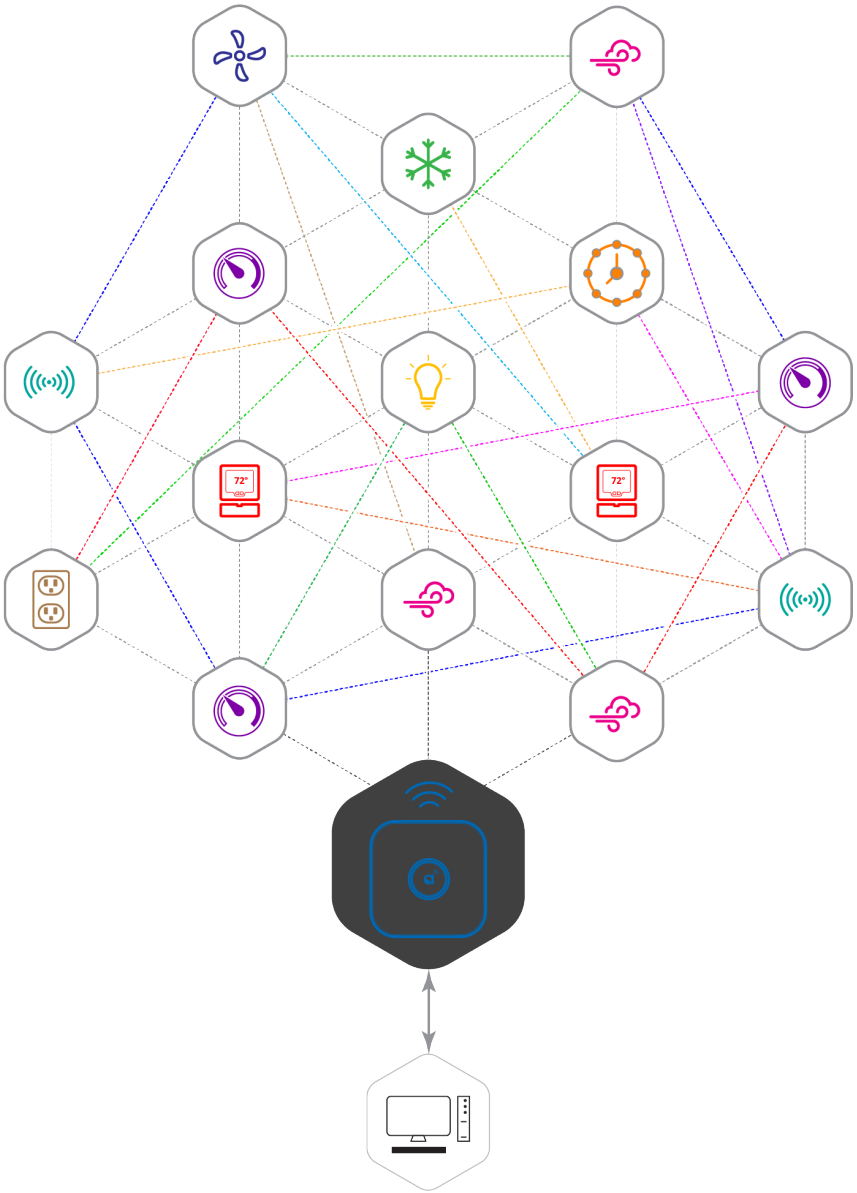
DOC #: 80112, REV: 03

User Guide

EnergyCenter®

Light Management (Zigbee)



EnergyCenter BY AUTANI

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1. Software Overview

The light management module uses a wireless network to monitor and control lights and estimate their energy consumption. Settings can be changed:

- Manually by flipping the light wall switch or changing the setting on manually adjustable light levelers
- By specifying light and level controller settings in the software or by scheduling lighting changes

Occupancy sensors can be used to regulate lighting activity based on whether or not there is activity in a space.

Photocell sensors can be used to control the lighting intensity in an area, based on the ambient light available.

Sensors are typically set up and configured by the technician when installing the sensors.

The software can also be used to determine:

- The estimated amount and cost of energy that facility lights have used during a particular shift, day, or other time frame
- Times of peak lighting use
- Where modifications could be made to ensure optimal energy usage

1.1. Navigating Through the Software (Site map)

The following two tables provide site maps of the light management module. The options on the left navigation bar appear in the tables as the column headings. The column lists are the light-related tabs that appear when an option is selected.

Table 1: Site Map for Entering Data or Selecting Options

Devices	Automation	Settings
▪ Dashboard ▪ Lights	▪ Lights ▪ 24/7 Schedules ▪ Calendar ▪ Advanced	▪ Site ▪ Contractor ▪ System ▪ Data Maintenance ▪ Energy ▪ Security ▪ Device Setup

Table 2: Site Map for Viewing Lighting Data or Information

Groups	Energy	Alerts	Analysis > Reports	Help
Groups list display and System views	▪ Data display ▪ Chart	▪ Recent Alerts ▪ Alert Setup	▪ Run Time Report: Lighting ▪ Run Time Report: Device Run Time by Hour ▪ Lighting: Consumption by Day ▪ Lighting: Consumption by Hour ▪ Lighting: Consumption by Quarter Hour ▪ Lighting: Energy and Cost Savings - Detailed by Day ▪ Lighting: Energy and Cost Savings - Detailed by Light ▪ Lighting: Quarter Hour Consumption Total ▪ Analysis: Consumption Comparison ▪ Analysis: Daily Consumption ▪ Analysis: Daily system Performance Report ▪ Energy Consumption: Billing Report ▪ Energy Consumption: Usage History ▪ Devices: Device Inventory ▪ Devices: Detailed Device Inventory	▪ User Guide modules: □ Tasks Common to All Applications (Zigbee) □ Light Management (Bluetooth) □ Light Management (Zigbee) ▪ About

1.2. Configuring the Application

To utilize all the features of the light management module, complete the steps summarized in the table below.

Table 3: LightCenter Setup Tasks

Task	Description	See
Complete hardware setup tasks	Install as appropriate: ▪ ARC and WRC ▪ Occupancy sensors ▪ Lighting level controllers ▪ Photocell Sensors	Installation instructions for the device
Access the Autani Manager appliance	▪ Initial steps for setting up the network using one of the following options: □ Remote access over the internet (preferred option) □ Local network access ▪ Establishing a static IP Address after first connection	See included documentation with Autani Manager.
Complete application commissioning tasks	Tasks needed to setup and commission the system, regardless of device-type, including: ▪ Entering customer and contractor information ▪ Creating user accounts ▪ Entering energy consumption data ▪ Entering utility billing rates ▪ Creating e-mail alert notifications	User Guide module entitled 'Tasks Common to All Applications (Zigbee)'
Configure lights	Select settings, including: ▪ Selecting switch or toggle mode ▪ Enabling or disabling fail-safe mode ▪ Entering switch output values	Configuring Lights
Configure light controllers, if appropriate	Select settings, including: ▪ Selecting switch or toggle mode ▪ Enabling or disabling fail-safe mode ▪ Entering switch output values	Using Lighting Level Controllers
Configure occupancy sensors, if appropriate	Define sensor settings including: ▪ Type of sensor ▪ Occupancy delay ▪ Associating sensor to a light controller	Associating Occupancy Sensors with Lights
Create schedule templates with events and assign them to lights	▪ Schedule changes to light settings including: ▪ When to turn lights ON and OFF ▪ When to dim them if level controllers are part of the system ▪ Occupancy delay interval before settings are changed	Scheduling Lighting Changes
Create overrides and curtailments, if applicable	Create exceptions to scheduled event settings using event rules	User Guide module entitled 'Tasks Common to All Applications (Zigbee)'

2. Configuring Lights

2.1. Commissioning Tasks for Lights

To configure lighting control devices, complete the steps summarized in the table below.

Table 4: Configuration Tasks for Lighting Control Devices

Task	Description	See
Select Switch or Toggle or Momentary mode	Select the operation mode	Selecting Switch or Toggle or Momentary Mode
Enable Fail-Safe mode	Enable software to turn lights off when control devices are no longer communicating	Selecting Fail Safe Mode
Enter Switch Output data	Enter data to be used to calculate energy consumption	Entering Data on Light Fixtures and Related Energy Use

2.1.1. Understanding Lighting Configurations

There are three major lighting configurations: Switch, Toggle and Momentary. Switch is the default configuration setting.

In Switch configuration:

- The light wall switch must be in the UP or "ON" position in order for the lights to be controlled by either the system or sensors used to determine occupancy.
- Motion sensors, whether wired or wireless, cannot trigger lights wired to a WRC/ARC to turn ON if the associated wall switches are in the "OFF" position.
- When a WRC/ARC is wired to two lights, one wall switch may be in the "ON" position and the other wall switch may be in the "OFF" position. Only the lights on the circuit of the wall switch in the "ON" position will be turned on when motion is detected.

In Toggle configuration:

- The software can always be used to control lights, regardless of the position of the light wall switch.
- Changing the wall switch position turns the lights off if they were on, or turns the lights on if they were OFF.
- Sensors used to determine occupancy can trigger lights to turn on, except when the last action was to turn the wall switch to the "OFF" position.

  NOTE: A person typically flips the wall switch to the "OFF" position to turn the lights off. Any detected motion is not used to turn the lights back on again until someone flips the wall switch back to the "ON" position.

In Momentary configuration:

- This works like a push button, one push will turn ON, and push again to turn OFF.
- In this mode, the light can always be turned ON/OFF by EnergyCenter®.
- The first push will turn ON the light if it was previously OFF (press and release).
- The second push will turn the lights OFF if it was previously ON (press and release).

Lighting behavior differences based on configuration are summarized in the following table. For information on differences when occupancy sensors are used, see *Understanding How Occupancy Sensor Signals Affect Light Behavior*.

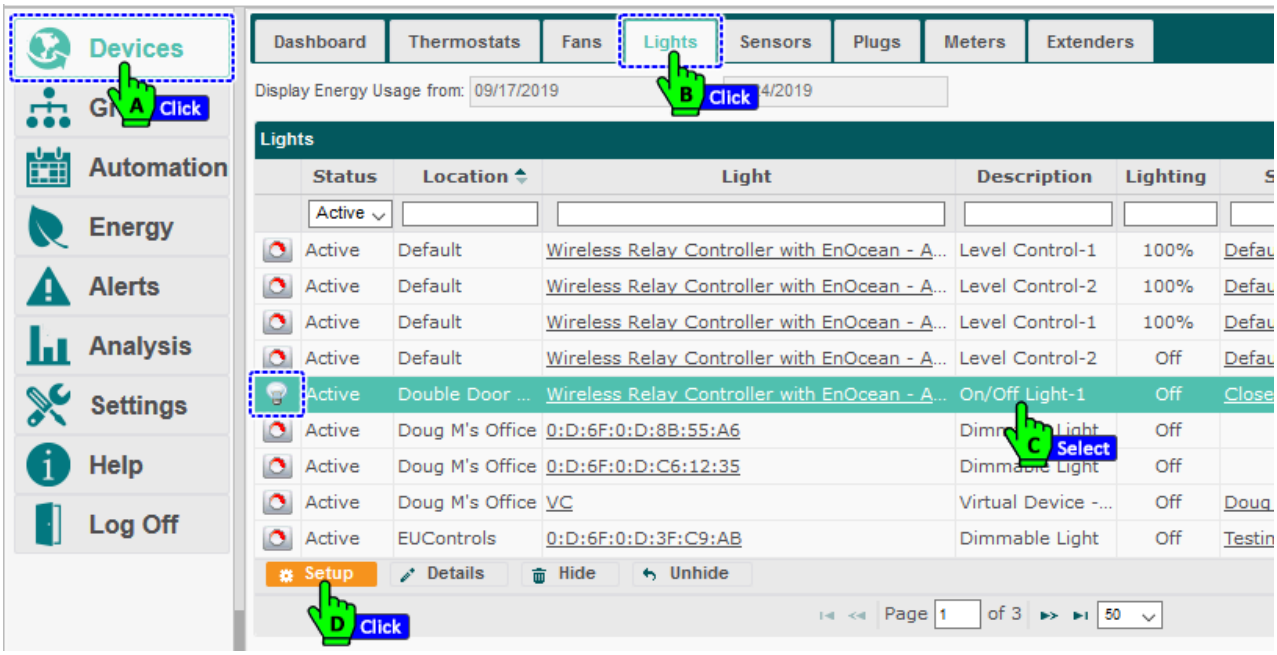
Table 5: Controlling Lights Based on Configuration and Light Switch Positions

Configuration	Light Switch Position	Software Can Control Lighting
Switch	On (up)	Yes
	Off (down)	No
Toggle	On (up)	Yes
	Off (down)	Yes
Momentary	ON (first Push)	Yes
	OFF (second Push)	Yes
Fail-safe	On (up)	Yes
	Off (down)	▪ Yes if light is in toggle mode ▪ No if light is in switch mode

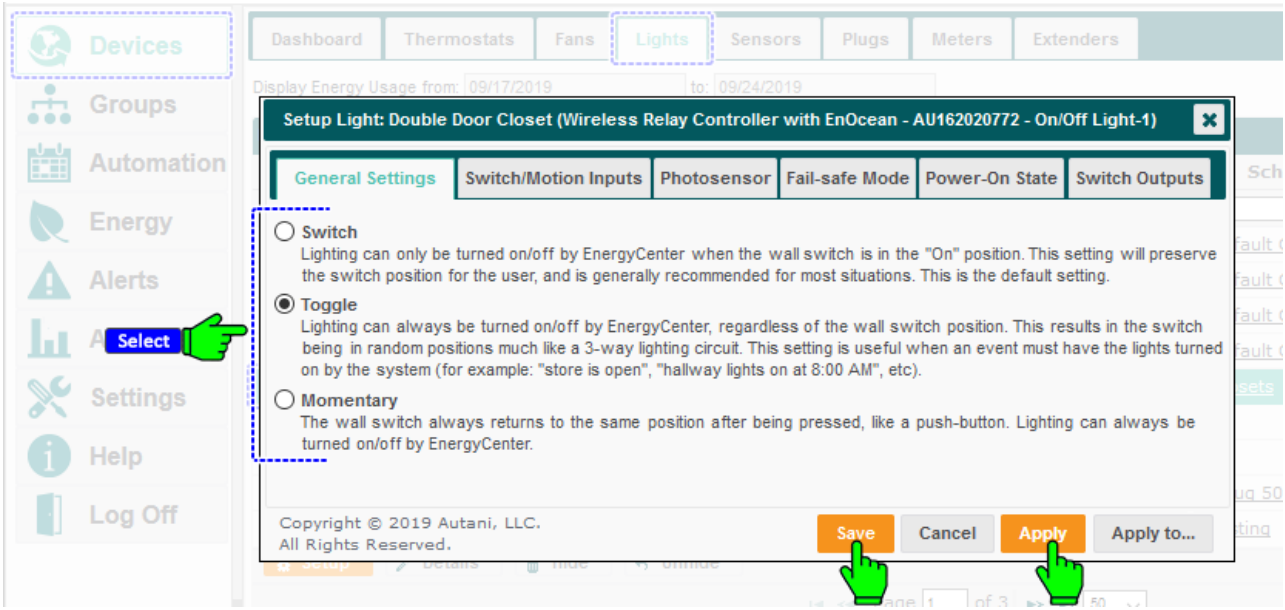
For more information on Fail-Safe mode, see *Selecting Fail Safe Mode* (applicable to ARC, AFC & WRC only).

2.1.2. Selecting Switch or Toggle or Momentary Mode (applicable to ARC & WRC only)

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller.
4. Click the **Setup** button.



5. Select the Switch or Toggle or Momentary radio button.
6. Click **Save** or **Apply**.



2.1.3. Selecting Fail Safe Mode (applicable to ARC, AFC & WRC only)

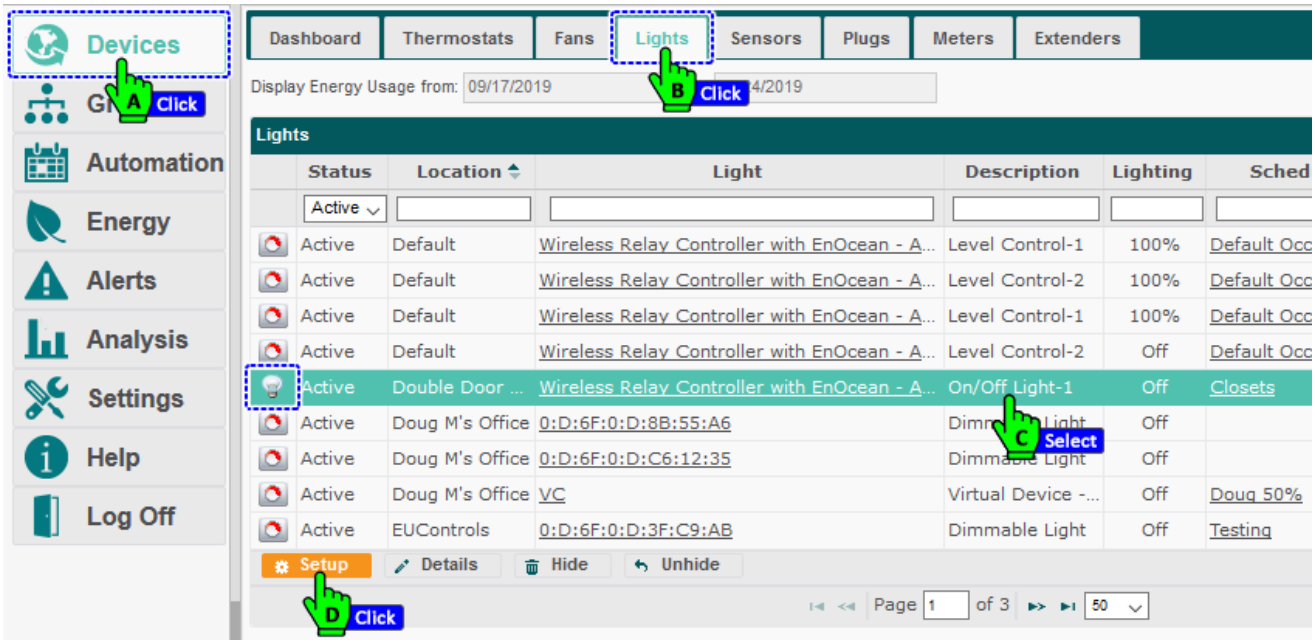
If communication is lost, the following table summarizes lighting behavior based on whether or not fail-safe mode has been enabled.

Fail-Safe Mode	Description
Enabled	Lights turn OFF after motion has not been reported by associated sensor(s) for a user-defined delay interval.

