



CEN-ODT-C-POE
Dual-Technology Occupancy Sensor, PoE,
2,000 Sq Ft

Supplemental Guide
Crestron Electronics, Inc.

Original Instructions

The U.S. English version of this document is the original instructions.
All other languages are a translation of the original instructions.

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Introduction

The Crestron® CEN-ODT-C-POE is a low-profile, ceiling-mounted occupancy sensor that features passive infrared (PIR) and ultrasonic (US) motion detection technology.

The CEN-ODT-C-POE is designed for areas up to 2,000 square feet, making it great for use in large spaces such as auditoriums, warehouses, and building lobbies. It is an effective solution for reducing energy consumption and enhancing the functionality of lighting and environmental systems.

A single-wire Ethernet connection allows the CEN-ODT-C-POE to report to the Crestron XiO Cloud™ service when no control system is in place. Crestron XiO Cloud integration allows for device configuration, occupancy status reporting, and online/offline status.

Dual-Technology Occupancy Sensing

Achieving consistent and dependable occupancy sensing is accomplished using a combination of ultrasonic (US) and passive infrared (PIR) sensing technologies. Ultrasonic motion detection is highly sensitive to small movements over a large area, while passive infrared sensing ensures superior immunity to false triggers from vibrations, inanimate objects, or movement in an adjacent corridor.

Ultrasonic motion detection can be turned on for Side A, Side B, or both sides of the occupancy sensor to avoid false occupancy readings when the sensor is facing a hallway or doorway. The CEN-ODT-C-POE provides independent sensitivity adjustment for each sensor type for optimum performance in any space.

Ambient Light Recognition

A built-in photosensor detects the amount of ambient light in the room. When enabled, the photosensor can override the occupancy sensor's signal to turn on the lights if the ambient light level is above a set threshold, preventing lights from turning on when there is sufficient daylight in the room and also performing daylight harvesting and dimming when appropriate. Programming logic must be included to utilize this override feature.

Crestron XiO Cloud™ Service

The CEN-ODT-C-POE is compatible with the Crestron XiO Cloud™ service, which is an IoT (Internet of Things) based platform for remotely provisioning, monitoring, and managing Crestron devices across an enterprise or an entire client base. Built on the Microsoft® Azure® software platform and utilizing Microsoft's industry leading Azure IoT Hub technology, Crestron XiO Cloud enables installers and IT managers to deploy and manage thousands of devices in the time it previously took to manage just one. Unlike other virtual machine based cloud solutions, Azure services provide unlimited scalability to suit the ever growing needs of an enterprise. For more information, visit www.crestron.com/xiocloud.

Enterprise-Grade Security

Crestron employs enterprise-grade networking with robust security features such as 802.1X authentication, TLS encryption, HTTPS connectivity, and Active Directory® service integration. These features are imperative to protect your network against service interruptions and malicious intrusions, and to ensure compliance with your organization's network policies. Cloud-based provisioning and management streamlines the process of configuring, monitoring, and updating every device on the network. Additional support for SNMP allows Crestron devices to be monitored by your IT administrator alongside other devices on the network.

Walk-Through Mode

Walk-through mode prevents the lights from remaining on for a long period when someone quickly enters and then leaves a room. The sensor enters walk-through mode when it detects occupancy for less than 90 seconds. When walk-through mode is activated, the sensor indicates that the room is vacant after 60 seconds.

Grace Occupancy Feature

When the lights turn off in a room programmed to vacancy only mode, a 15 second grace period starts during which the room lights can be turned on again by simply waving a hand to trigger the sensor.

Versatile Installation

The CEN-ODT-C-POE achieves a discreet, nearly hidden appearance when installed on a typical drywall or droptile ceiling. Hardware is included for fast and simple mounting in a standard 4 in. octagon box or in a hole created with the help of the provided cutout template.

Power over Ethernet

Using PoE technology (802.3af), the CEN-ODT-C-POE gets its operating power through the LAN wiring from a PoE power source ([PWE-4803RU](#), [CEN-SW-POE-5](#), or [CEN-SWPOE-16](#), all sold separately).

Product Features

Refer to the following chart to determine the product features that are available on Crestron® occupancy sensors.

Occupancy Sensor Feature Chart

	CEN-ODT-C-POE	GLS-ODT-C-CN	GLS-OIR-C-CN	GLS-OIR-CSM-EX-BATT
Passive IR (PIR) Sensor	Yes	Yes	Yes	Yes
Ultrasonic Sensor	Yes	Yes	No	No
Ambient Light Sensor	Yes	Yes	Yes	No
Coverage Area	2,000 sq ft	2,000 sq ft	2,000 sq ft	500 sq ft
Grace Occupancy	Yes	Yes	Yes	Yes
Cresnet® Communication	No	Yes	Yes	No
infiNET EX® Communication	No	No	No	Yes
Ethernet Communication	Yes	No	No	No
Crestron XiO Cloud™ Service	Yes	No	No	No

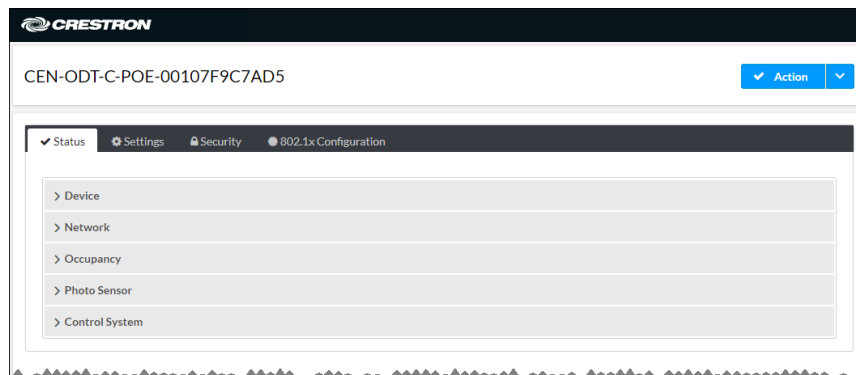
Configure the CEN-ODT-C-POE

The occupancy sensor may also be monitored and configured using the included web configuration interface. The configuration interface is accessible from a web browser if the IP address of the occupancy sensor is known. This interface is also accessible using the Crestron XiO Cloud™ service.

