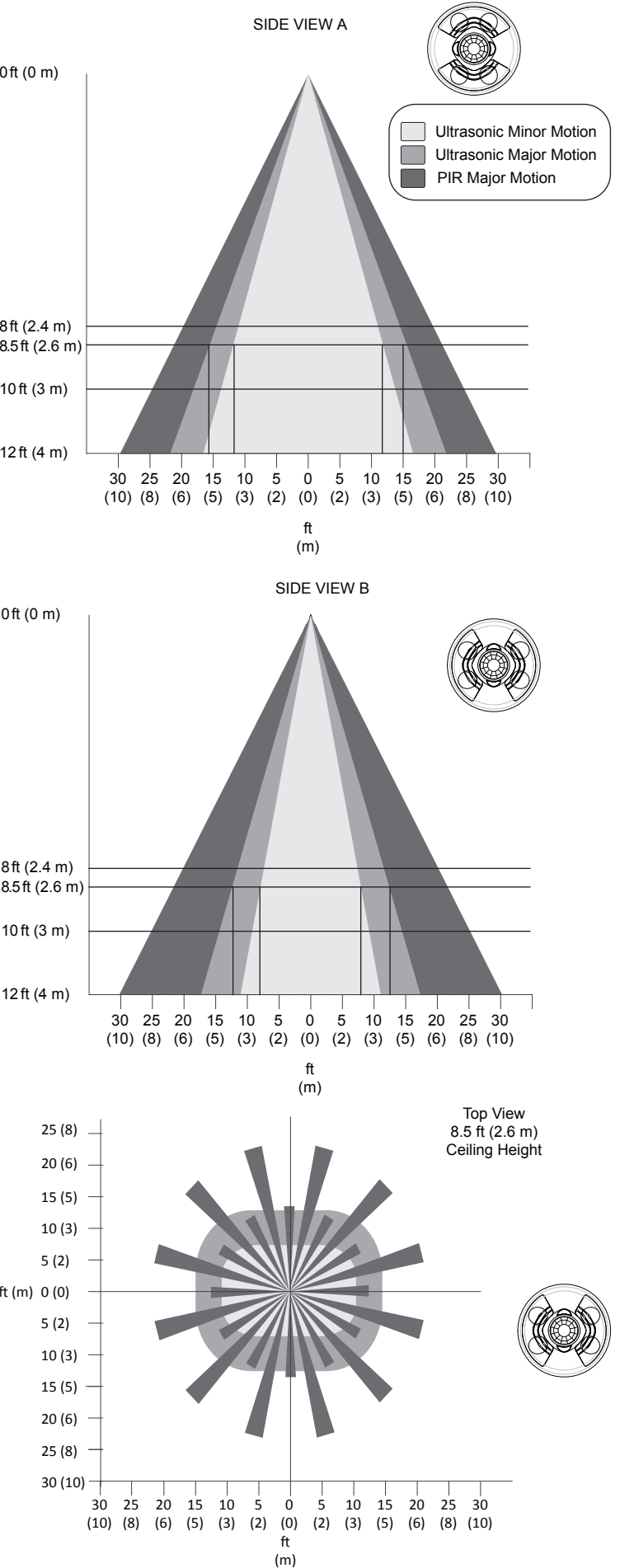
DETECTION RANGE

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 on the sensor orientation. The third illustration shows the top view of the sensor's detection range.