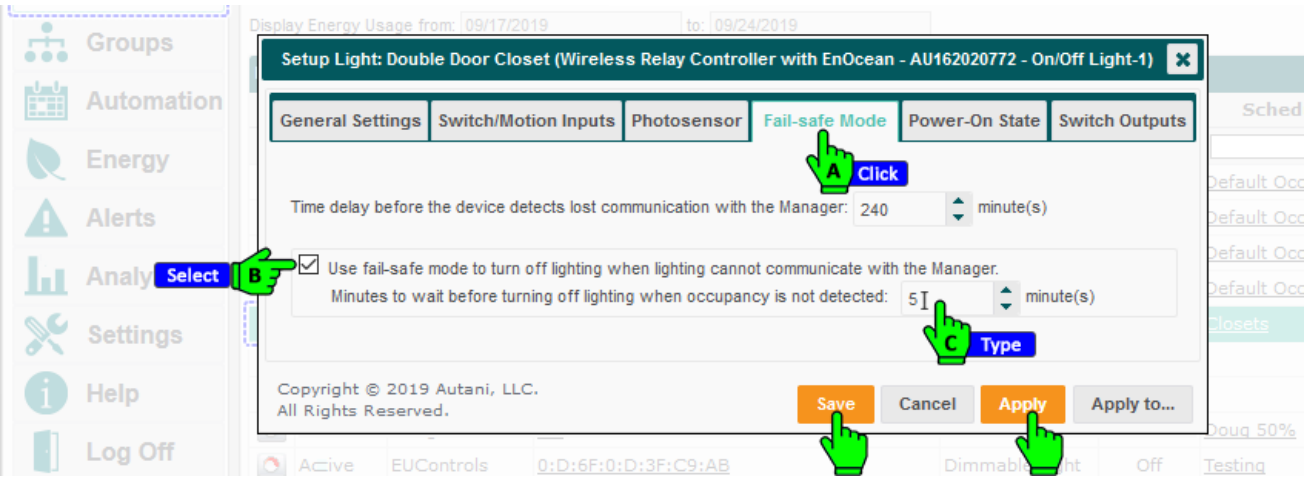
Disabled	▪ Lights remain in their current state.
	▪ A wall switch that is currently disabled as part of a scheduled event, is re-enabled. When communication resumes:
	  ▪ If the scheduled event is still in effect, the wall switch is again disabled.
	  ▪ If the scheduled event has ended, the wall switch remains enabled.

To enable Fail-Safe mode:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller.
4. Click the **Setup** button.



5. Click the **Fail-Safe Mode** tab. Select the **Use fail-safe mode**…. checkbox.
6. Enter a delay time interval before lights turn off when occupancy is no longer detected.
7. Click **Save** or **Apply**.



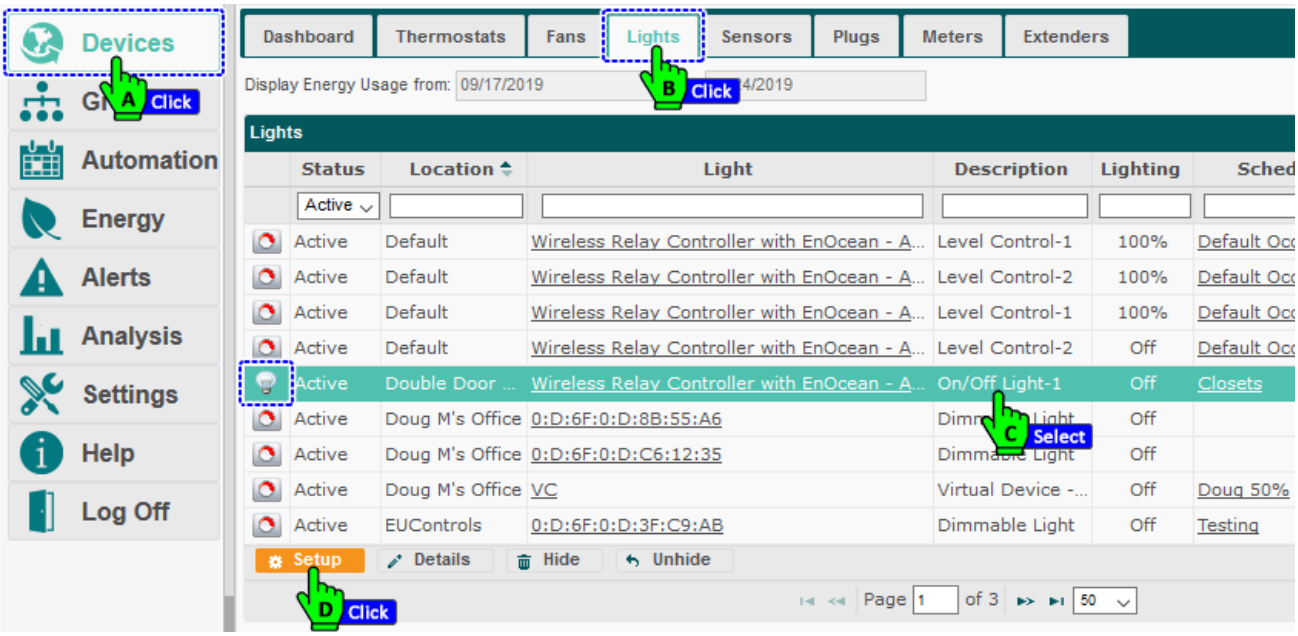
2.1.4. Entering Data on Light Fixtures and Related Energy Use (applicable to ARC, AFC, WRC & HBS only)

In order for the software to estimate total lighting energy consumption, the kW rate at which the lights controlled by each wall switch must be entered.

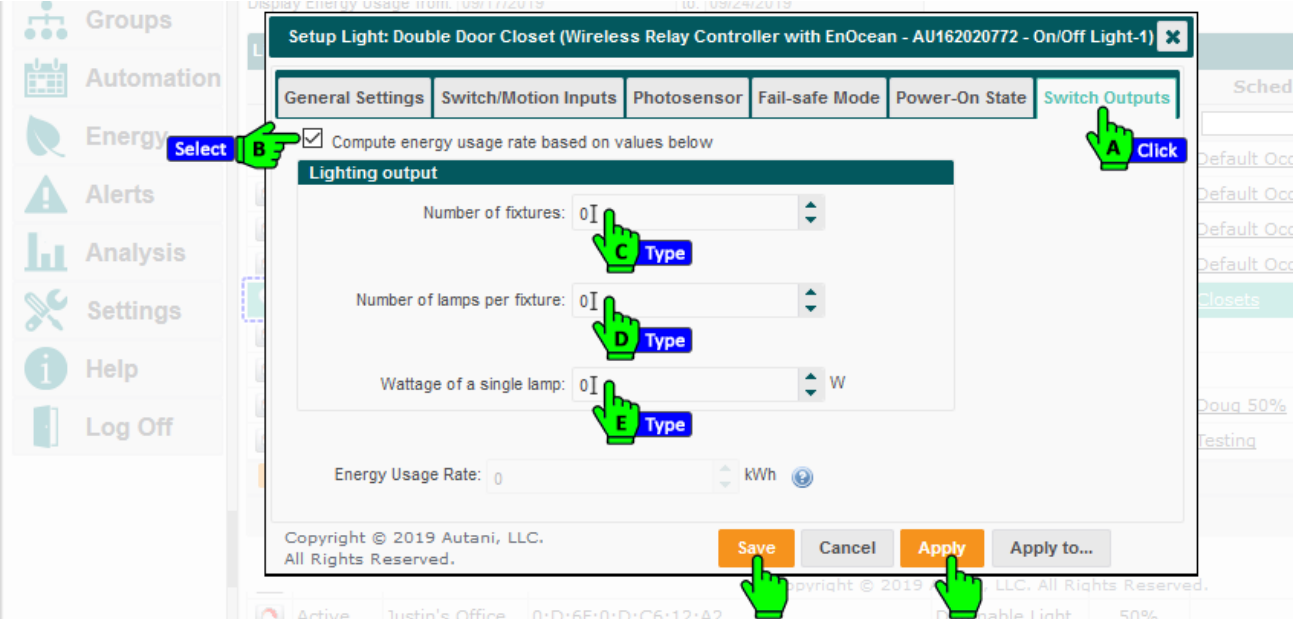
NOTE: For a description and example of how lighting data is used by the Estimation Engine, see *Understanding Estimated Energy Consumption and Costs*.

To define lighting outputs:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller.
4. Click the **Setup** button.



5. Click the **Switch Outputs** tab.
6. Select the **Compute energy usage rate based on values below** checkbox.
7. Enter the following information for the chosen controller:
   - Number of fixtures
   - Number of bulbs per fixture
   - Wattage of a single lamp/bulb



8. Calculate the **Energy Usage Rate** using the table below, and then enter the rate.
9. Click **Save** or **Apply**.

Table 6: Energy Usage Rate (kWh) Calculations

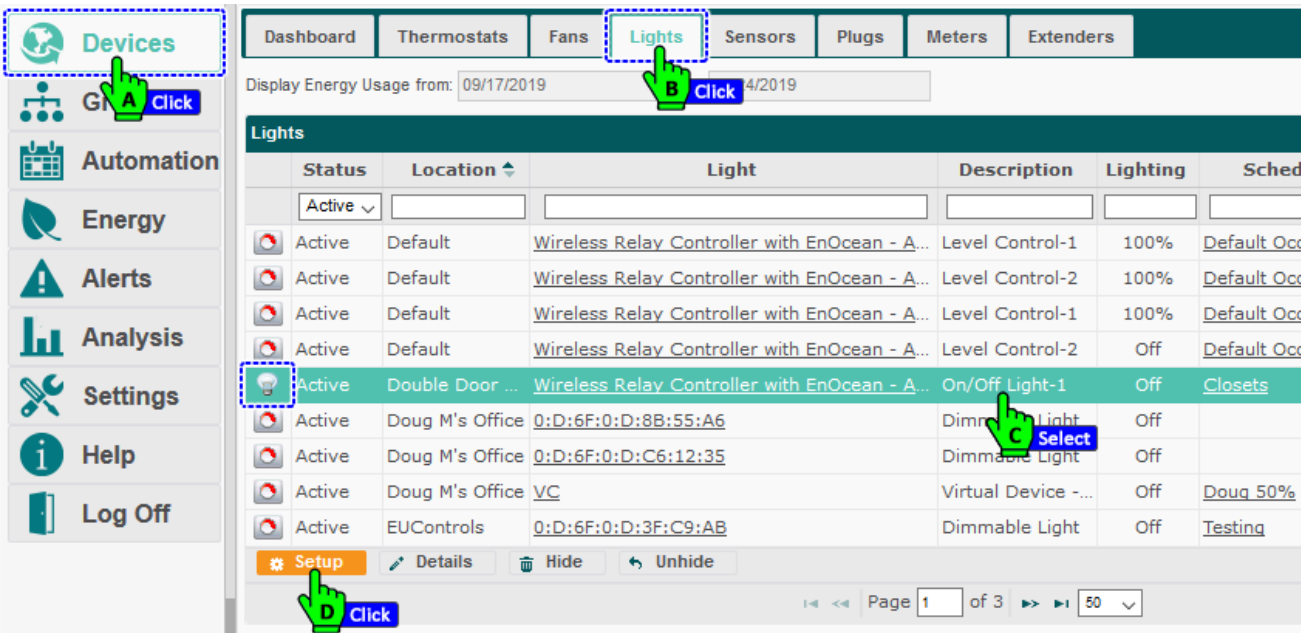
Unit	Formula to Determine Rate
Single fluorescent lamp	Divide Watts/Hr by 1000 = kWh
Single fixture	Multiply the number of lamps in a fixture by the kWh drawn by a lamp
Set of fixtures on a light switch	Multiply the number of fixtures attached to the controller by the kWh consumed for a fixture

2.1.5. Selecting Light State when Powered ON (available for AFC & WRC only)

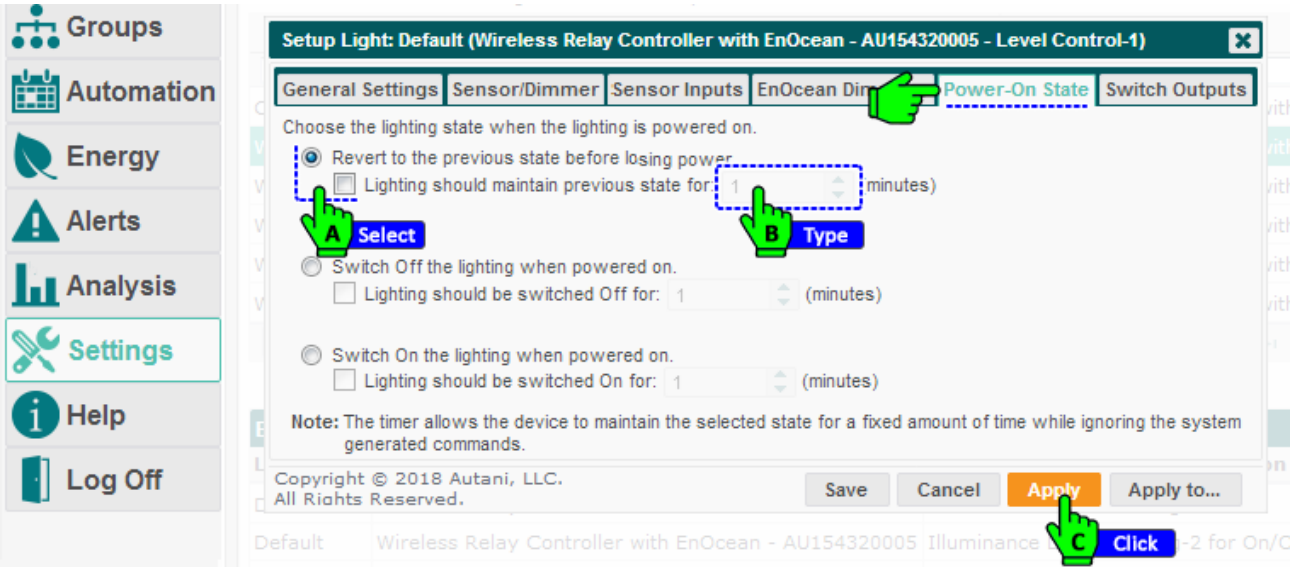
You can choose a light state when the lighting is powered ON, and also allow to set the duration for state to exist.

To choose a light state:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller. Click the **Setup** button.



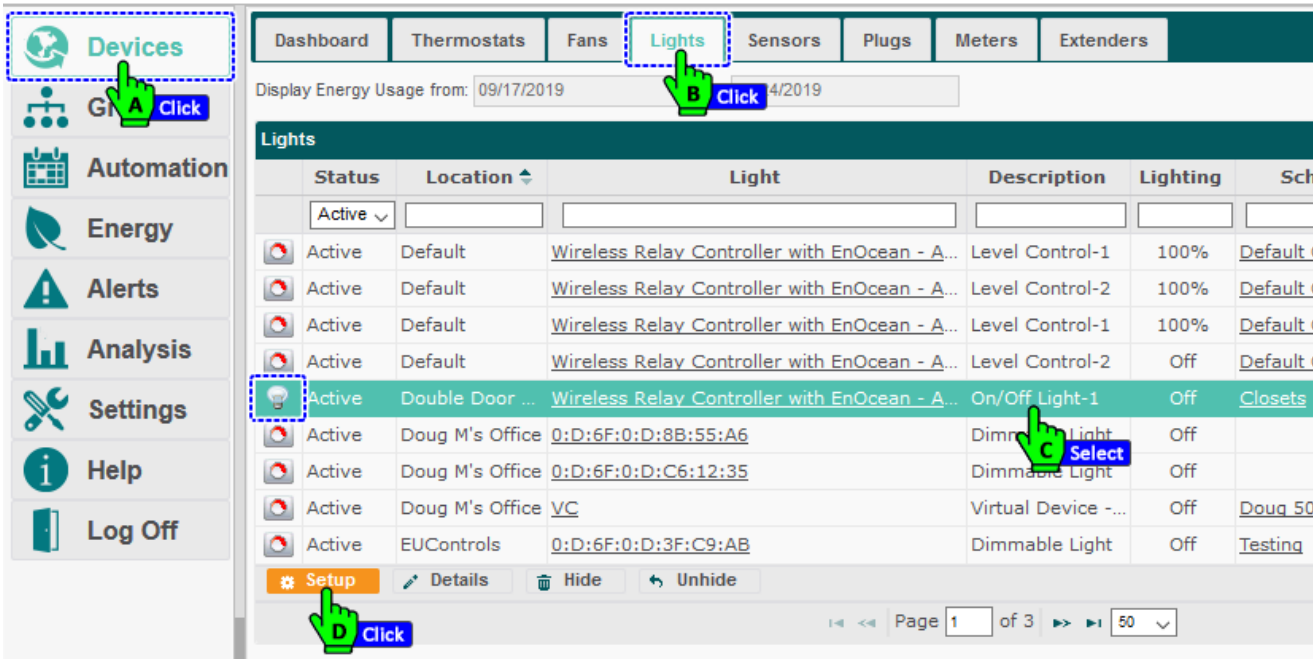
4. Select the tab **Power-On State**, there are three states available, choose a state.
5. Enabling the duration checkbox, and enter the duration for the state. Click **Apply** or **Save**.



2.1.6. Choosing Switch & Motion Channels for Light (available for WRC only)

To control a light using switch and motion sensor;

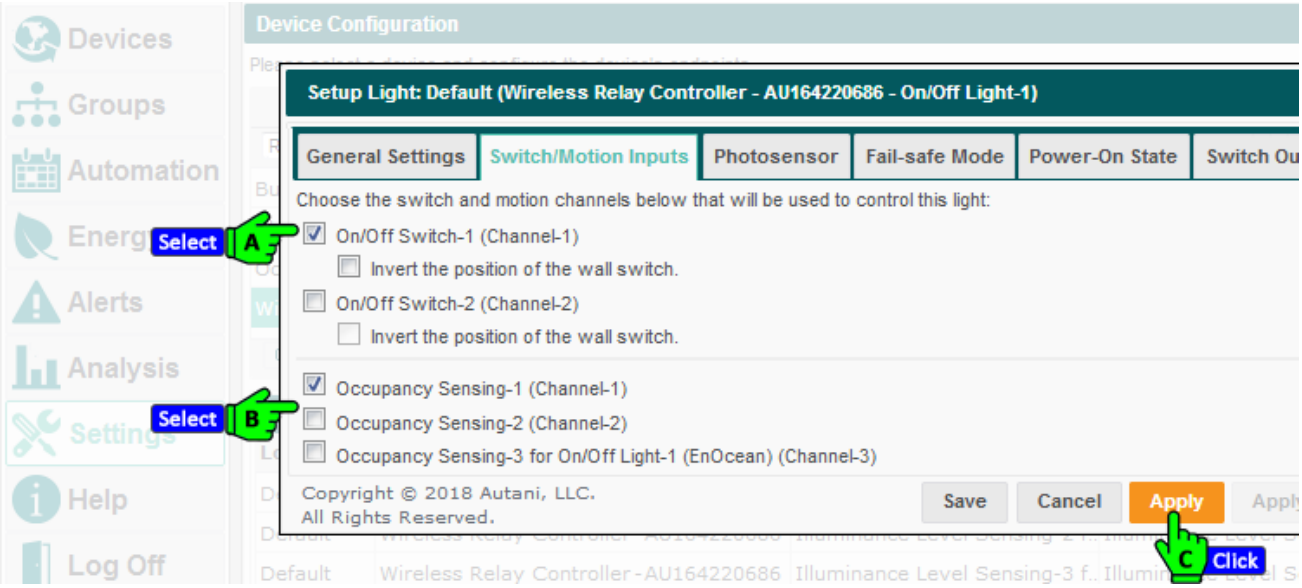
1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller.
4. Click the **Setup** button.