To access the web configuration interface:

1. Open a web browser.
2. Enter the CEN-ODT-C-POE's IP address into the browser URL field. The configuration interface is displayed.

NOTE: If authentication is enabled for the occupancy sensor, an administrator username and password must be entered prior to accessing the web configuration interface. For more information on configuring authentication settings, refer to [Security \(on page 19\)](#).

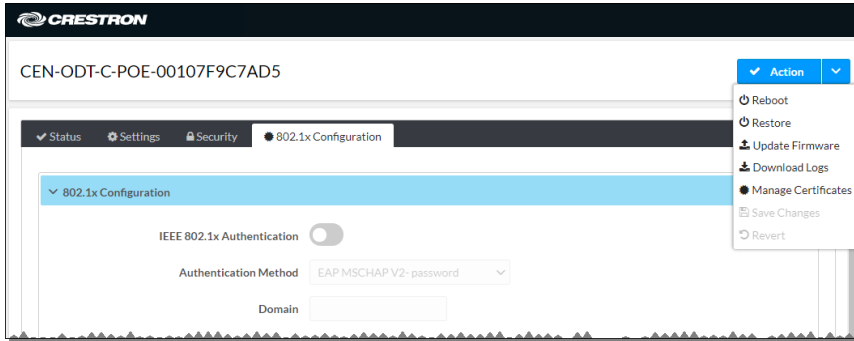


3. The web configuration interface provides tabs for **Status**, **Settings**, **Security**, and **802.1x Configuration**.

NOTE: The **Status** tab is the default tab that is displayed.

Actions Menu

The configuration interface provides an **Actions** drop-down menu on the top right of the page. The **Actions** drop-down menu provides access to the **Reboot**, **Restore**, **Update Firmware**, **Download Logs**, and **Manage Certificates** functions. It also provides the ability to **Save** and **Revert** changes that are made in the web configuration interface.



Reboot

Click **Reboot** to reboot the CEN-ODT-C-POE.

After **Reboot** is selected, a dialog box is displayed asking whether the CEN-ODT-C-POE should be rebooted. Select **Yes** to reboot the device or **No** to cancel the reboot.

Restore

Click **Restore** to factory reset the CEN-ODT-C-POE and restore the default settings.

After **Restore** is selected a dialog box is displayed asking whether the device settings should be restored. Select **Yes** to restore the settings or **No** to cancel the restore.

Update Firmware

Click **Firmware Upgrade** to upgrade the CEN-ODT-C-POE firmware with a downloaded PUF (package update file).The **Firmware Upgrade** dialog box opens.

To upload a firmware PUF through the web configuration interface:

NOTE: Visit www.crestron.com/firmware to download the latest firmware PUF.

1. Click **Browse**, and then navigate to the firmware PUF on the host computer.
2. Select the firmware PUF, and then click **Open**.
3. Click **Load** to load the PUF to the CEN-ODT-C-POE. The upload progress is shown in the dialog box.
4. Once the CEN-ODT-C-POE has completed the firmware upgrade, click **OK**.

Click the **x** button to close the **Firmware Upgrade** dialog box at any time during the upgrade process. Clicking the **x** button before the PUF is uploaded to the CEN-ODT-C-POE cancels the upgrade.

Download Logs

Click **Download Logs** to download the CEN-ODT-C-POE message logs for diagnostic purposes. The message files download as a compressed .tgz file. Once the compressed file is downloaded, extract the message log files to view them.

Manage Certificates

Click **Manage Certificates** to add or remove root, intermediate, machine and web server certificates.

To add a certificate:

1. Click the **Root**, **Intermediate**, **Machine**, or **Web Server** tab and then the **Add Root Certificate**, **Add Intermediate Certificate**, **Add Machine Certificate** button
2. Click **Browse**, and then navigate to the certificate on the host computer.
3. Select the certificate, and then click **Open**.
4. Once the CEN-ODT-C-POE has uploaded the certificate, click **OK**.

Click the **x** button to close the **Add Certificate** dialog box at any time during the upload process. Clicking the **x** button before the certificate is uploaded to the CEN-ODT-C-POE cancels the upload.

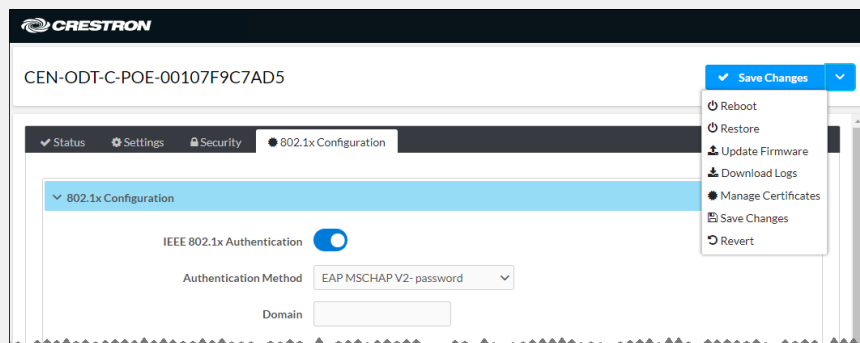
To delete a certificate:

1. Click the **Root**, **Intermediate**, **Machine**, or **Web Server** tab and then **Add Root Certificate**, **Add Intermediate Certificate**, **Add Machine Certificate** button.
2. Click **Delete**. The **Delete Certificate** dialog box is displayed asking whether certificate should be deleted.
3. Select **Yes** to delete the certificate or **No** to keep the certificate.

Save Changes

Changes made using the web configuration interface do not take place until they are saved. Click **Save Changes** to save any changes made to the configuration settings.