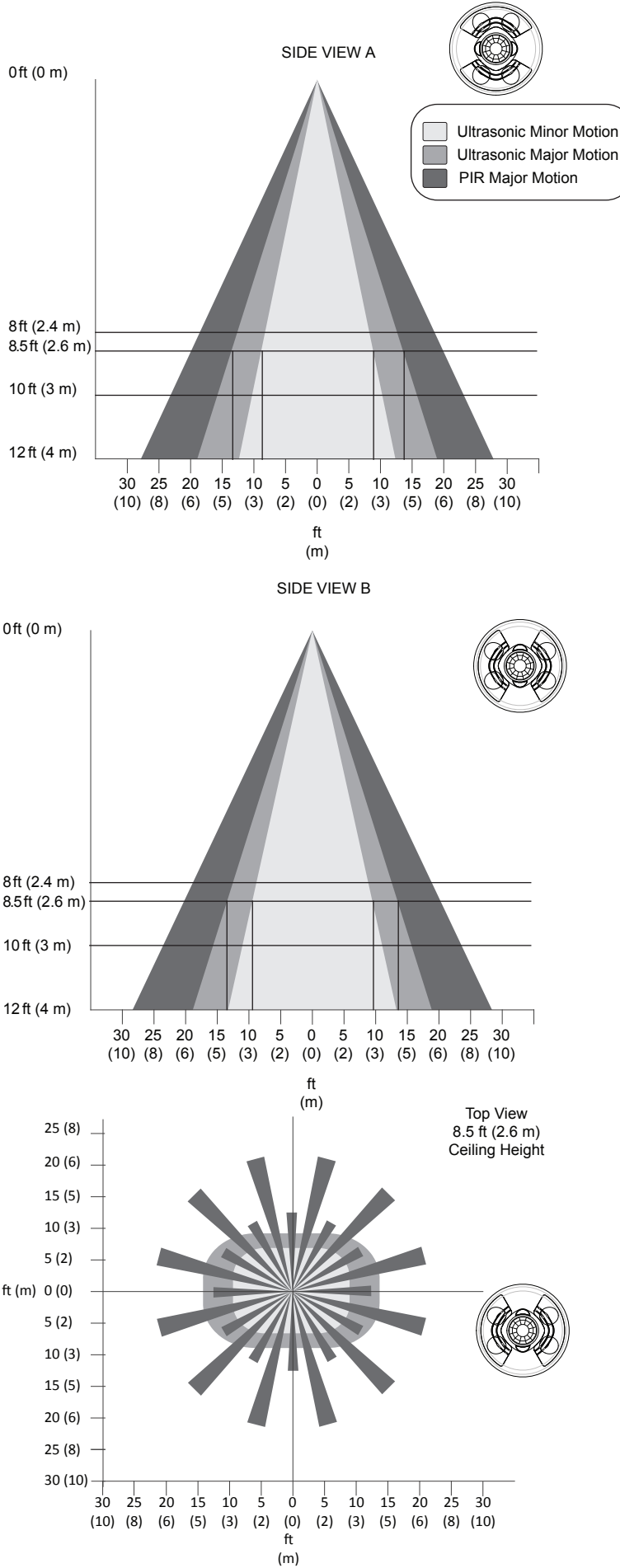
Medium Sensitivity Setting

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 on the sensor orientation. The third illustration shows the top view of the sensor's detection range.



Low Sensitivity Setting

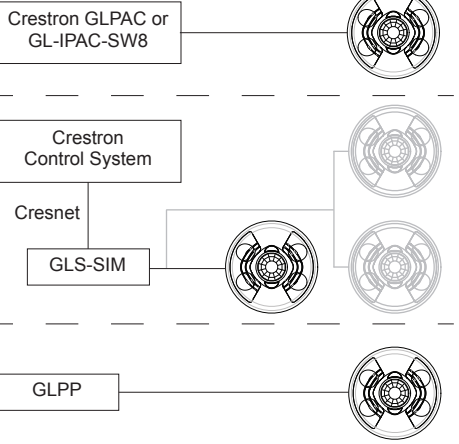
The detection pattern for the low sensitivity setting is shown in the illustrations below. The first and second illustration show the side view of the detection range based on the sensor orientation. The third illustration shows the top view of the sensor's detection range.



TYPICAL WIRING DIAGRAMS

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

Wiring the GLS-ODT-C-NS



Wiring the 5-Pin Connector

- **24V** connects to 24 V power from control system, GLPP, GLPAC, GLS-SIM, or GL-IPAC-SW8.
- **OCC** connects to occupancy sensor port from control system, GLPP, GLPAC, GLS-SIM, or GL-IPAC-SW8.
- **N/C** has no connection.
- **GND** connects to ground from control system, GLPP, GLPAC, GLS-SIM, or GL-IPAC-SW8.
- **IR** connects to IR on GLPP for programming the GLPP without additional IR sensor.

OPERATION

The descriptions below refer to a system that 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. The GLS-ODT-C-NS establishes occupancy when both the US and PIR technologies sense occupancy. The GLS-ODT-C-NS maintains occupancy when either the US or PIR technologies detect motion. The GLS-ODT-C-NS establishes vacancy when both the US and PIR technologies sense vacancy and the timeout expires. Setup and configuration of the GLS-ODT-C-NS 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.

- The timeout settings allow the sensor 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* mode allows the timeout to be set to 60 seconds when the space is occupied for less than 90 seconds. This creates a walk-through feature that is useful when a room is momentarily occupied. Short timeout allows the sensor to turn 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.

VERIFY OPERATION

After the GLS-ODT-C-NS is installed, verify its installation location and operation.

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.

1. Press and hold **OCC SETUP** for 3 seconds on the IR remote to enter *Occupancy Setup* mode.
2. Set the room sensitivity based on the illustrations in the "Detection Range" section on the previous page.
3. 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).
4. Verify LED indication of motion (red for PIR and green for US).
5. 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.
6. Repeat these steps until all expected motion is detected.

Adjust Vacancy Sensitivity

1. Use the *Vacancy Setup* mode to 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.
2. Using the IR remote, place the sensor into *Vacancy Setup* mode by pressing the **VAC SETUP** button. Exit the room and close the door.
3. Listen for the beeps that indicate that motion is detected in the room.
4. Walk by doorways and other openings to ensure that no false occupancies are being detected.
5. If unwanted motion is detected, lower the PIR or US setting and retest.

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 the circuit breaker or replace the fuse.
	The control system program is incorrect.	Check the control system logic or contact Crestron for assistance.
	The 5-pin connector on the back of the sensor is miswired.	Verify that all of the wires are connected to the correct terminals.
	Settings are incorrect.	Increase the sensitivity of the PIR to the next highest setting. If increasing the sensitivity of the PIR does not correct the problem then increase the sensitivity of the US sensors.
	The mounting location is incorrect.	Move the sensor into an area of the room where it can detect occupancy.
Lights do not turn off.	Constant motion is being detected.	Verify that constant motion is being detected by reducing the sensitivity levels and removing any motion source. If there is no change, then the mounting location must move.
	Sensor can detect motion in hallway or other adjacent room.	Verify that the motion is being detected by putting the sensor into <i>Setup</i> mode and walk by the area. If the red or green LED blinks, move the sensor, use masks on the PIR, or disable one side of the US sensors.
	Settings are incorrect.	Reduce the sensitivity and timeout levels one step at a time.
	The control system program is incorrect.	Check control system logic or contact Crestron for assistance.
Lights remain on too long.	The timeout setting is too high.	Reduce the timeout one step at a time.

RETURN AND WARRANTY POLICIES

Merchandise Returns / Repair Service

1. 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.
2. 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.
3. 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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