5. Select the tab "**Switch/Motion Inputs**" and choose the **Switch** and **Motion** channels to control the light.

   NOTE: You can choose both switch channels and multiple sensors to control the light, and this change will also be reflected if using dimmable/level configuration.

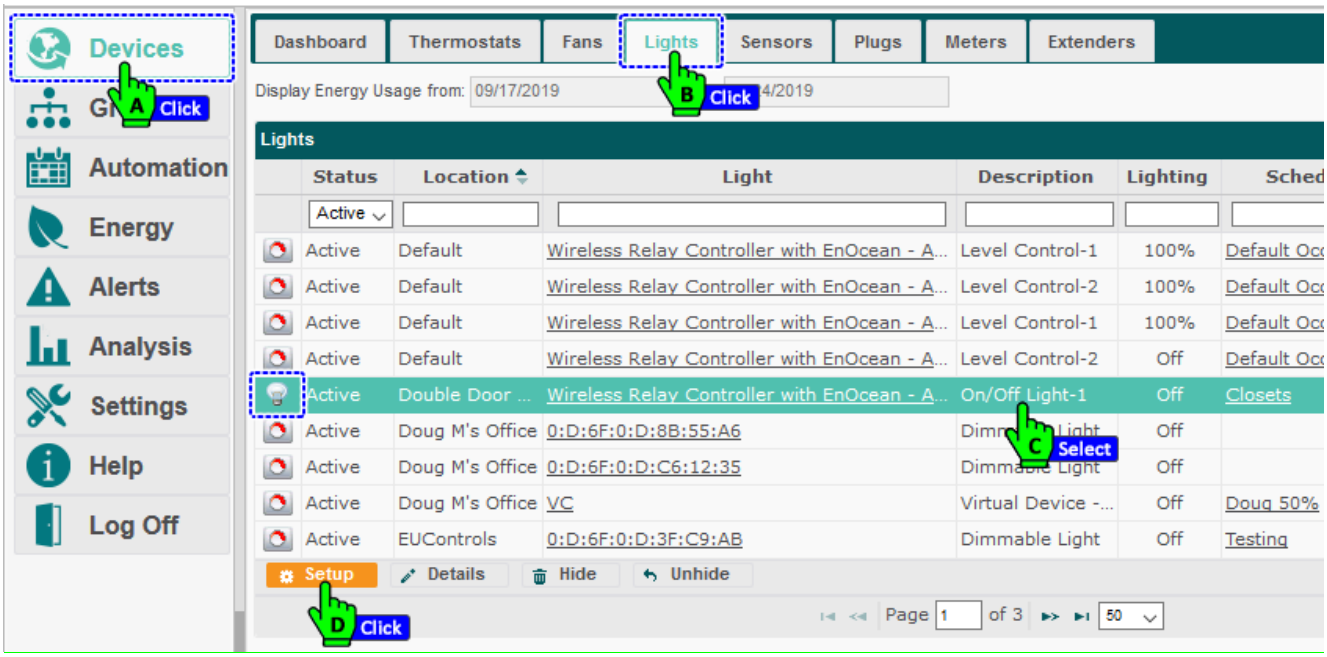
6. Click **Apply** or **Save**.



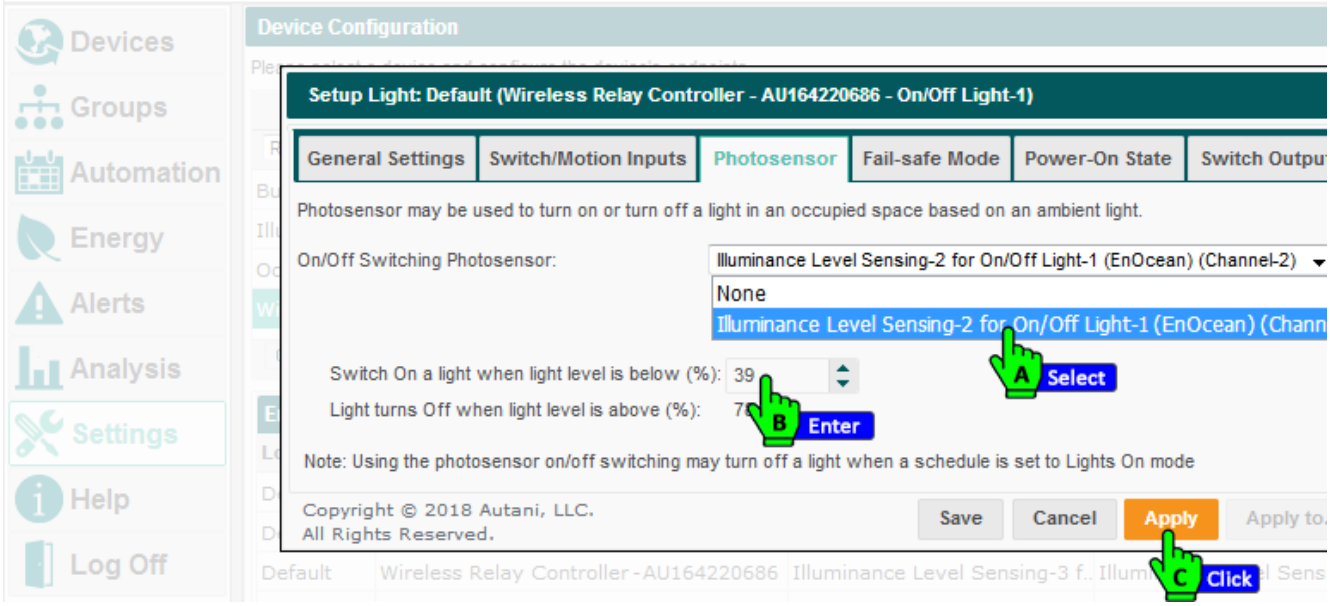
2.1.7. Choosing a Photosensor for a Light (available for WRC only)

To control a light using Photosensor;

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller or light level controller.
4. Click the **Setup** button.



5. Select the **Photosensor** tab.
6. Choose a Photosensor from the drop down, or choose **None** if you don't won't use a Photosensor for ON/OFF switching.
7. Set the low luminance level for the light to turn ON.
8. Click **Save** or **Apply**.



NOTE: The high luminance level cannot be edited here.

NOTE: Using the Photosensor ON/OFF switching, may turn ON a light when a schedule is set to lights ON mode.

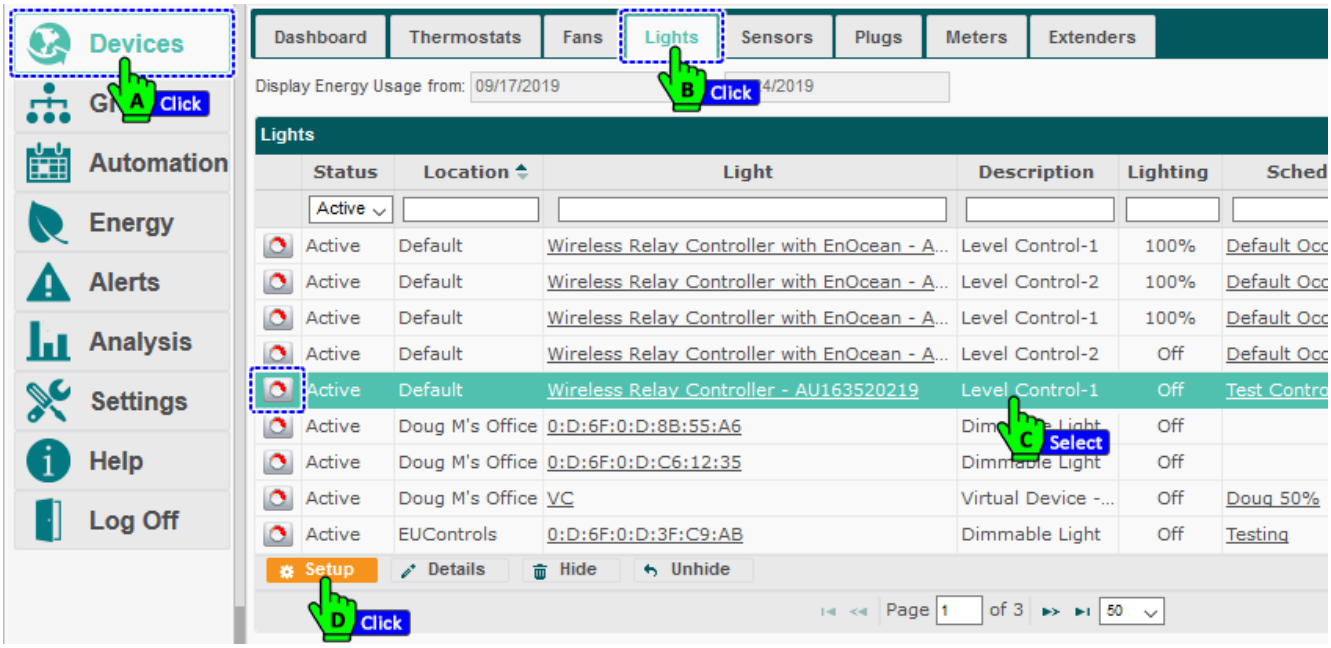
2.2. Using Lighting Level Controllers

2.2.1. Configuring Light Level Controller Settings (available for AFC, WRC & HBS)

Photocell sensors and manual dimmer control devices can be used in conjunction with the software to control the intensity of lighting in an area.

To configure a level controller:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light. Click the **Setup** button.



4. Select the settings described in the table below. Click **Save** or **Apply**.

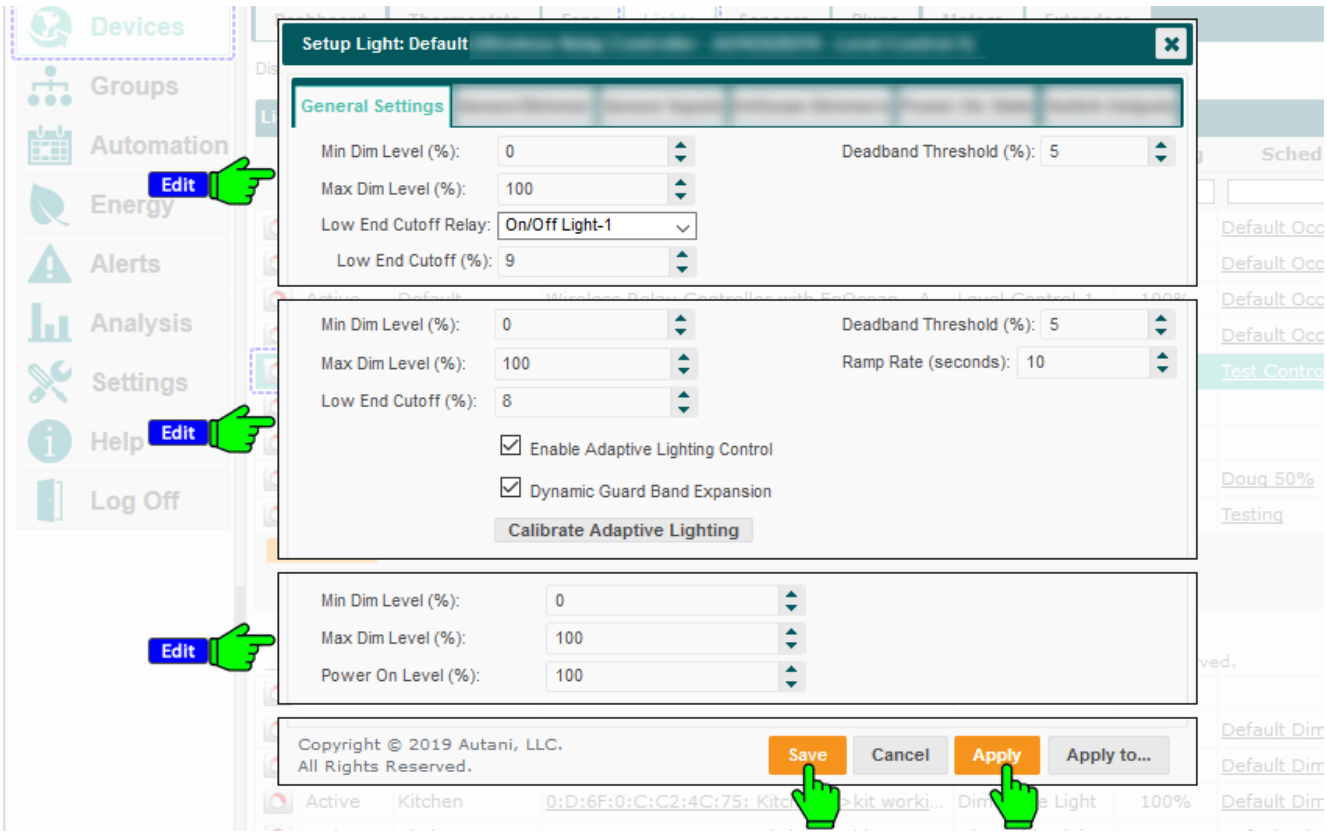


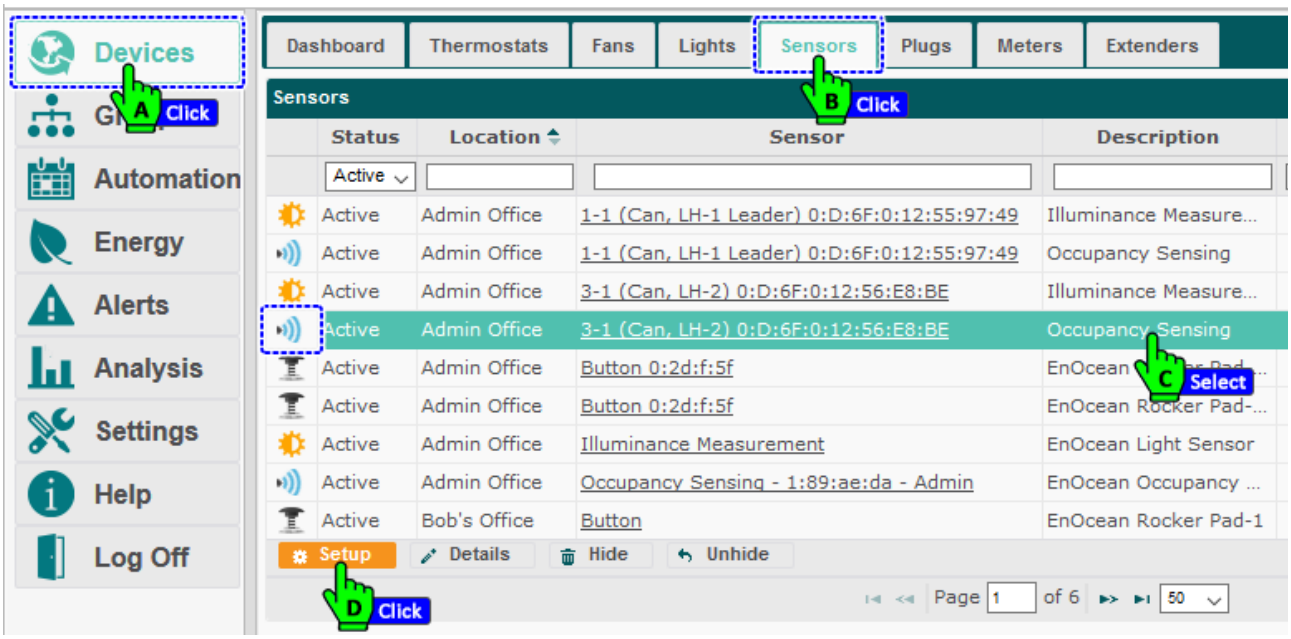
Table 7: General Settings for Light Level Controllers

Setting	Used To	Options
Min Dim Level (%)	Define the lowest level to be used by the self- adjusting portion of the light control sensor. **NOTE**: Lights can be turned off by moving a dimmer to its lowest manual setting.	Zero to 90% Default is 0%
Max Dim Level (%)	Define the brightest level of lighting to be allowed by the level controller **NOTES**: ▪ This setting is overridden if a higher Level (%) setting is saved in the application. ▪ If set to a value less than the current dim level, the light level is decreased to this new level. ▪ If the level controller loses contact with the Autani Manager, the maximum dim level is reset to 100%.	10 to 100%
Low End Cutoff Relay (available in WRC only)	▪ Turn OFF a light based on the Low End Cutoff %.	Zero to 50% Default is 9%
Low End Cutoff (%)	▪ Protect lighting ballasts ▪ Define the dim level below which the power pack and lights are turned OFF	Zero to 100% Default is 8%
Photosensor Installed	▪ Indicate a light level controller is installed that uses photocells to automatically detect ambient light ▪ Reduce lighting levels if there is sufficient daylight to illuminate a space ▪ Enable or disable lighting changes based on photosensor readings ▪ Override an occupancy delay interval setting	▪ No ▪ Yes ▪ Enable Adaptive Lighting Control checkbox ▪ Respond to light level changes immediately checkbox
Enable Adaptive Lighting Control (available in AFC, WRC and HBS only)	▪ Increase/decrease the illuminance in a space, depending on the available ambient light.	▪ Enable ▪ Disable
Deadband Threshold (%)	▪ Set a range around the dim level where light level changes do not trigger a dim level change ▪ Avoid constant light flickering	1 to 50%
Ramp Rate (seconds) (available for AFC only)	Specify how quickly the intensity of a light should change	▪ Zero to 100, in increments of a tenth of a second

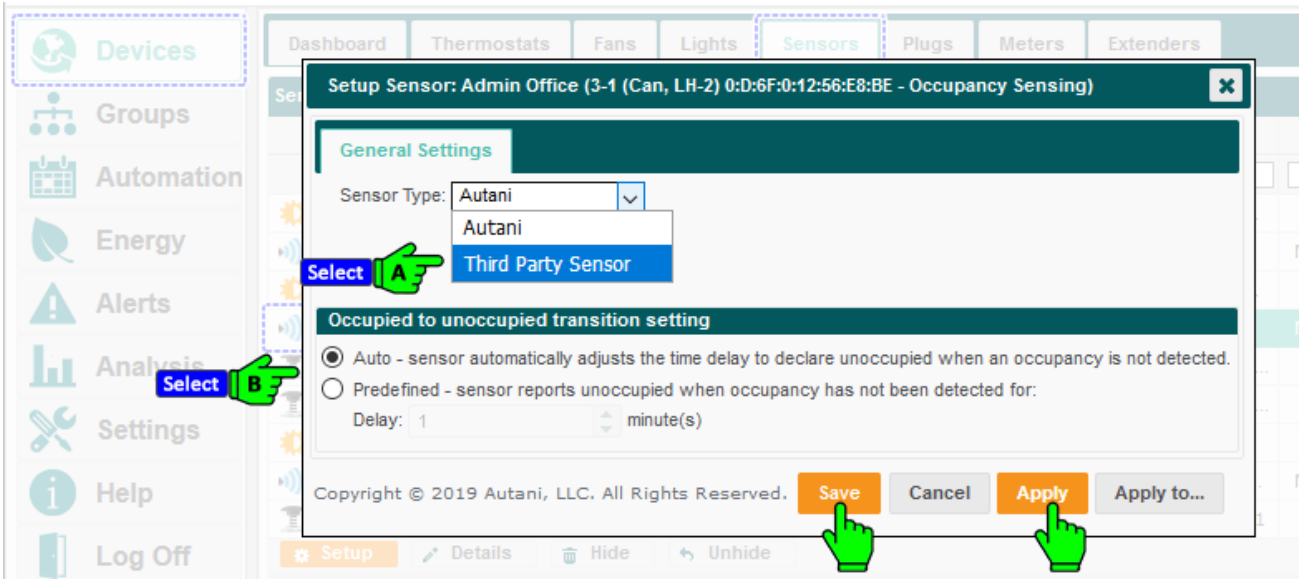
NOTE: If using a third-party sensor, a delay interval can be specified before the lack of motion would be used to turn off a light. For more information, see *Configuring an Occupancy Delay Interval When Using Third Party Level Controllers*.