NOTE: The **Actions** menu text changes to **Save Changes** when a configuration setting is changed on the CEN-ODT-C-POE. Click **Save Changes** to save the current configuration.



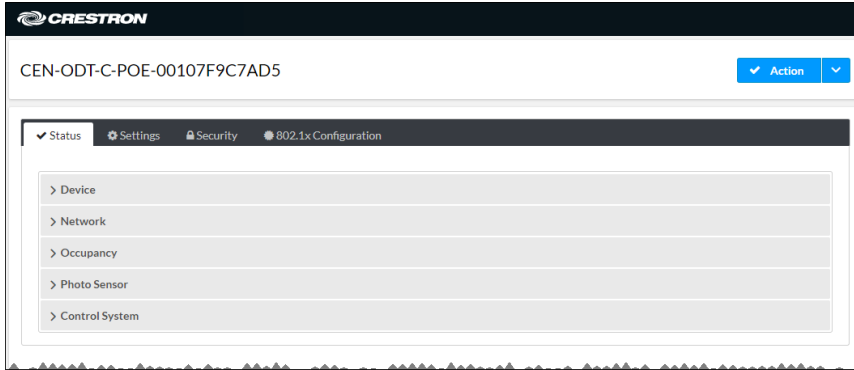
Revert

Changes made using the web configuration interface do not take place until they are saved. Click **Revert** to discard unsaved changes and display the current settings from the CEN-ODT-C-POE.

Status

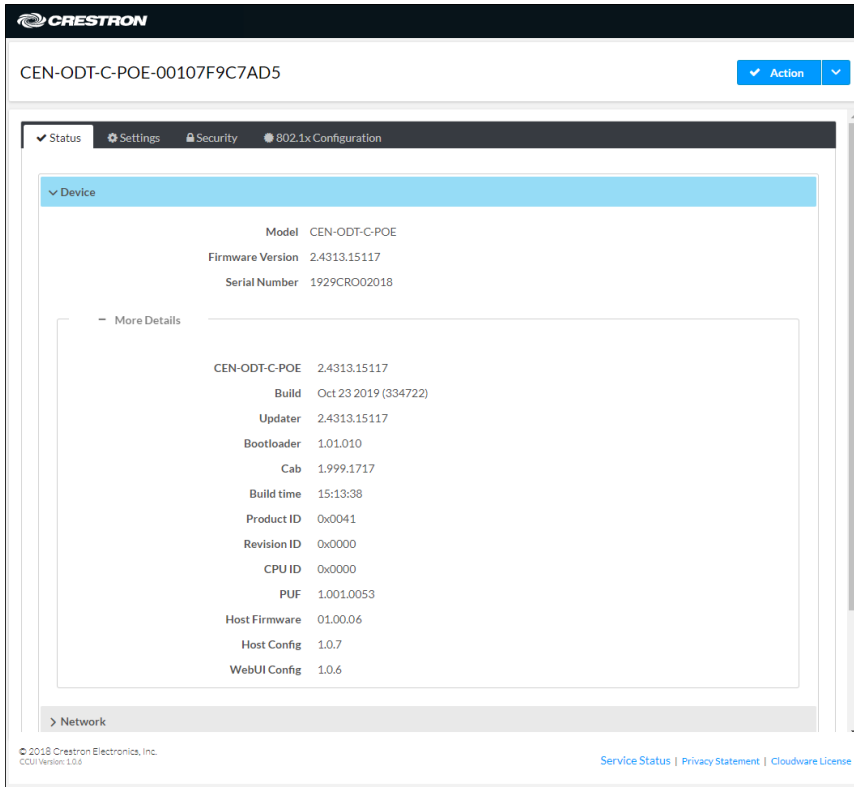
Click the **Status** tab on the top left of the configuration interface to display selections for viewing the status of device settings and network settings.

Click on a selection name to expand the selection. Click the selection name again to collapse the section.



Device

Click **Device** to view device information.



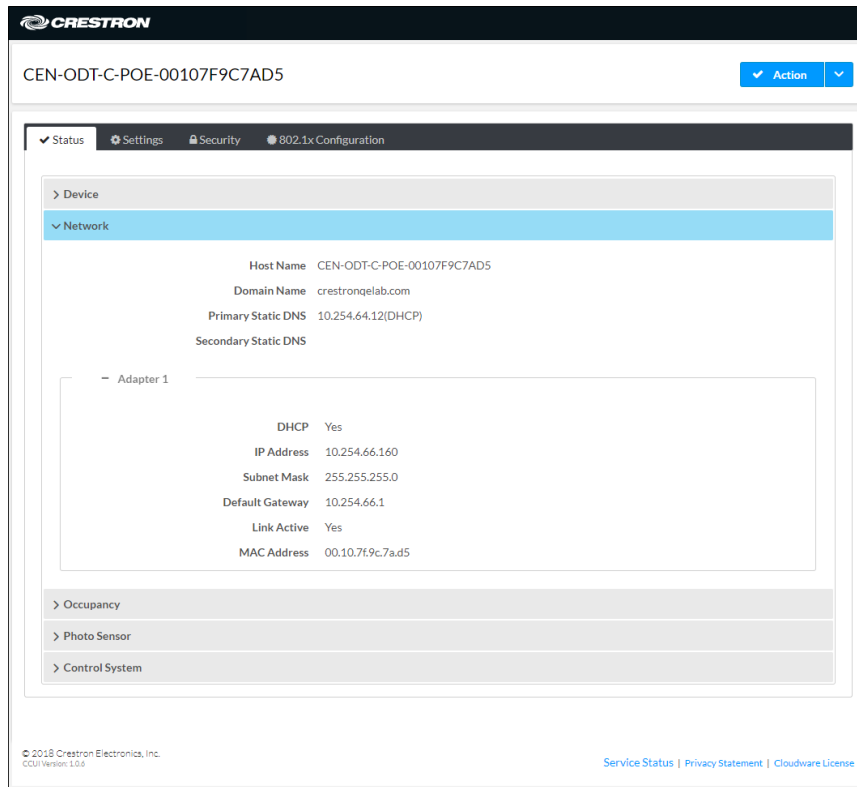
The following **Device** information is displayed:

- **Model:** The occupancy sensor model name.
- **Firmware Version:** The firmware version loaded onto the occupancy sensor.
- **Serial Number:** The occupancy sensor serial number.