2.2.2. Configuring an Occupancy Delay Interval When Using Third Party Level Controllers

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab.
3. Click the row of the sensor.
4. Click the **Setup** button.



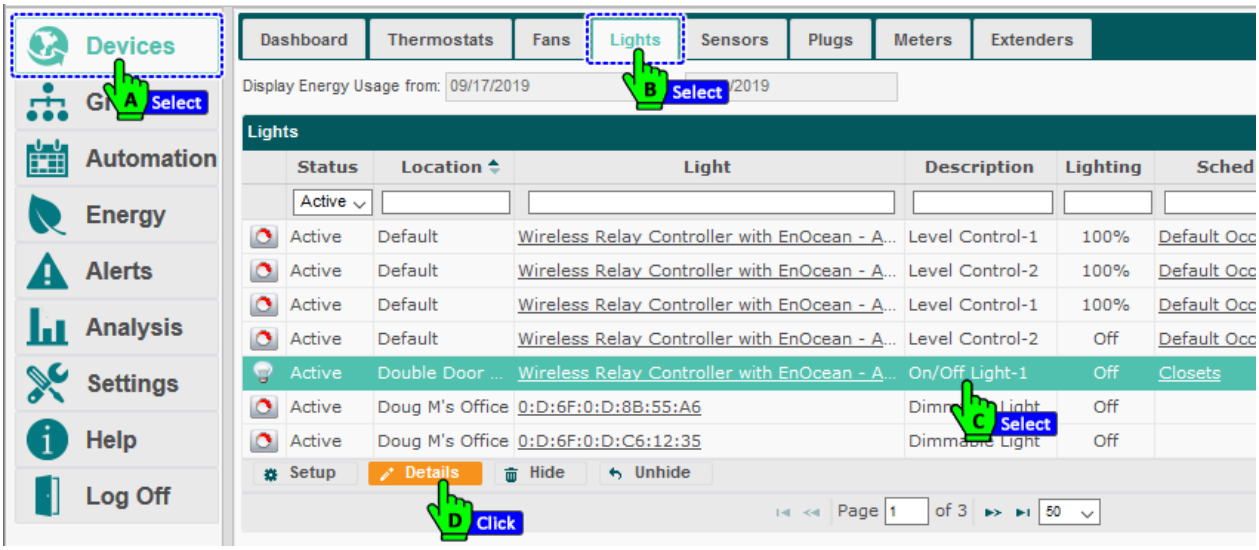
5. Select the type of sensor from the **Sensor Type** drop-down list.
6. Select the:
   - **Auto** radio button to trigger immediate transition to unoccupied state when occupancy is no longer detected
   - **Predetermined** radio button to set the occupancy delay interval configured on the sensor. Use the Delay text box to enter the configured delay in minutes.
7. Click **Save** or **Apply**.



2.3. Modifying Settings

2.3.1. Changing Light Settings

1. On the left navigation bar, click **Devices**, and click the **Lights** tab.
2. Click the light name link, double-click the row of the light, or click the row of the light and then the **Details** button.



3. Update the settings listed in the table below as needed. Click **Save**.

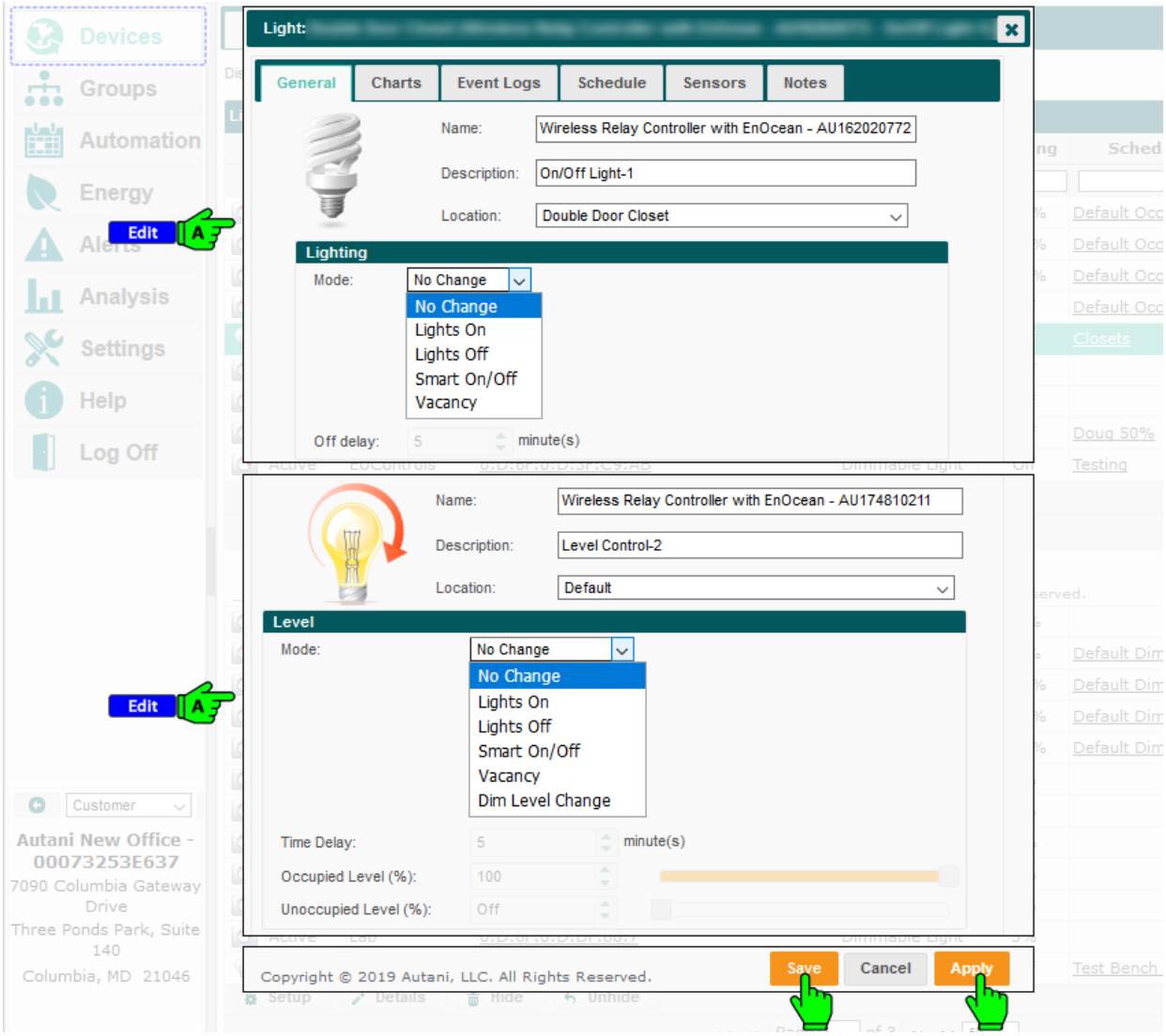
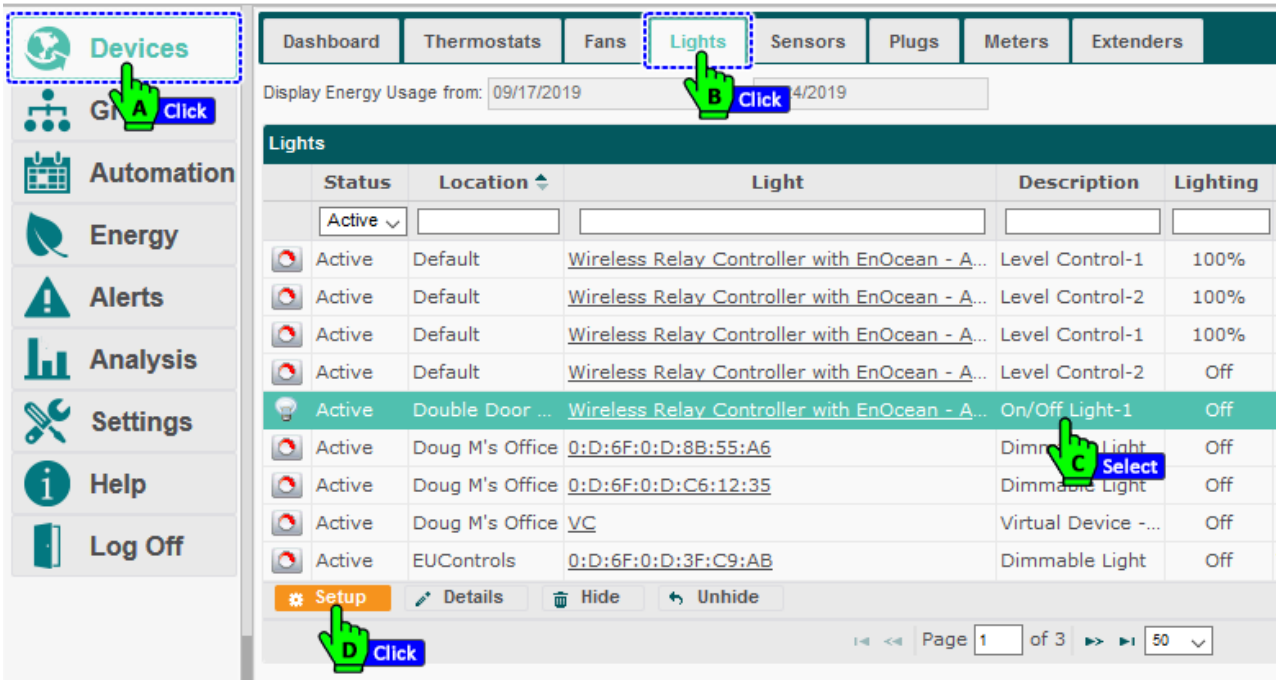


Table 8: Editing General Light Settings

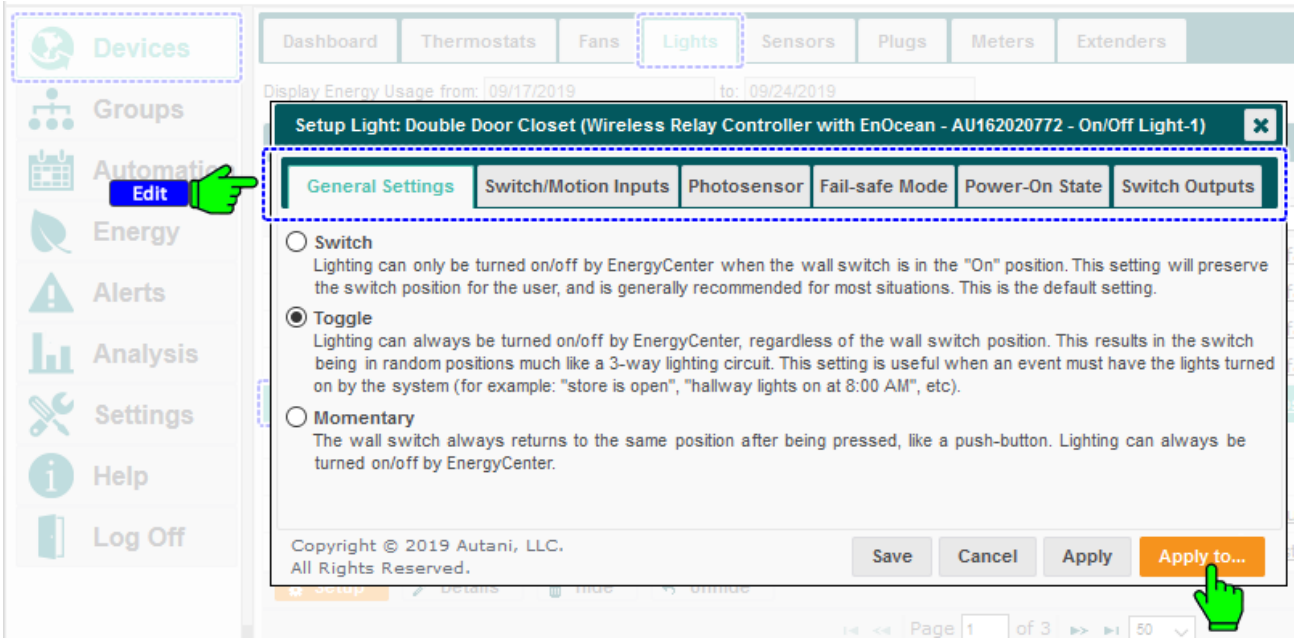
Setting	Used To	Options
Name	Specify the name of the Autani Room Controller (WRC/ARC) **NOTE**: The name of the ARC is the same for all end points (lights and sensors) wired to it.	▪ Defaults to device type and serial number, e.g. Room Controller – AU1230005 ▪ User-defined name for light ▪ Alphanumeric characters
Description	Quickly identify the light **NOTE**: The default description is the lighting channel for each switch wired to the ARC. Typically there are two switches. The one labeled "On/Off Light – 1" represents the switch controlled by the built-in relay on the ARC. The one labeled "On/Off Light – 2" represents the switch controlled by an external power pack.	▪ User-defined description of light ▪ Alphanumeric characters
Location	Name of the location group to which the light belongs	▪ Assigned to the Default location group when an WRC is first added to the network ▪ User can change for each switch independently ▪ Alphanumeric characters
Change Mode (Not displayed for manual dimming controllers)	Used to change light behavior	▪ No Change ▪ Lights On ▪ Lights Off ▪ Smart On/Off ▪ Vacancy ▪ Dim Level Change
Mode (Displayed for manual dimming controllers)	Used to change light behavior	▪ No Change ▪ Lights On ▪ Lights Off ▪ Smart On/Off ▪ Vacancy
Off Delay/Time Delay (Not displayed for manual dimming controllers)	Define the delay interval to be used before turning off lights when a space becomes unoccupied	▪ Available only when Lights OFF, Smart ON/OFF or Vacancy Mode is selected ▪ 1-1440 minutes (24 hours)
Level (%) (Displayed for level controllers)	Used to change light intensity NOTE: A scroll bar is provided to quickly change the level setting.	Zero to 100%
Occupied Level (%)	Used to change light intensity during Occupancy. NOTE: A scroll bar is provided to quickly change the level setting.	Zero to 100%
Unoccupied Level (%)	Used to change light intensity during NO Occupancy. NOTE: A scroll bar is provided to quickly change the level setting.	Zero to 100%

2.3.2. Copying Settings to Multiple Lights or Groups of Lights

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the row of the light controller whose settings are to be applied to other lights or groups of lights.



4. Click the **Setup** button and click each tab to verify the settings to be copied.
5. Click **Apply** to.

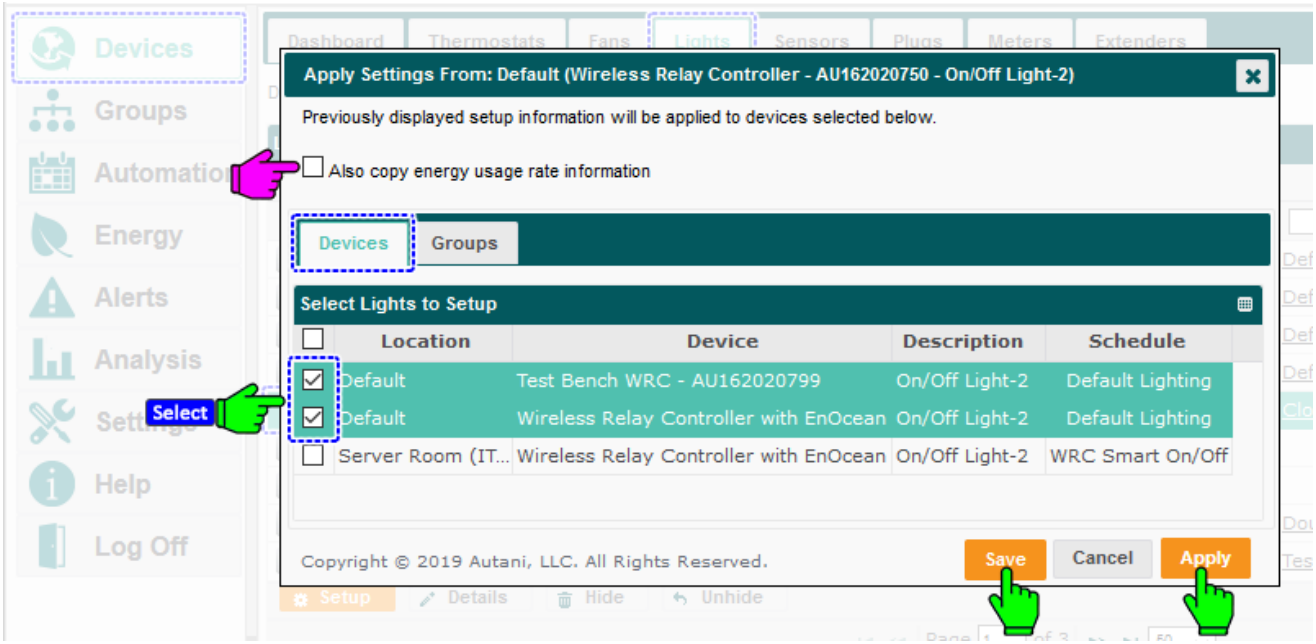


6. Select the checkboxes next to the lights to which the configuration settings are to be copied.
7. If appropriate, select the Copy switch output information checkbox if the energy consumption rate settings are to be copied to the selected lights.

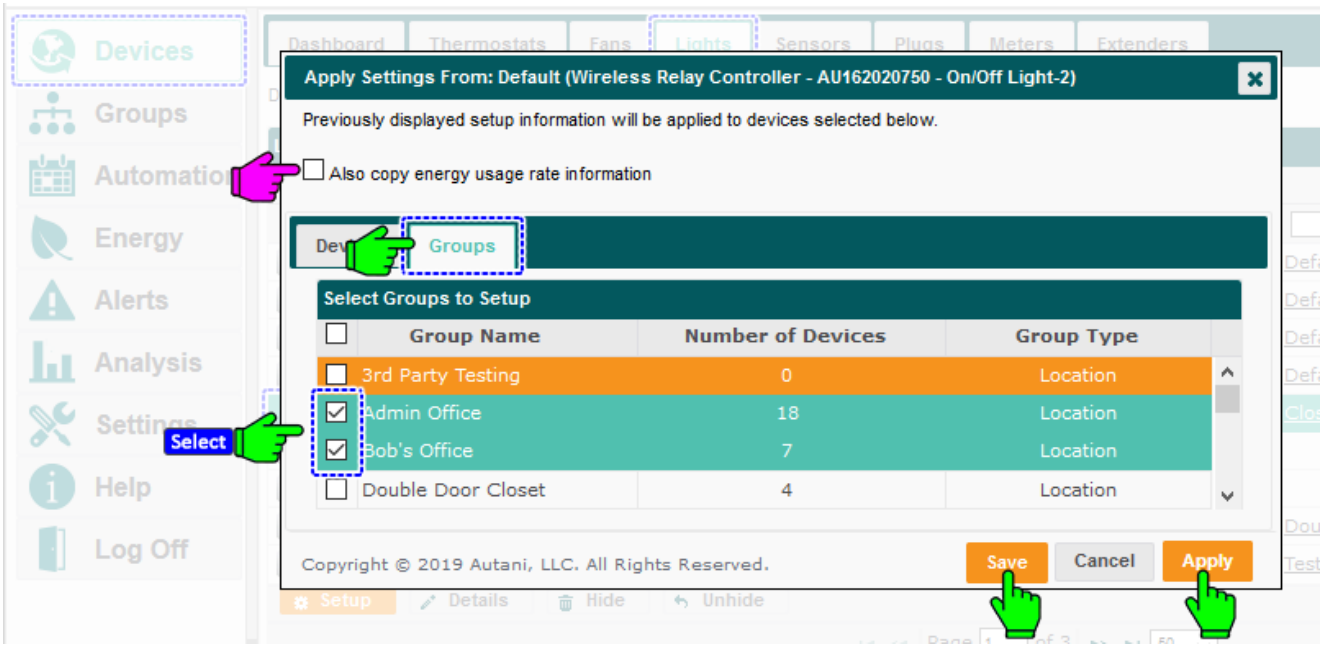
NOTES:

- This option is especially helpful if lights have identical configurations.
- If lights are wired to equipment with different consumption specifications, do not select the checkbox because consumption calculations would be inaccurate for switches with different loads.

8. Click Save or Apply.



9. To copy the settings to a group or groups of lights, select the Groups tab and:
   i. Select the checkboxes next to the group or groups of lights to which the configuration settings are to be copied.
   ii. If appropriate, select the Copy switch output information checkbox if the energy consumption rate settings are to be copied to the selected group or groups of lights.
   iii. Click **Save** or **Apply**.



3. Checking Lighting Status

3.1. Viewing System Dashboard Data

Click Devices on the left navigation bar to view lighting summary information for the last 24 hours. If the Dashboard tab does not appear, see *Dashboard Does Not Appear* in the Troubleshooting section.

The top of the Dashboard displays the number of active lights in the system. To view additional detail on all lights, click the active status link next to the number of lights or click the **Lights** tab.

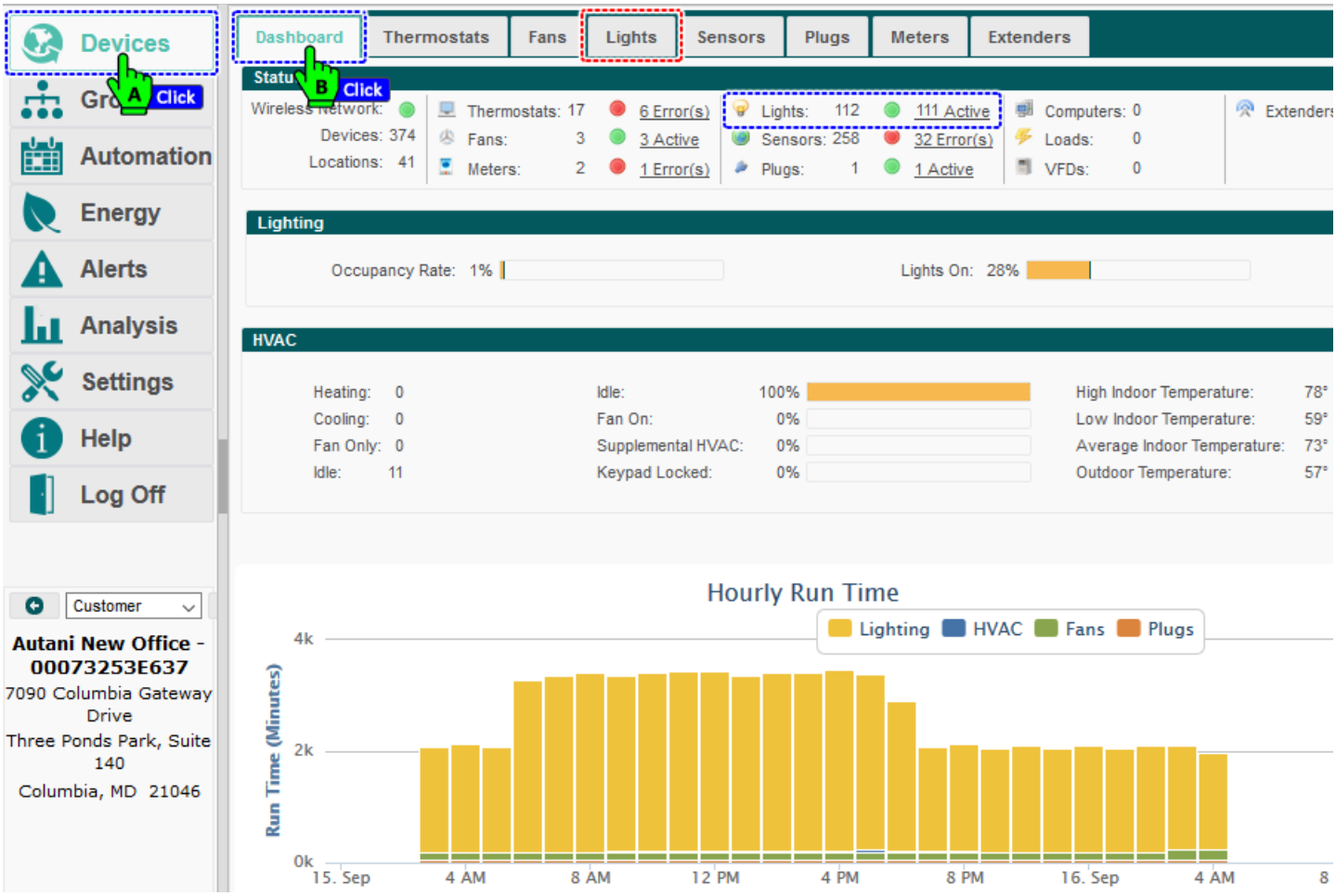


Table 9: Lighting Data Summarized on Dashboard Screen

Data	Description
Light Status	▪ Number of lighting control devices in the system ▪ Number of lighting control devices that are reporting data or number of devices in an error or warning state
Occupancy Rate	Percentage of currently occupied spaces
Lights On	Percentage of lights that are on
Hourly Run Time (Minutes)	▪ Lighting run time data for the last 24 hours ▪ Lighting data appears as yellow bars in the chart ▪ To view exact lighting run time in minutes and seconds or total run time for all the devices in the system, mouse over the lighting portion of a bar in the chart.

3.2. Viewing Summary Data for All Lights

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab to view the information in the following table.

   NOTE: The spreadsheet format can be modified to quickly view needed information

   - Rows can be sorted by clicking a column heading.
   - Rows can be hidden or redisplayed using the Hide and Unhide buttons.
   - The width of a column can be changed by dragging the lines on either side of the column heading to the desired size.
   - Columns can be hidden or displayed using the picker in the right-hand corner of a heading row
3. To view energy consumption data and/or the Daily Energy Usage of Selected Lights chart, click the Show/Hide Energy link in the upper right-hand corner of the screen. For more information, see *Viewing the Daily Energy Usage of Selected Lights* Chart.

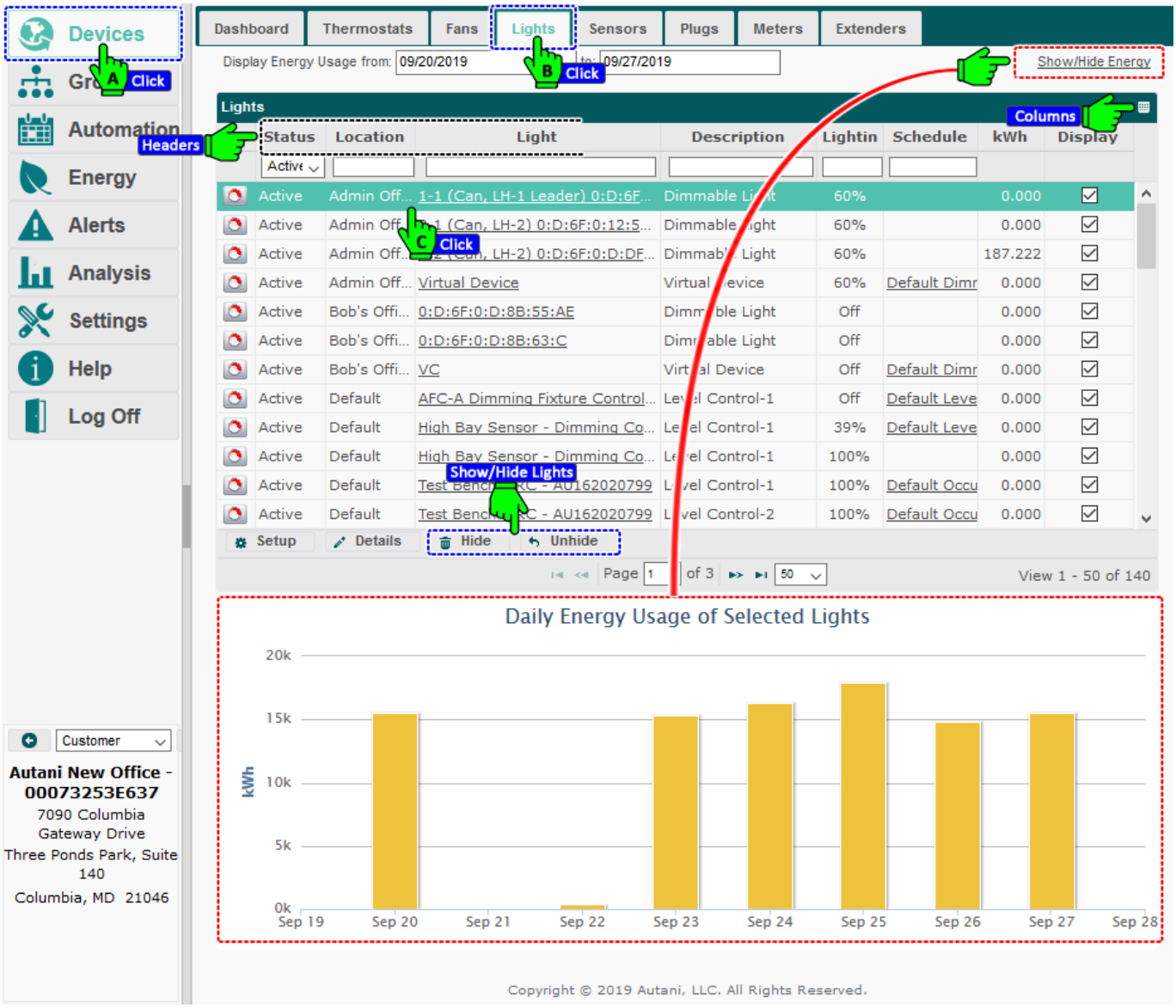


Table 10: Light Configuration Information

Column	Used To	Option
Status (with icon)	Describe the communication status for the light	▪ Active: Light is reporting data. ▪ Error: Light is not communicating with the Autani Manager over the autaniNet network. ▪ Removed: Light was removed from the autaniNet network.
Location	Identify the location group to which the light belongs NOTE: A light can belong to only one location group.	▪ Defaults to the "Default" location group when a light is first added to the network ▪ User can change ▪ Alphanumeric characters

Light	▪ List the names of configured light
	▪ Provide link to open Details tab for lights
	NOTE: The device name is the same for all end points (lights and sensors) wired to the same Autani Room Controller.
		▪ Name
		  ▪ User-defined name
		  ▪ Alphanumeric characters
		▪ Links to tabs:
		  ▪ General
		  ▪ Charts
		  ▪ Event Logs
		  ▪ Schedule
		  ▪ Sensors

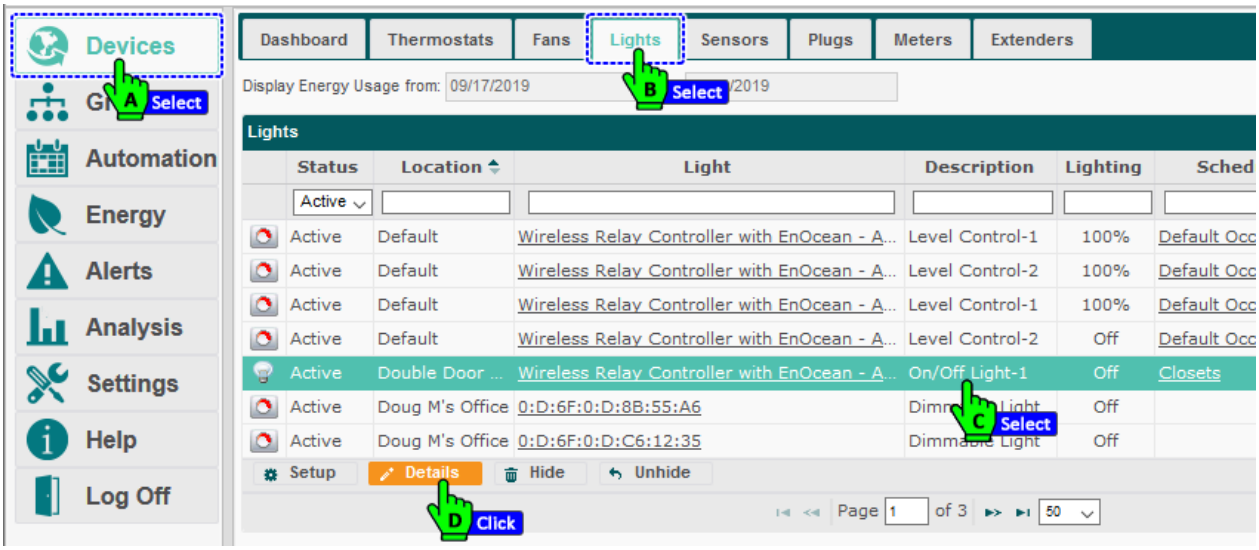
Description	Description of the configured light for easy reference	▪ User-defined description ▪ Alphanumeric characters
Lighting	Status of the light	▪ ON ▪ OFF ▪ Unknown

Schedule
 	
(Available if the light schedule is enabled)
	Link to the Schedule tab to view, change, copy, disable, or create a new schedule
	Indicate if a schedule curtailment or override is in effect
	Modify schedule events associated with the light
		▪ Schedule:
		  ▪ Name
		  ▪ Description
		  ▪ Disable
		▪ Events:
		  ▪ New
		  ▪ Copy
		  ▪ Edit
		  ▪ Delete

3.3. Finding Detailed Data for Individual Lights

To access lighting information:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab. For specific information that appears on that tab, see *Viewing Summary Data* for All Lights.
3. To view additional information or enter lighting-related data, click the name link of the light controller, double-click the row of the light controller, or click the row of the light controller and then click the Details button.