Click **+ More Details** at the bottom of the **Device** tab to display an expanded section that shows additional occupancy sensor information (for Crestron internal use only). Click **- Less Details** to collapse the section.

Network

Click **Network** to view the status of the network settings for the occupancy sensor.



The following **Network** information is displayed:

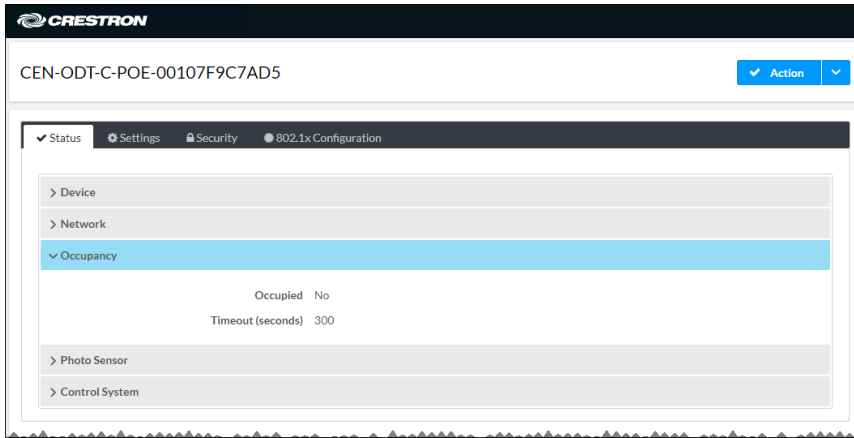
- **Host Name:** The occupancy sensor hostname.
- **Domain Name:** The occupancy sensor domain name.
- **Primary Static DNS:** The primary DNS (domain name server) addresses used to resolve the occupancy sensor domain to an IP address.
- **Secondary Static DNS:** The secondary DNS (domain name server) addresses used to resolve the occupancy sensor domain to an IP address.
- **DHCP:** Reports whether the IP address is static (Yes) or dynamic (No).
- **IP Address:** The occupancy sensor IP address.
- **Subnet Mask:** The occupancy sensor subnet mask address.
- **Default Gateway:** The gateway router address.

- **Link Active:** Reports the status of the Ethernet connection. **Yes** indicates that the Ethernet connection is active and **No** indicates that the Ethernet connection is inactive.
- **MAC Address:** The unique occupancy sensor MAC (media access control) address.

For more information on configuring network settings, refer to [System Setup \(on page 13\)](#).

Occupancy

Click **Occupancy** to view the occupancy status of the room.

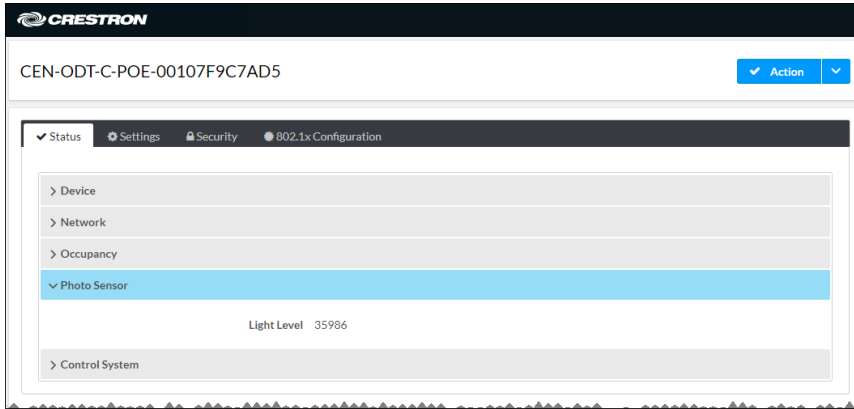


The following **Occupancy** information is displayed:

- **Occupied:** Reports the occupancy status of the room. **Yes** indicates that the room is occupied and **No** indicates that the room is vacant.
- **Timeout (seconds):** The timeout setting for the occupancy sensor.

Photo Sensor

Click **Photo Sensor** to view the light level in the room.

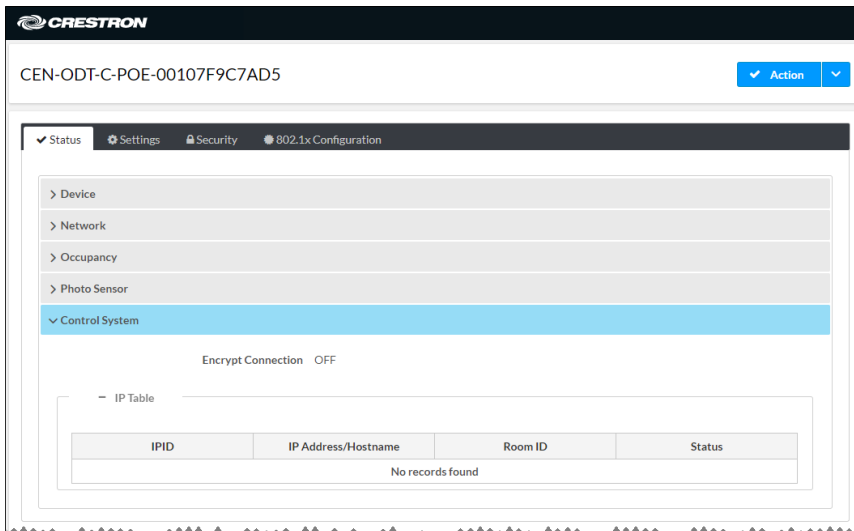


The following **Photo Sensor** information is displayed:

- **Light Level:** Reports the light level in the room as determined by the internal photo sensor. The light level is scaled linearly from 0 to 65535.