4. The tabs that appear are described in the following table.

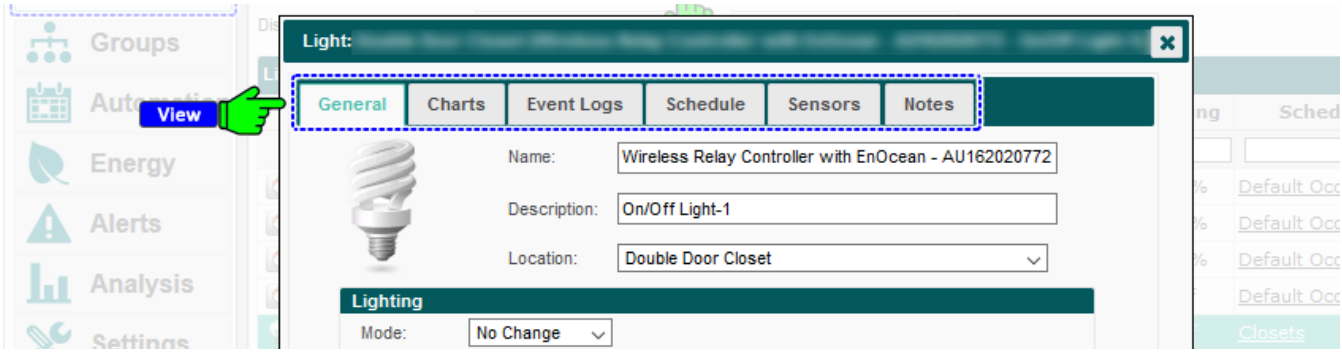
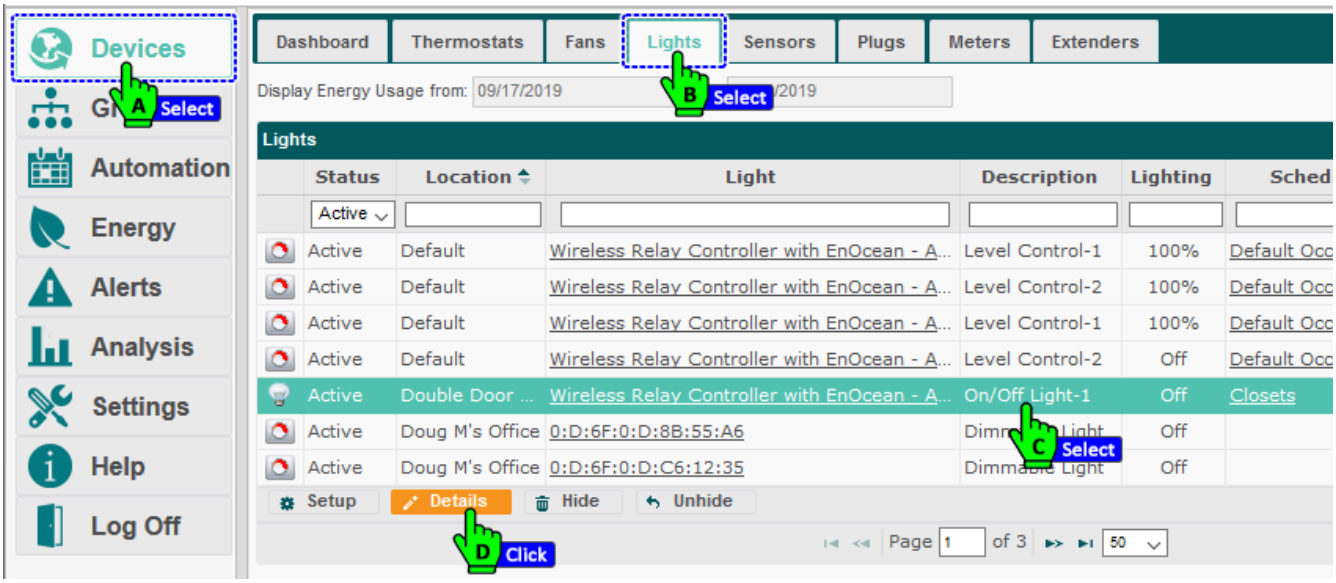


Table 11: Lighting Tabs

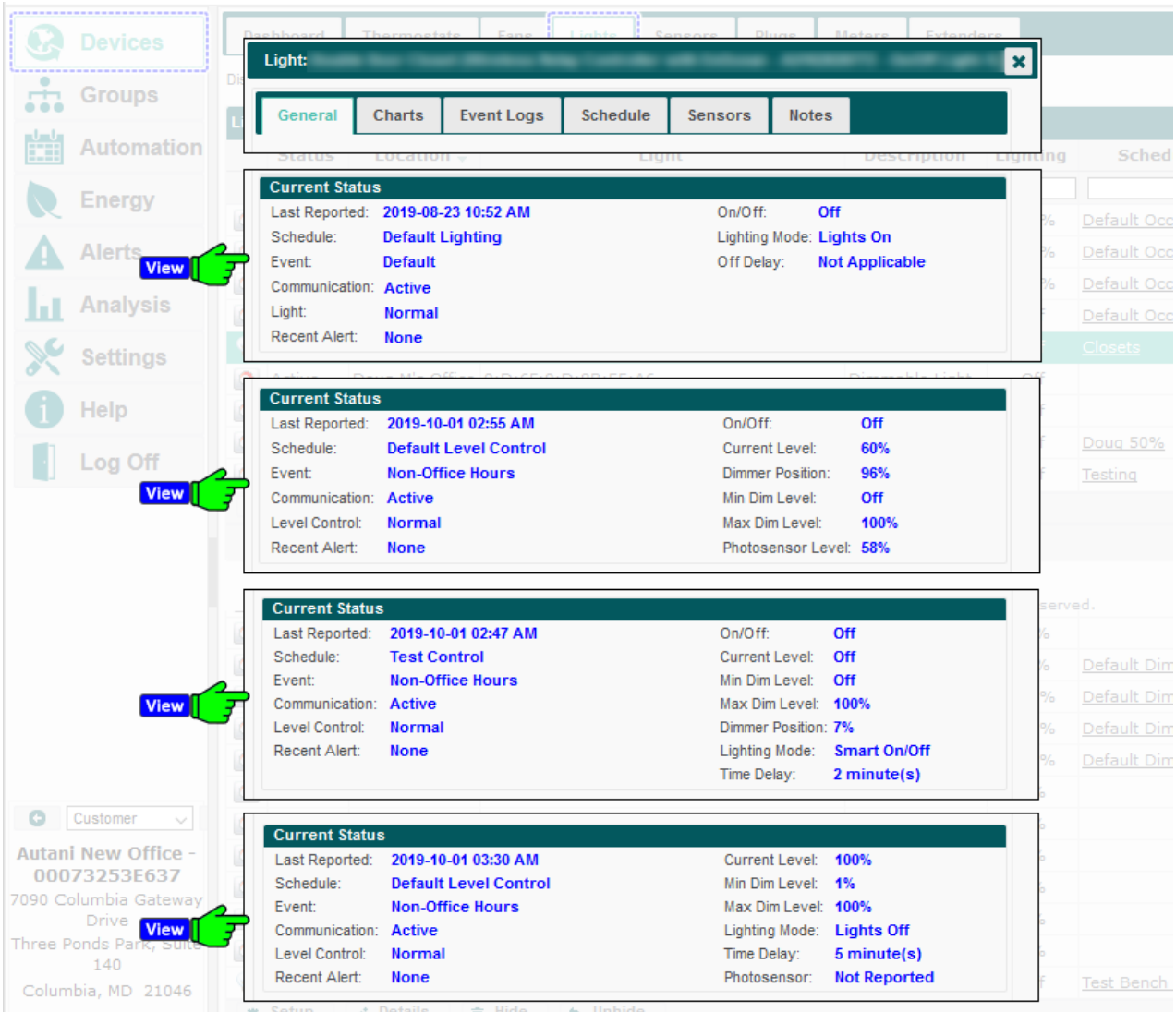
Tab	Used To	Link
General	▪ Change general descriptive information ▪ Change the lighting state ▪ View current status information	Changing Light Settings
Charts	View graphical representations of lighting status changes over a defined date range	Viewing the Daily Energy Usage of Selected Lights
Event Logs	View data on recent events	Viewing Occupancy Event Logs
Schedules	▪ View event schedule information ▪ Change general descriptive information ▪ Disable the schedule ▪ Link to screens to edit, copy, delete, or create schedules	Scheduling Lighting Changes
Sensors	Select sensors to control lights	Using Sensors
Notes	Leave notes for other users.	

3.4. Checking Detailed Status Data for an Individual Light

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the light name link, double-click the row of the light, or click the row of the light and then the **Details** button.



4. The lower section of the screen has the current status of the light displayed.



The following table will explain each status, and their attributes.

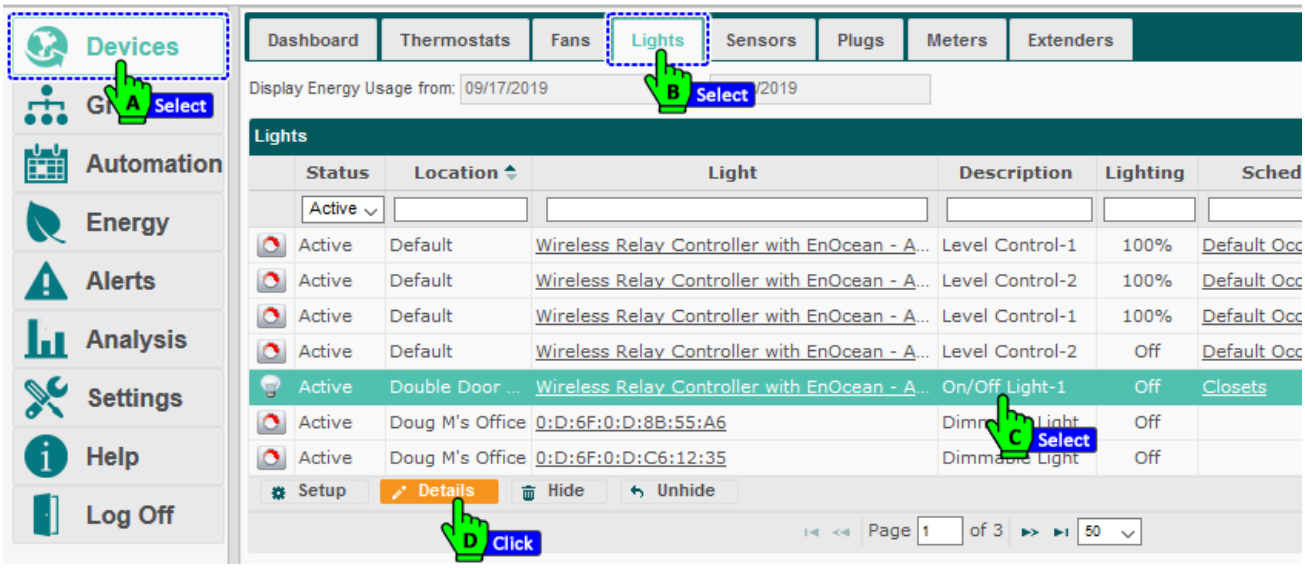
Table 12: Current Status of Lights

Setting	Used To	Options
Last Reported	Display time/date stamp of the last communication between the light and the Autani Manager	In the following format: yyyy-mm-dd hh:mm AM/PM
Schedule	Identify schedule currently applied to the light	User-defined schedule names Alphanumeric characters
Event	Identify schedule event currently applied to the light NOTE: If the schedule is disabled, then this setting displays “Not applicable”.	▪ User-defined schedule events ▪ Alphanumeric characters ▪ If the schedule is disabled or no schedule has been applied to the light, then this field will display “Not applicable”.
Communication	Indicate the communication status of the light	▪ Active: Light controller is reporting data. ▪ Error: Light controller is not communicating with the Autani Manager over the autaniNet network. ▪ Removed: Light was removed from the autaniNet network.
Light	Identify the status of the light	▪ Normal ▪ Warning: Specific light error status message ▪ Error: Device timeout ▪ Unknown
Recent Alert	Display the condition that triggered a light warning or error	▪ None ▪ Error: Light is not communicating with the Autani Manager over the autaniNet network. ▪ Warning: Specific light error status message
Current Level	The Current Level of the Light in percentage.	▪ 0-100%
ON/OFF	Displays the current status of light.	▪ ON ▪ OFF
Lighting Mode	Displays the light mode chosen in light section.	▪ Lights ON ▪ Lights OFF ▪ Smart ON/OFF ▪ Vacancy ▪ Dim Level Change
Off Delay/Time Delay	Displays the Time Delay for a Mode, set in Level section	▪ Not Applicable
* Level Control	Displays the current status of Level Control	▪ Normal / Unknown
* Dimmer Position	The dimmer position is shown here if a wired physical dimmer is connected.	▪ 0-100% / Not Reported
Min Dim Level	Displays Minimum Dim Level value. (Dim Level is set through Lights>Setup>General Settings.)	▪ 0-100%
Max Dim Level	Displays Maximum Dim Level value. (Dim Level is set through Lights>Setup>General Settings.)	▪ 0-100%
Photosensor Level	Displays current level of the Photosensor.	▪ 0-100%
Photosensor	Photosensor readings are displayed here if photosensor is connected and configured.	▪ 0-100% / Not Reported

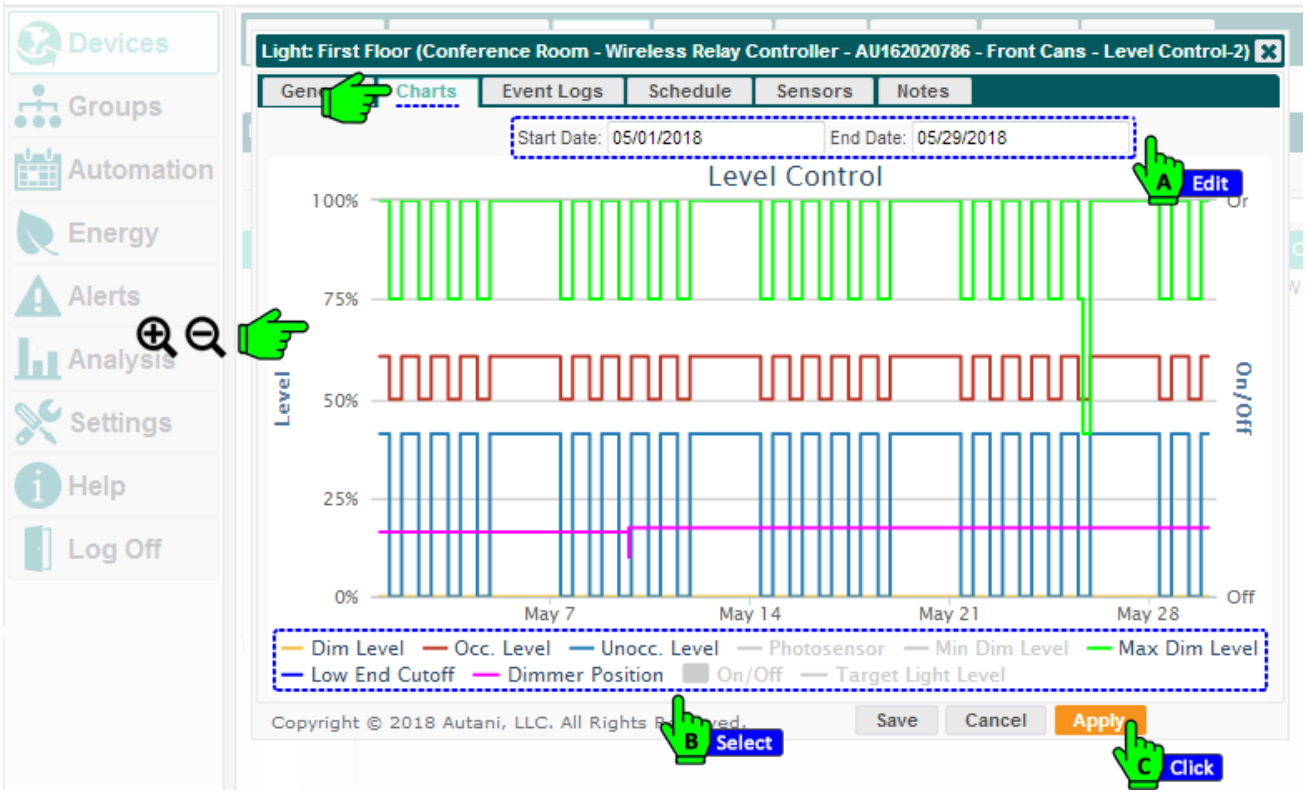
3.5. Viewing Transition Data Charts

To view a chart illustrating when a specific light was turned ON or OFF:

1. On the left navigation bar, click **Devices** > **Lights** tab.
2. Click the light name link, double-click the row of the light, or click the row of the light and then the **Details** button.



3. Click the **Charts** tab. The default display is for the current date.
4. To select a date range for the chart, click the **Start Date** and **End Date** textboxes to access the calendar.
5. To view more exact information:
   i. Mouse over the displayed data
   ii. Zoom in on a defined area of the chart by clicking and dragging the mouse to create a rectangular box. To return the view to its original size, click Reset Zoom in the upper right-hand corner of the chart.



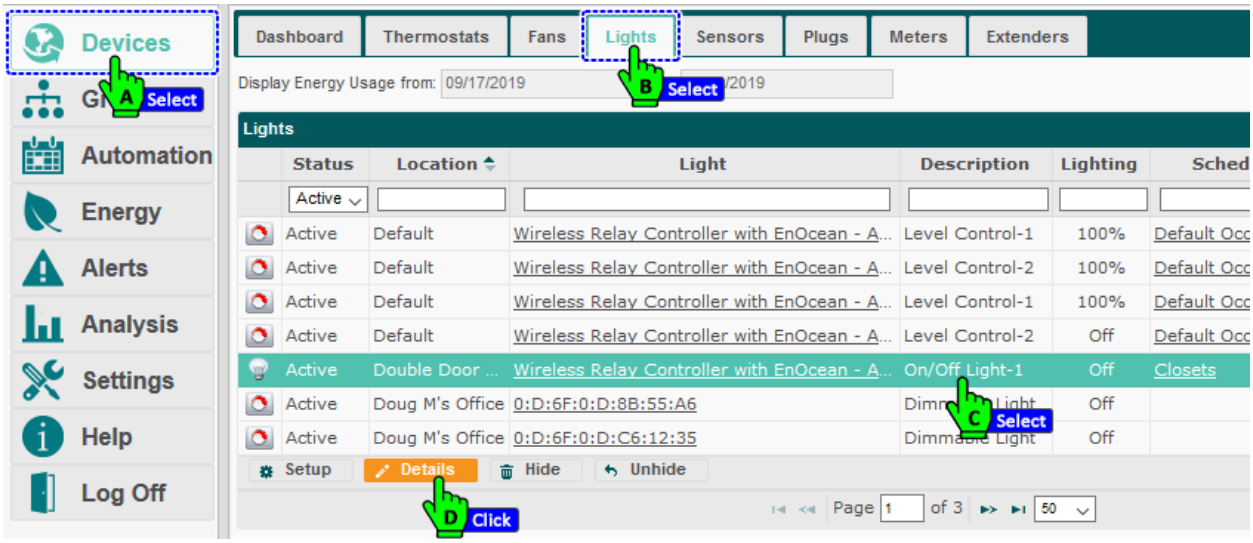
6. To view when a specific light was turned ON or OFF in a spreadsheet format, see *Using Light Event Logs*.