Control System

Click **Control System** to view the control system connection.



The following **Control System** information is displayed:

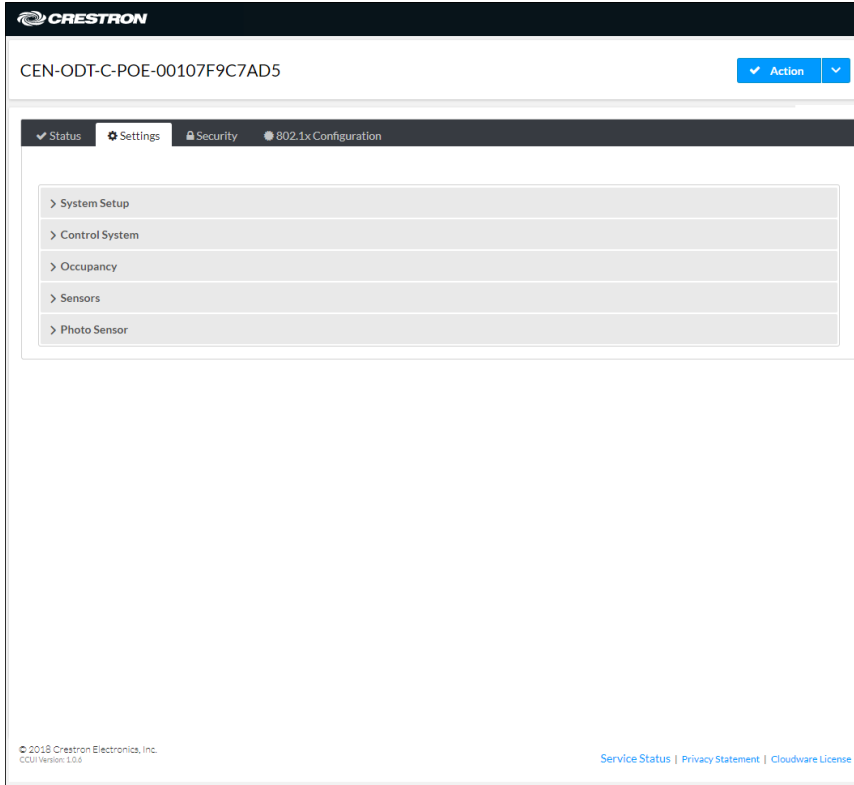
- **Encrypt Connection:** Reports the encryption status between the occupancy sensor and the control system. **Yes** indicates that encryption is enabled and **No** indicates that encryption is disabled.

Click **+ IP Table** at the bottom of the **Control System** tab to display the IP table for the control system. Click **- IP Table** to collapse the section.

Settings

Click the **Settings** tab on the top left of the configuration interface to display selections for configuring various occupancy sensor settings.

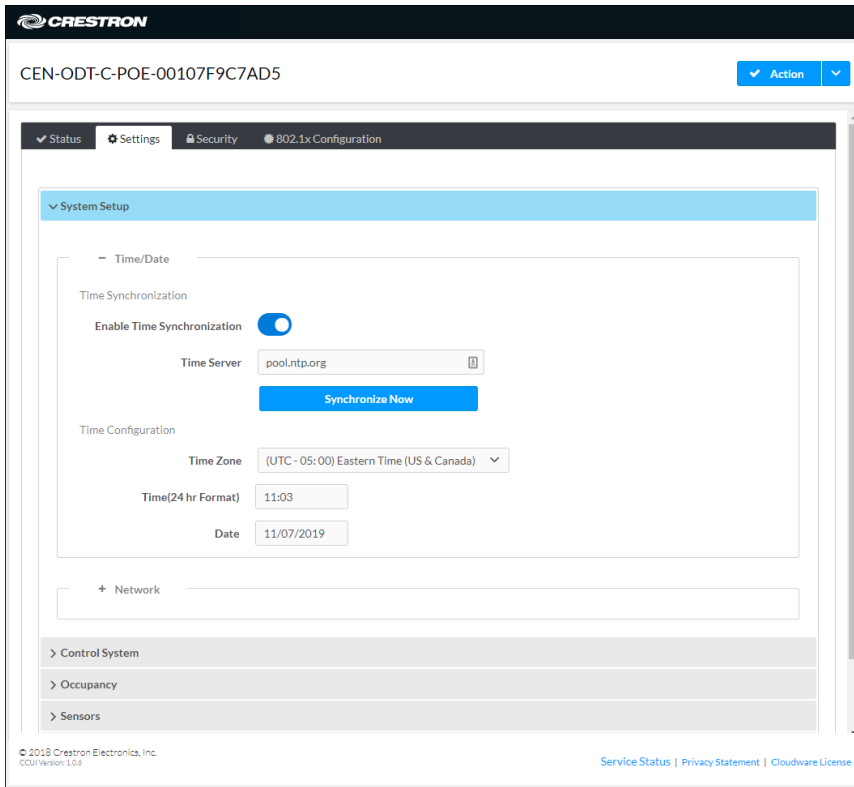
Click on a selection name to expand the selection. Click the selection name again to collapse the section.



System Setup

Click **System Setup** to configure date and time settings and network settings for the occupancy sensor.

Click **+ Time/Date** at the bottom of the **System Setup** tab to display the date and time settings for the occupancy sensor. Click **- Time/Date** to collapse the section.



The following **Time/Date** information is displayed:

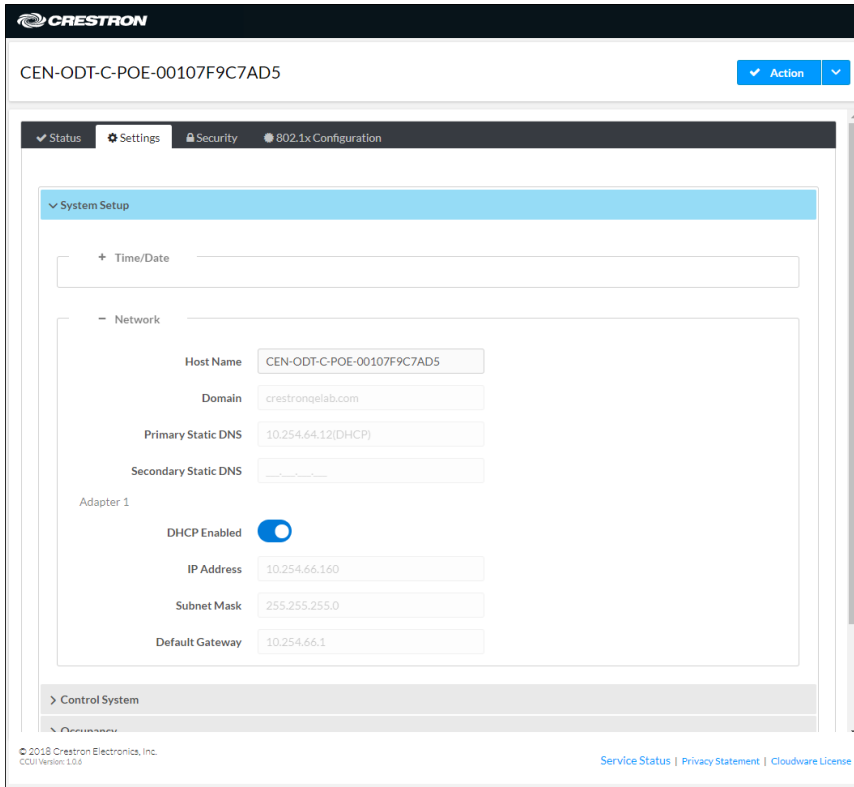
Time Synchronization:

- **Enable Time Synchronization:** Toggle the switch to turn time synchronization via SNTP (Simple Network Time Protocol) on or off. When set to on, the **Time Server** and **Synchronize Now** options become available.
- **Time Server:** Enter the SNTP server used to synchronize the date and time for the occupancy sensor.
- **Synchronize Now:** Click **Synchronize Now** to synchronize the occupancy sensor with the SNTP server entered for Time Server.

Time Configuration:

- **Time Zone:** Select a time zone for the occupancy sensor using the drop-down menu.
- **Time(24hr Format):** Select the time for the occupancy sensor (in 24-hour format) using the pop-up menu that is displayed.
- **Date:** Select the date for the occupancy sensor using the pop-up calendar that is displayed.

Click **+ Network** at the bottom of the **System Setup** tab to display the date and time settings for the occupancy sensor. Click **- Network** to collapse the section.



The following **Network** information is displayed:

NOTE: The **IP Address**, **Subnet Mask**, and **Default Gateway** fields are required only if DHCP is set to Disabled.

- **Host Name:** Enter the occupancy sensor's hostname.
- **Domain Name:** Enter the fully qualified domain name on the network.
- **Primary Static DNS:** Enter the primary DNS address used to resolve the domain name to an IP address.
- **Secondary Static DNS:** Enter the secondary DNS address used to resolve the domain name to an IP address if the primary DNS fails.
- **DHCP:** Toggle the switch to enable or disable using DHCP.

NOTE: If DHCP is enabled, IP does not function until a reply has been received from the server. The occupancy sensor broadcasts requests for an IP address periodically.

- **IP Address:** Enter the occupancy sensor's IP address on the network. Valid IP addresses consist of four octets, 0 to 255, separated by periods.
- **Subnet Mask:** Enter the occupancy sensor's subnet mask address on the network.
- **Default Gateway:** Enter the gateway router address on the network.

Control System

Click **Control System** to connect the occupancy sensor to a control system and to view the IP table of the control system.

NOTE: The CEN-ODT-C-POE must be part of the control system before it can be added to the control system.

The screenshot shows the Crestron web interface for the device CEN-ODT-C-POE-00107F9C7AD5. The main content area is titled 'Control System' and contains the following elements:

- Encrypt Connection:** A checkbox that is currently unchecked.
- Control System Username:** A text input field.
- Control System Password:** A text input field.
- IP Table:** A section with a table header containing 'IPID', 'IP Address/Hostname', and 'Room ID'. The table body is empty with the text 'No records found'. Below the table are '+ Add' and '- Remove' buttons.

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The following **Control System** information is displayed:

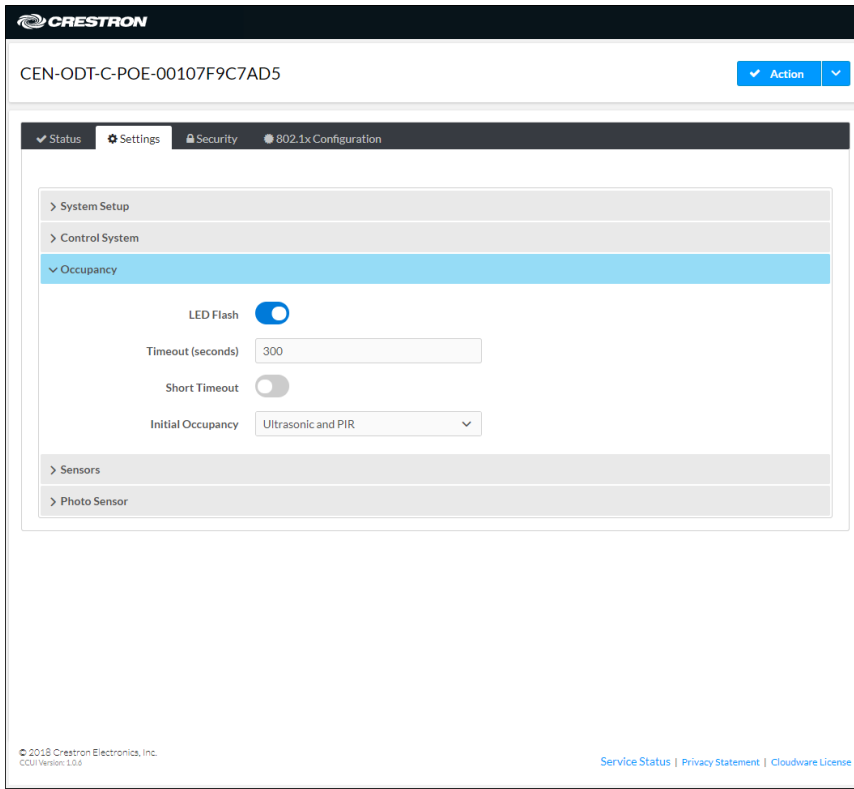
- **Encrypt Connection:** Click the check box to enable entry of the control system username and password.
- **Control System Username:** Enter the control system username.
- **Control System Password:** Enter the control system password.