3.6. Using Light Event Logs

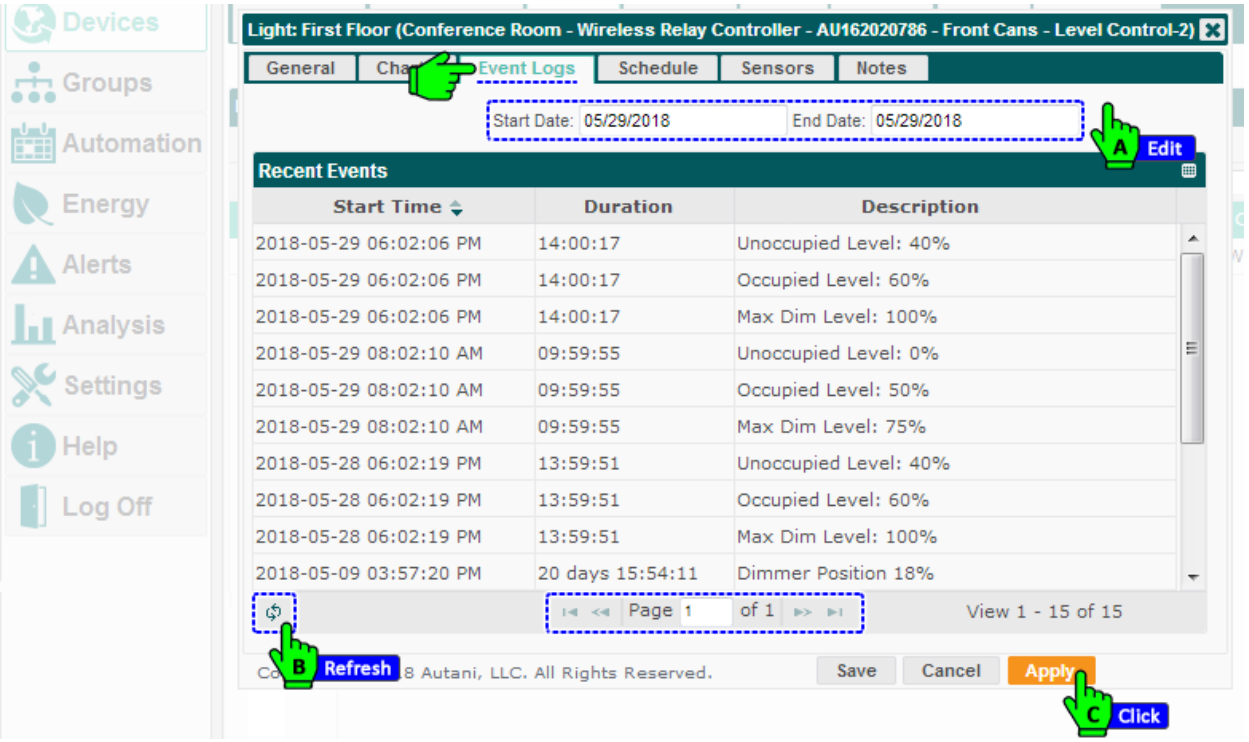
Event logs are created to record all important lighting events and can be accessed for a specific date or date range.

To view a lighting event log:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the light controller name link, double-click the row of the light controller or select the row of the light controller and then click the **Details** button.



4. Click the **Event Logs** tab.
5. Click in the **Start Date** and **End Date** text boxes to access the calendar and select a date range.
   NOTE: Event logs include events that began before the date range if they continued into the selected date range.
6. To display hidden columns:
   i. Click the picker.
   ii. Select the checkbox(es) for the column(s) to be displayed. Click **OK**.
7. After viewing the event logs, click **Save** or **Cancel**.



4. Using Sensors to Determine Occupancy

4.1. Understanding Occupancy Sensor Installation

Occupancy sensors detect movement. The software uses sensor data to determine if a space is occupied and manage lighting behavior based on user-defined settings.

Lighting control options depend on how sensors are installed. For more information, see the table below.

Table 13: Sensor Installation Effects on Occupancy-Related Settings

Sensor Installation Status	Occupancy-Related Settings
No sensor installed	Occupancy settings are not available for lights.
▪ Integrated into application ▪ Not assigned to a light	Occupancy settings are not available for the light.

▪ Integrated into application module
▪ Assigned to a light
	▪ Occupancy can be set remotely using a schedule or on demand from the user interface.
	▪ Available occupancy settings vary based on the mode selected by the user:
	  ▪ Lights ON: Occupancy sensor data is not used to turn lights OFF.
	  ▪ Lights OFF: Occupancy sensor data is not used to turn lights ON.
	  ▪ Smart ON/OFF: Occupancy sensor data is used to turn lights ON and OFF.
	  ▪ Vacancy: Occupancy sensor data is only used to turn lights OFF.
	▪ Users can set occupancy delays to control how quickly lighting changes are made based on changes in occupancy when using:
	  ▪ Third-party motion sensors
	  ▪ Contact sensors
	NOTE: Delays can be dependent on third-party sensors that have fixed preprogrammed delays. When using third-party sensors, users can specify an unoccupied-related delay interval to control how quickly a light is turned off.

4.2. Understanding Types of Occupancy Sensors to Control Lights

There are multiple kinds of sensors that can be used in conjunction with the light management module as summarized in the table below.

NOTE: For information regarding recommended third party sensors for best system performance, refer to www.autani.com and click the Sales tab for contact information.

Table 14: Types of Occupancy Sensors and Lighting Behavior Options

Type of Motion Sensor	Power Supply	Signal Sent	Lighting Behavior Options
Autani MINI Wired Motion Sensor	WRC/ ARC	When motion is detected	▪ Multiple lights wired to the same WRC/ARC can be turned ON or turned OFF when motion is no longer detected. ▪ If sensor is connected to other Autani MINI Wired Motion Sensors using splitters or connectors, a light can be controlled when motion is detected by any one of the sensors associated with the light.
EnOcean Wireless Motion Sensor (requires an EnOcean Bridge or WRC)	Coin cell Ambient Light	When motion is detected	▪ Lights can be turned ON or turned OFF when motion is no longer detected. ▪ Lights that are on can be kept on.

Wired, Third- Party Sensor	WRC/ ARC	After motion is detected, any user-defined delay specified in the software, and any delay preprogrammed in the sensor **NOTE**: It may be possible to modify or eliminate the delay programmed in the sensor. For more information, see the documentation that came with the sensor.	▪ Multiple lights wired to the same WRC/ARC can be turned on or turned off when motion is no longer detected. ▪ If sensor is connected to other wired sensors using splitters or connectors, lights can be controlled when motion is detected by any one of the associated sensors.
Contact Sensors	WRC/ ARC	After motion detected and any user-defined delay specified in the software.	Multiple lights wired to the same WRC/ARC can be turned on or turned off when motion is no longer detected.

For additional information on factors that affect whether lights are turned on when occupancy is detected, refer next section.

4.3. Understanding How Occupancy Sensor Signals Affect Light Behavior

Sensors must be wired to or associated with specific lights in order for motion data they report to be used in software control decisions for those lights. The software determines a space to be occupied if any one of the sensors wired to or associated with the light reports motion.

The following tables provide more detailed information on lighting behavior when motion sensors are a part of the lighting system. The first table summarizes behavior when lights are in switch configuration. The second table summarizes behavior when lights are in toggle configuration.

NOTES:

- For more information on switch, toggle, and momentary modes, see *Selecting Switch or Toggle or Momentary Mode (applicable to ARC & WRC only).*
- Occupancy determinations can also change device behavior when used in conjunction with scheduled events. For more information, see Understanding Lighting Differences Based on Event Mode.

Table 15: Occupancy-Related Behavior in Lights are in Switch Configuration

Type of Sensor	Original Light State	Occupant Action	New Light State	System Can Turn Light ON or OFF	Motion Turns Light ON	Motion Keeps Light ON	No Motion Turns Light OFF
Wireless	OFF	Flip switch from down to up position	ON	Yes	No	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wireless	ON	Flip switch from up to down position	OFF	No	Yes	No	No
Wired	OFF	Flip switch from down to up position	ON	Yes	Yes	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wired	ON	Flip switch from up to down position	OFF	No	No, if Autani Mini is wired to WRC/ARC Yes, if Autani Wired Mini is not wired to WRC/ARC	No	No

Table 16: Occupancy-Related Behavior in Lights are in Toggle Configuration

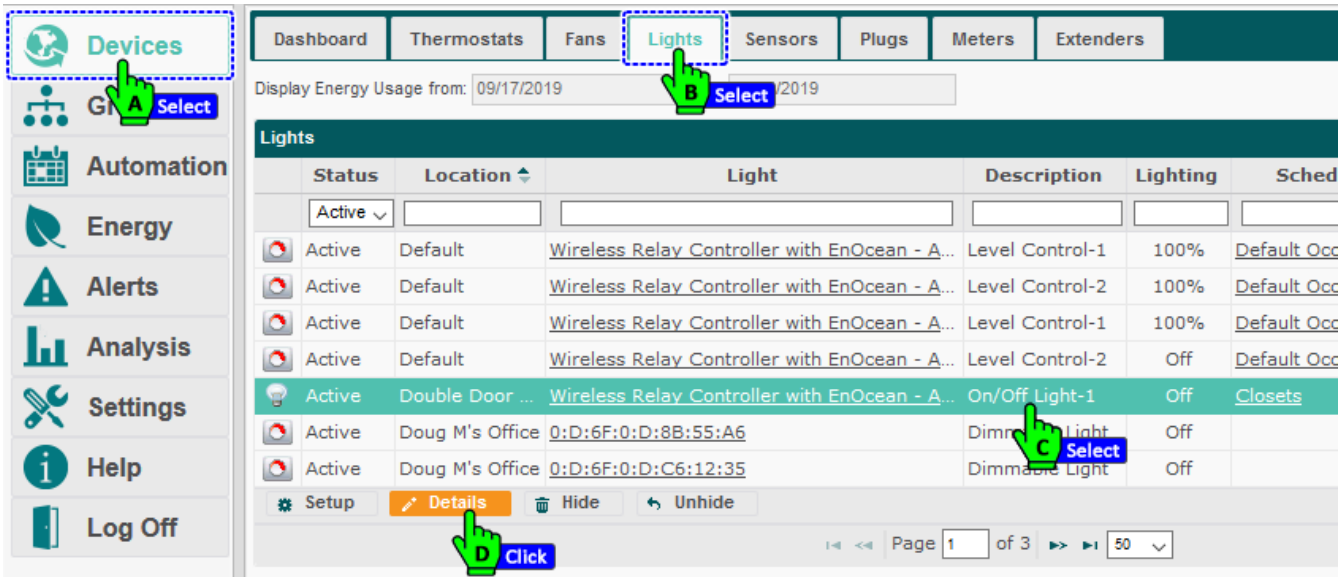
Type of Sensor	Original Light State	Occupant Action	New Light State	System Can Turn Light ON or OFF	Motion Turns Light ON	Motion Keeps Light ON	No Motion Turns Light OFF
Wireless	OFF	Flip switch from down to up position	ON	Yes	Yes	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wireless	OFF	Flip switch from up to down position	ON	Yes	Yes	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wireless	ON	Flip switch from down to up position	OFF	Yes	No	No	No
Wireless	ON	Flip switch from up to down position	OFF	Yes	No	No	No
Wired	OFF	Flip switch from down to up position	ON	Yes	Yes	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wired	OFF	Flip switch from up to down position	ON	Yes	Yes	Yes	Yes, if all other sensors (associated and wired) also indicate no motion
Wired	ON	Flip switch from down to up position	OFF	Yes	No	No	No
Wired	ON	Flip switch from up to down position	OFF	Yes	No	No	No

4.4. Associating Occupancy Sensors with Lights

Sensors must be wired to or associated with a specific light in order for motion data they report to be used in software control decisions for that light. The software determines an area to be occupied if any one of the sensors wired to or associated with a light reports motion.

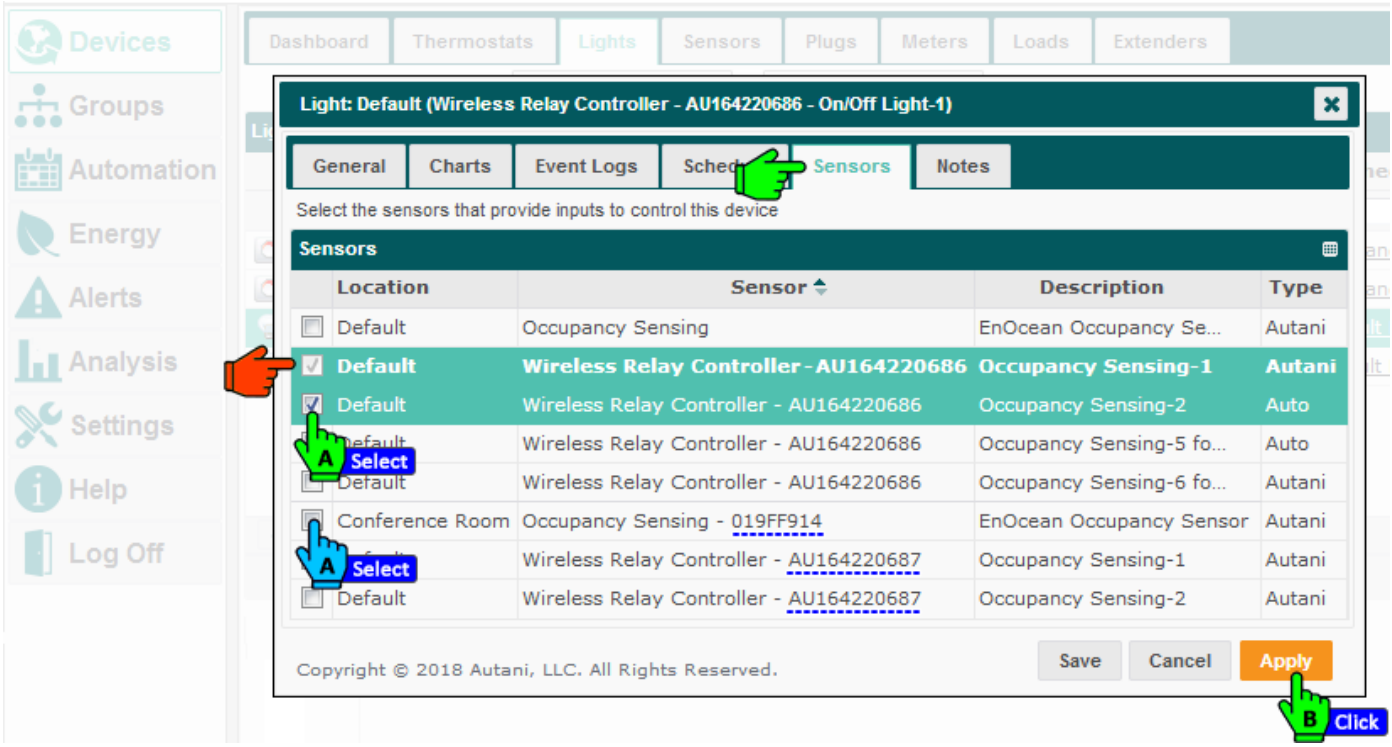
To assign one or more occupancy sensors to a light:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the light name link, double-click the row of the light, or select the row of the light and then click the **Details** button.



4. Click the Occupancy tab.
5. Select the checkbox(es) next to the sensor(s) that are to be considered in occupancy decisions for the light.

   NOTE: To disassociate a sensor from a light, deselect the checkbox associated with the sensor.
6. Click **Save** or **Apply**.

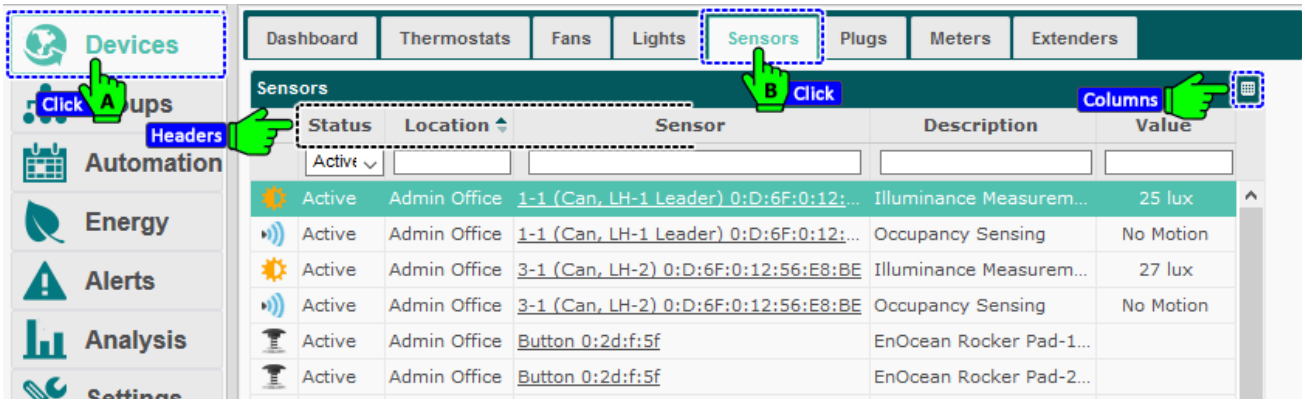


5. Viewing Occupancy Sensor Data

5.1. Viewing Summary Data on Sensor Tab

To view basic information about all networked sensors, including their status and last reported activity:

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab to view the information in the table below:



NOTE: The spreadsheet format can be modified to quickly view needed information

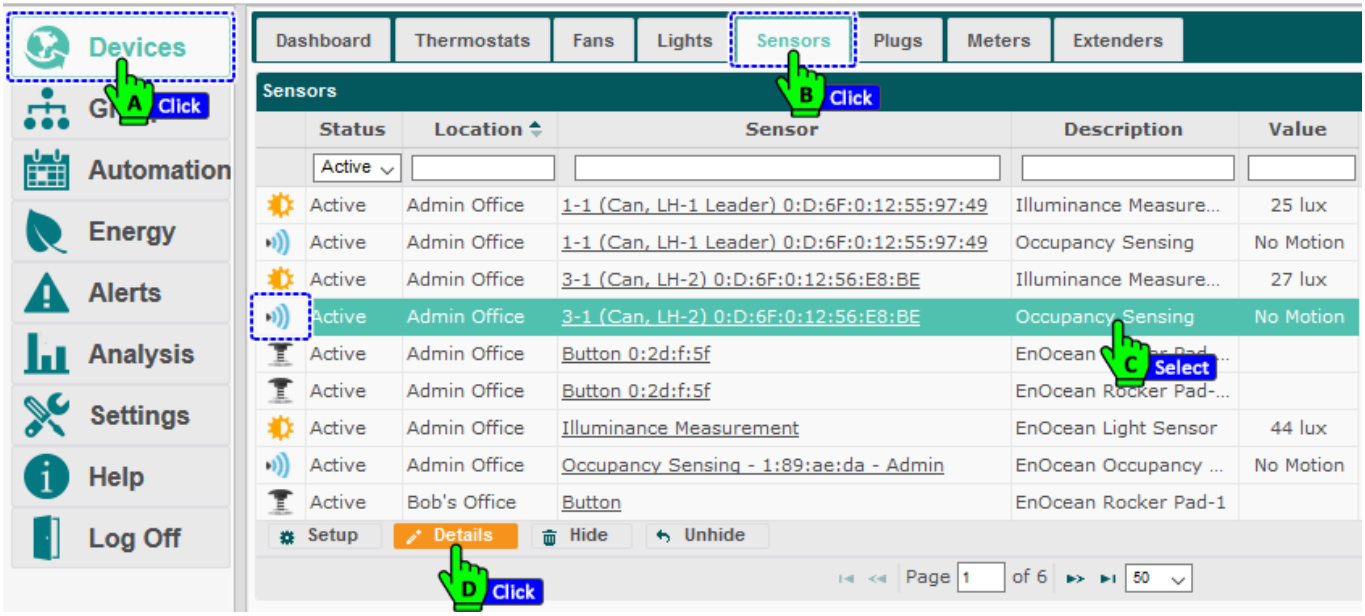
- Rows can be sorted by clicking a column heading.
- Rows can be hidden or redisplayed using the Hide and Unhide buttons.
- The width of a column can be changed by dragging the lines on either side of the column heading to the desired size.
- Columns can be hidden or displayed using the picker in the right-hand corner of a heading row

Table 17: Data Displayed on Sensors Tab

Data	Used To	Options
Status	Shows the communication status of the sensor	▪ Active: The sensor is online and reporting data. ▪ Error: □ Sensor has failed to report its network status. □ A battery-powered sensor may need new batteries.
Location	Identify the location group to which the sensor belongs	▪ User-defined location groups ▪ Alphanumeric characters
Sensor	List the name of the sensor	▪ User-defined location groups ▪ Alphanumeric characters
Description	Describe the sensor for quick reference	▪ User-defined location groups ▪ Alphanumeric characters
Serial Number	Shows the Serial # of Device	Alphanumeric characters
Model Number	Shows the Model # of Device	Alphanumeric characters
Product	Shows the type of device.	Light Controller, Load Controller, HVAC Controller….
Last Reported	View the time/date stamp of the last communication between the sensor and the application.	In the following format: yyyy_mm_dd hh:mm AM/PM
Channel	Displays the channel chosen	Illuminance, Occupancy, ON/OFF Light, ON/OFF Load.
Battery	Displays the Battery Level	%
Value	Indicate whether an occupancy sensor is detecting motion	▪ Motion Detected ▪ No Motion **NOTE**: Open and Closed are contact sensors options.