Click **+ IP Table** at the bottom of the **Control System** tab to display the IP table for the control system. Click **+ Add** and then enter the IP address of the control system.

Click **- IP Table** to collapse the section.

Occupancy

Click **Occupancy** to configure the occupancy sensor settings.

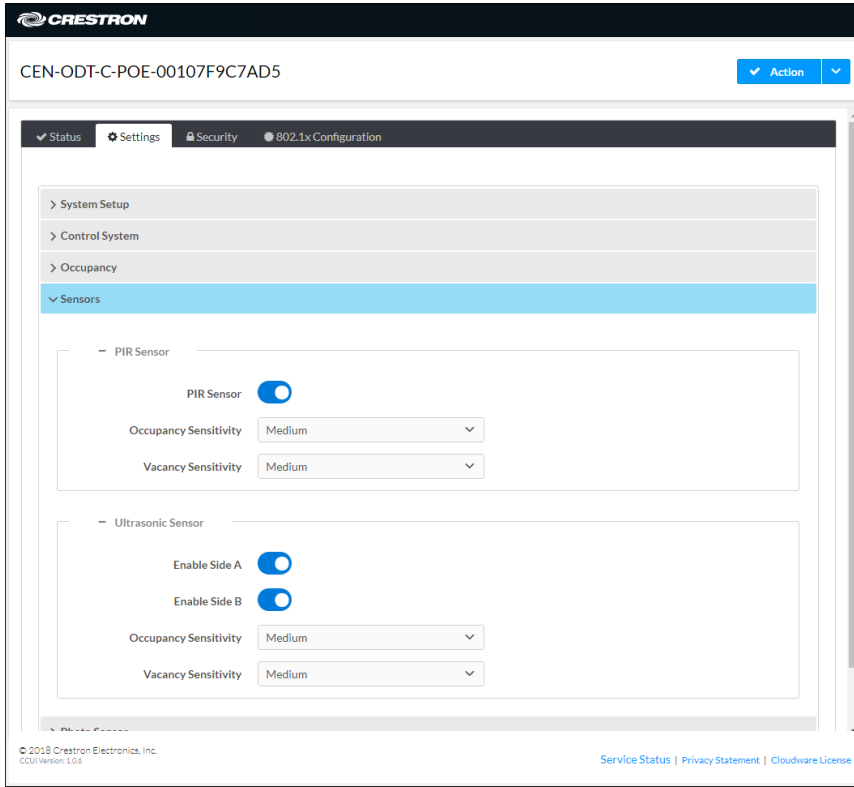


The following **Occupancy** information is displayed:

- **LED Flash:** Toggle the switch to enable or disable the LEDs on the occupancy sensor. The red LED turns on as the PIR sensor detects motion, and the green LED turns on when an ultrasonic sensor detects motion.
- **Timeout (seconds):** The length of time that must pass without the occupancy sensor detecting motion before it determines that the room is vacant. If the occupancy sensor detects motion during the timeout period, the occupancy sensor determines that the room is still occupied. The timeout duration can be set from 5 seconds to 1,800 seconds.
- **Short Timeout:** Toggle the switch to enable a “walk-through” mode for a shorter timeout upon periods of minimal occupancy. If the room is occupied for less than 90 seconds, the timeout will revert to 60 seconds. If the normally programmed timeout is set less than 60 seconds, that timeout will take precedence. This is useful for rooms with normally a long timeout setting, so if the room is entered for a short period of time, and occupancy is triggered, the lights do not remain on for a longer period than needed.
- **Initial Occupancy:** Select how the occupancy sensor determines that the room is occupied when it is in the vacant state. Select **Ultrasonic and PIR** if both the ultrasonic and PIR sensors are needed to detect motion and determine that the room is occupied or **Ultrasonic or PIR** if only one sensor is needed.

Sensors

Click **Sensors** to configure the PIR and ultrasonic sensors.

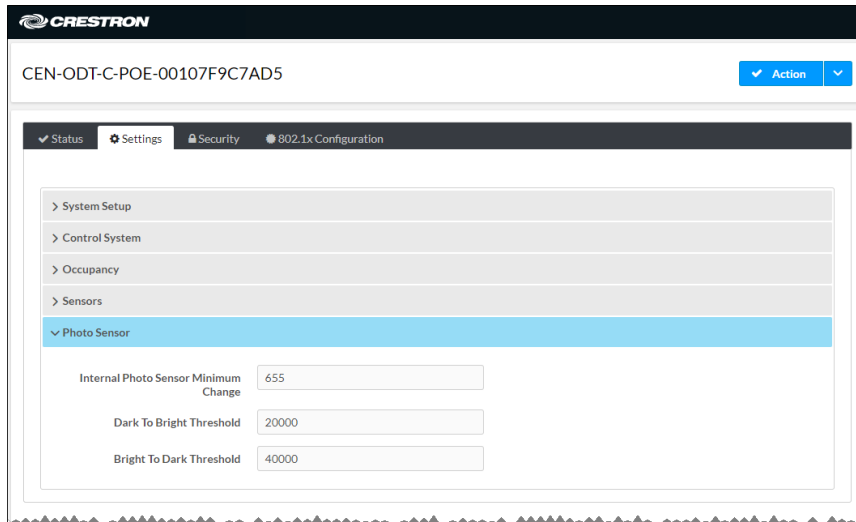


The following **Sensors** information is displayed:

- **PIR Sensor:** Configures the PIR sensor.
 - **PIR Sensor:** Toggle the switch to enable or disable the PIR sensor.
 - **Occupancy Sensitivity:** Sensitivity level for the PIR sensor while the occupancy sensor is in an occupied state.
 - **Vacancy Sensitivity:** Sensitivity level for the PIR sensor while the occupancy sensor is in a vacant state.
- **Ultrasonic Sensor:** Configures the ultrasonic sensor.
 - **Enable Side A:** Toggle the switch to enable or disable side A of the ultrasonic sensor. Side A is where the majority of the red LED is shown through the dome and is also identified on the back-housing plastic rim.
 - **Enable Side B:** Toggle the switch to enable or disable side B of the ultrasonic sensor. Side B is where the majority of the green LED is shown through the dome and is also identified on the back-housing plastic rim.
 - **Occupancy Sensitivity:** Sensitivity level for the ultrasonic sensor while the occupancy sensor is in an occupied state.
 - **Vacancy Sensitivity:** Sensitivity level for the ultrasonic sensor while the occupancy sensor is in a vacant state.

Photo Sensor

Click **Photo Sensor** to configure the photocell.

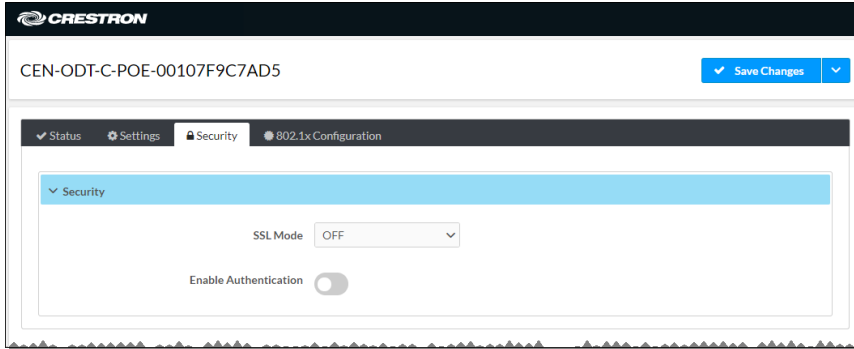


The following **Photo Sensor** information is displayed:

- **Internal Photo Sensor Minimum Change:** The minimum change that the photo sensor must sense before reporting a new value. The minimum change can be set between 655 and 65535; the default is 655.
- **Dark To Bright Threshold:** The light level threshold that determines that the room has transitioned from dark to bright.
- **Bright To Dark Threshold:** The light level threshold that determines that the room has transitioned from bright to dark.

Security

Click **Security** to configure authentication management for CEN-ODT-C-POE users and groups and to set different access levels.



Toggle the **Enable Authentication** switch to turn authentication for the CEN-ODT-C-POE on or off. Authentication is turned off by default.

When authentication is turned on, the web configuration interface prompts the user to enter a new administrator username and password. After rebooting the CEN-ODT-C-POE, this username and password must be entered to access the web configuration utility or to connect to the CEN-ODT-C-POE through Crestron Toolbox™ software.

CAUTION: Do not lose the administrator username and password, as the CEN-ODT-C-POE settings must be restored to factory defaults to reset the username and password.

802.1x Configuration

Click **802.1x Configuration** to configure IEEE 802.1x network authentication for occupancy sensor security.

The screenshot shows the Crestron web interface for configuring IEEE 802.1x network authentication. The page title is "802.1x Configuration" and the device ID is "CEN-ODT-C-POE-00107F9C7AD5". The interface includes a navigation menu with "Status", "Settings", "Security", and "802.1x Configuration". The main content area is titled "802.1x Configuration" and contains the following settings:

- IEEE 802.1x Authentication:** A toggle switch is currently turned off.
- Authentication Method:** A dropdown menu is set to "EAP MSCHAP V2- password".
- Domain:** An empty text input field.
- Username:** An empty text input field.
- Password:** A text input field with masked characters (*****).
- Enable Authentication Server Validation:** A toggle switch is currently turned off.
- Select Trusted Certificate Authority(ies):** A search bar with a magnifying glass icon and a list of certificate authorities with checkboxes. The list includes: AAA Certificate Services, AC RAIZ FNMT-RCM, ACCVRAIZ1, Actalis Authentication Root CA, AddTrust External CA Root, AffirmTrust Commercial, AffirmTrust Networking, AffirmTrust Premium ECC, AffirmTrust Premium, and Amazon Root CA 1.

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- **IEEE 802.1x Authentication:** Toggle the switch to enable or disable using 802.1x authentication for the occupancy sensor.
- **Authentication Method:** Select an 802.1x authentication method (EAP-TLS Certificate or EAP MSCHAP V2- password) from the drop-down menu.
- **Domain:** If EAP MSCHAP V2- password is selected for Authentication Method, enter a domain name that is required for authentication.
- **Username:** If EAP MSCHAP V2- password is selected for Authentication Method, enter a username that is required for authentication.
- **Password:** If EAP MSCHAP V2- password is selected for Authentication Method, enter a password that is required for authentication.

- **Enable Authentication Server Validation:** Toggle the switch to enable or disable using server validation for increased security.
- **Select Trusted Certificate Authorite(s):** Select trusted CAs (Certificate Authorities) from the provided CAs to be used for server validation:
 - Click the check box to the left of a CA to select it as a trusted CA.
 - Enter a search term into the text field at the top of the CA menu to search for and display CAs that match the search term.
 - Click the check box to the left of the search field at the top of the CA menu to select all CAs as trusted CAs.

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