5.2. Viewing Current Status of Occupancy Sensors

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab to display the status of all the sensors in the system.
3. To view more detailed status data for an individual sensor, click the sensor name link, double-click the row of the sensor, or select the row of the sensor and then click the **Details** button.



4. The **Current Status** of the Sensor are listed in the Detail screen, the same are explained in the following table.

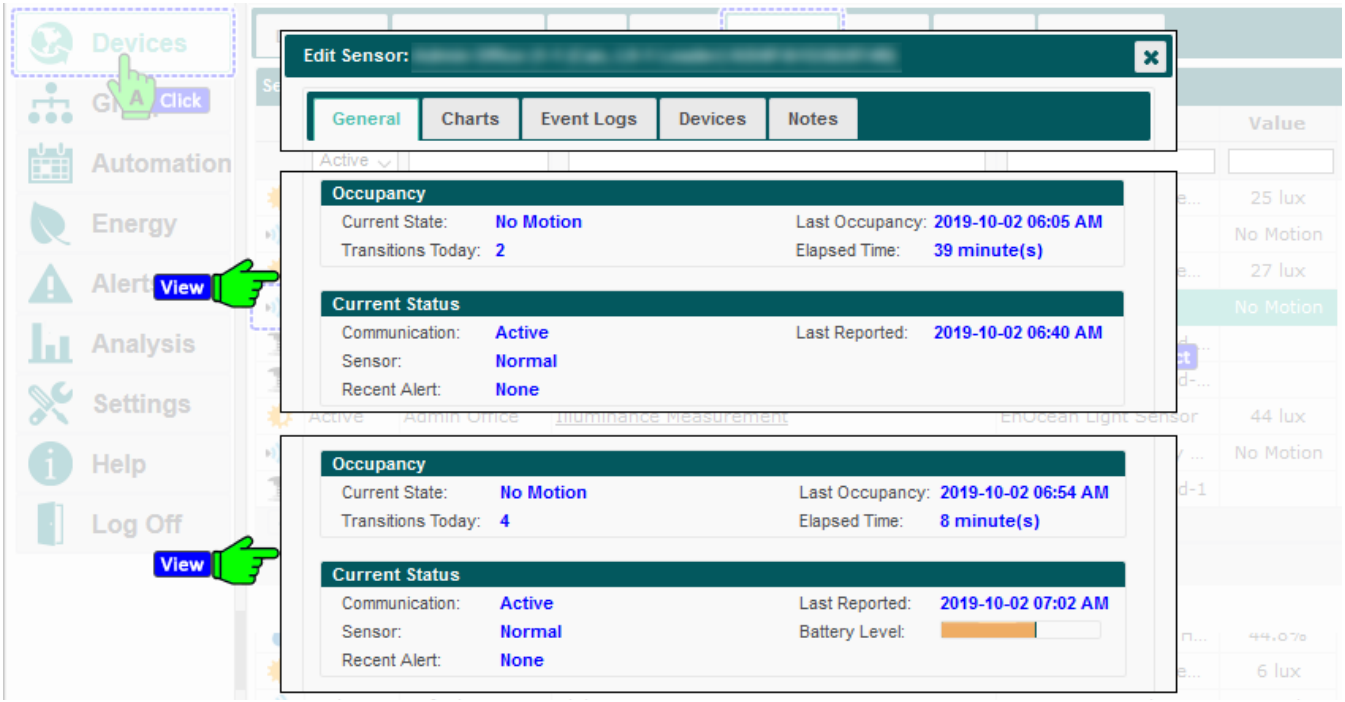


Table 18: Sensor Current Status Data

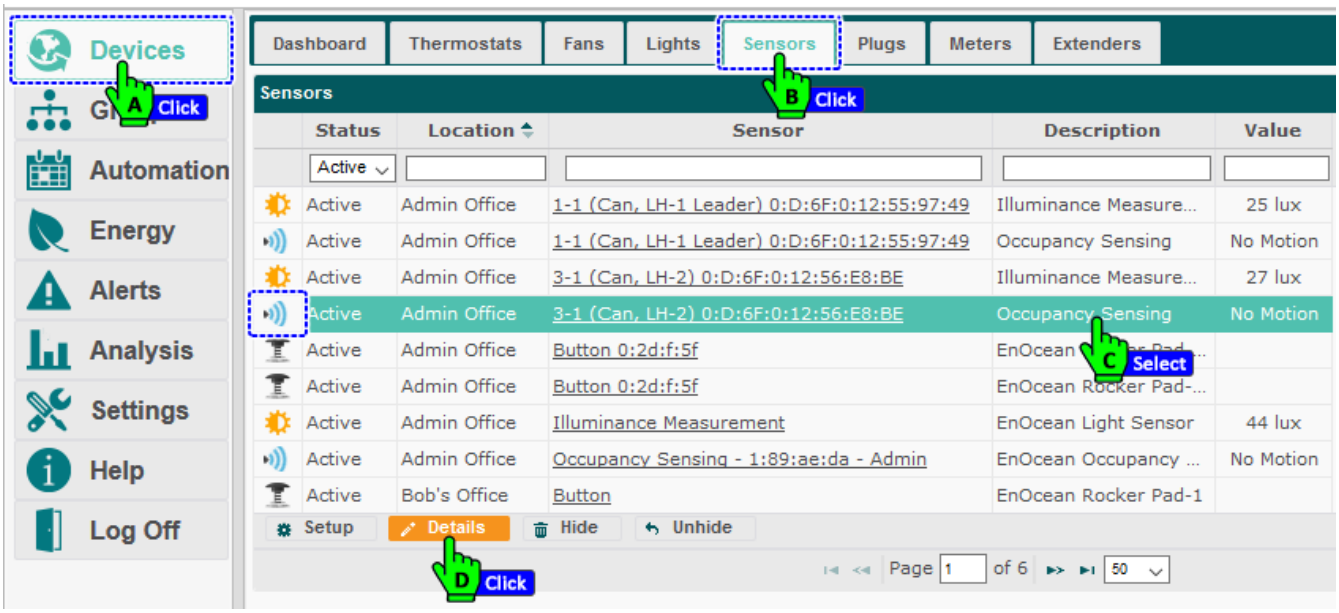
Setting	Used To	Options
State	Indicate occupancy by whether or not motion is detected	▪ Motion ▪ No Motion
Transitions Today	View the number of transitions between the states of motion and no motion	Number of transitions

Setting	Used To	Options
Last Occupancy	Identify the time/date stamp of the last reported motion	In the following format: yyyy-mm-dd hh:mm AM/PM
Elapsed Time	View the time elapsed since the last time the sensor reported motion	Time in hours and minutes
Communication Status	Indicate the communication status of the sensor	▪ Active: Sensor is online and reporting data. ▪ Error: Sensor has failed to report its status over the network.
Sensor	Indicate status of the sensor	▪ Normal ▪ Warning: Specific sensor error status message ▪ Error: Device timeout ▪ Unknown
Recent Alert	Display the condition that triggered a sensor warning or error **NOTE**: Recent Alerts are display-only. To clear an alert, click Alerts on the left navigation bar and then delete it.	▪ None ▪ Error: Sensor failed to report its status over the network. ▪ Warning: Light error status message
Last Reported	View the time/date stamp of the last report from the sensor	In the following format: yyyy-mm-dd hh:mm AM/PM
Battery Level (available for battery-powered sensors)	View remaining battery life calculated using the most recent voltage reading from the sensor	Graphical display of remaining battery life

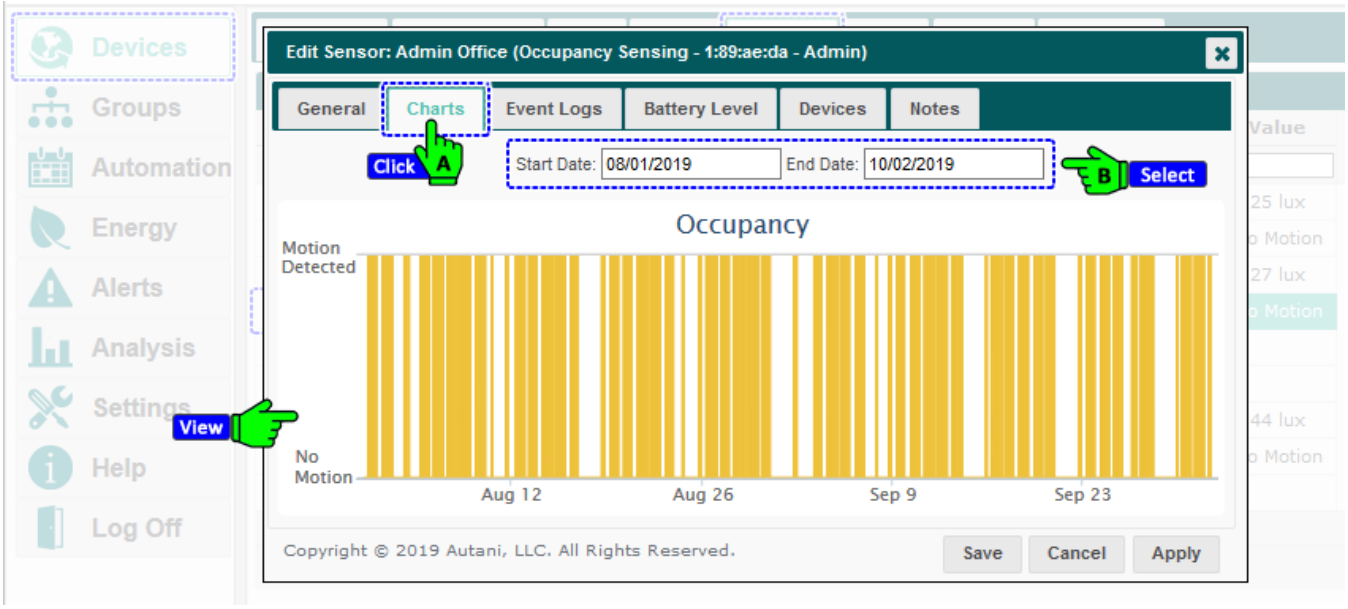
5.3. Viewing Occupancy Charts

To view a chart illustrating occupancy data for a specific sensor:

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab.
3. Click the sensor name link, double-click the row of the sensor, or select the row of the sensor and then click the **Details** button.



4. Click the **Charts** tab. A graphical view of occupancy data is displayed.
    - To view more exact information, mouse over data in the chart.
    - To zoom in on a defined area of the chart, click the mouse and drag it inside the chart, drawing a rectangular box. To return the view to its original size, click Reset Zoom.
5. Click the **Start Date** and **End Date** textboxes to access the calendar and set the date range for the graph.
6. After viewing the chart, click **Save** or **Cancel**.



To view occupancy data for a specific sensor in a spreadsheet format, see *Viewing Occupancy Event Logs*.

5.4. Viewing Occupancy Event Logs

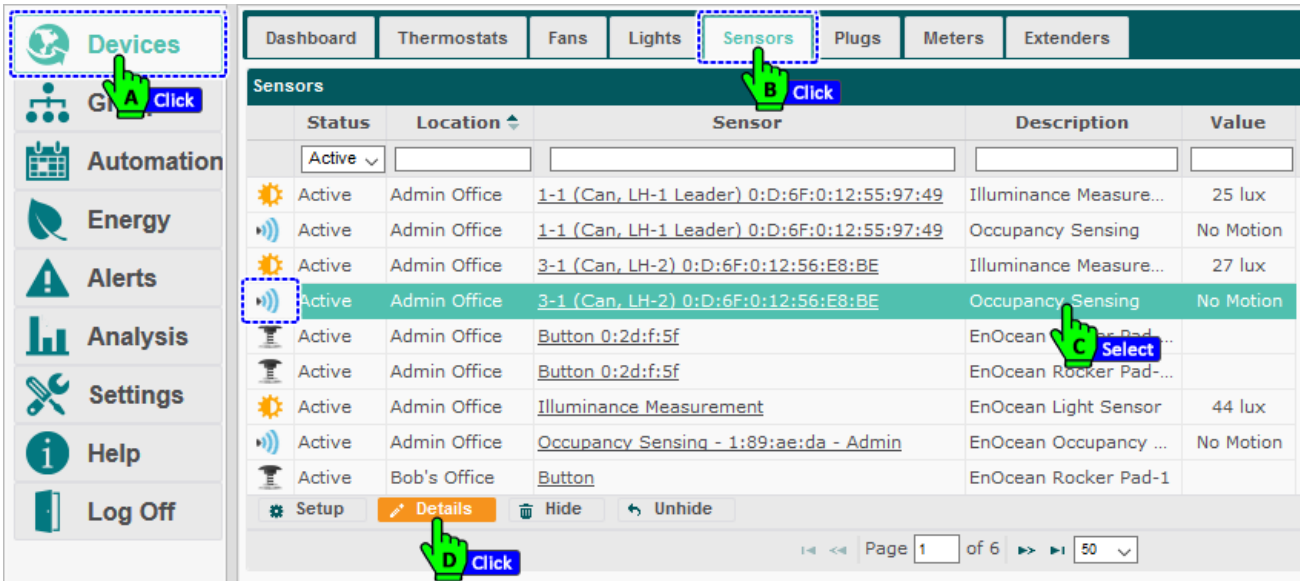
An Event Log entry is created whenever there is a transition between a sensor detecting or failing to detect motion. The log can be accessed for a specific date or date range and includes the information in the table below.

Table 19: Sensor Log Event Information

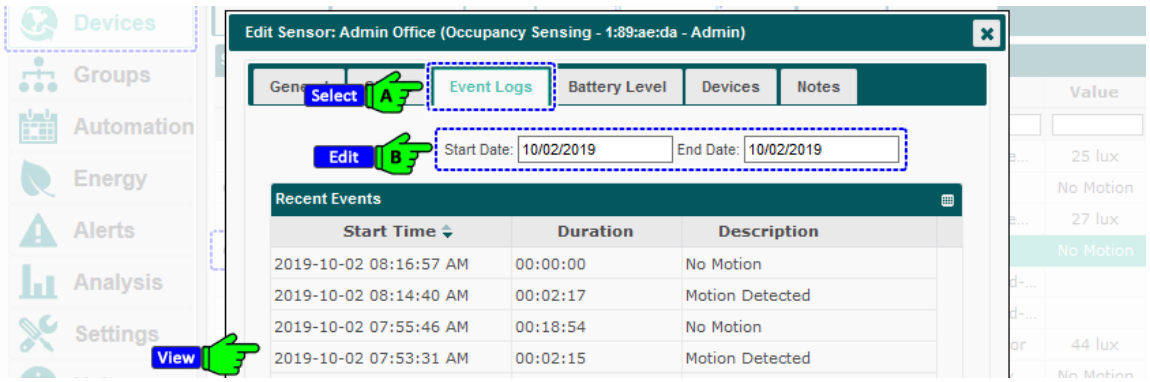
Event Setting	Used to Display
Start Time	Start date timestamp
End Time	End date timestamp
Duration	Duration of the event
Average Duration	Average duration of reporting intervals while in current state
Number of Reports	Number of times the sensor reported without a transition from the current state
Description	Whether or not motion was detected during the event time frame

To view the Event Log for a sensor:

1. On the left navigation bar, click **Devices**.
2. Click the **Sensors** tab.
3. Click the row of the sensor whose event log you want to view to highlight it, double-click the row of the sensor, or click the row of the sensor and then click the **Details** button.



4. Click the **Event Logs** tab.
5. Click **Start Date** and **End Date** to access the calendars and set the date range to display in the graph.
   NOTE: Events that begin prior to the start of the selected date range and continue after the designated start time are included in the event logs.
6. To select the columns of lighting data to be displayed, click the picker, select the checkboxes of the columns to be displayed. Click **OK**.
7. After viewing the event logs, click **Save** or **Cancel**.



6. Scheduling Lighting Changes

6.1. Understanding Lighting Differences Based on Event Mode

Lighting behavior changes can be scheduled in advance. The table below summarizes Implementation differences based on the mode selected by the user.

NOTES:

- For the system to control a light configured in switch mode, the wall switch must be in the up or "on" position. For more information on switch mode, see *Understanding Lighting Configurations*.
- A wall switch can be disabled to prevent scheduled event settings from being overridden if someone changes the switch position. A switch is re-enabled and resumes its normal functioning when the event setting is changed, the event ends, or a subsequent schedule event is implemented in which the switch is not disabled.

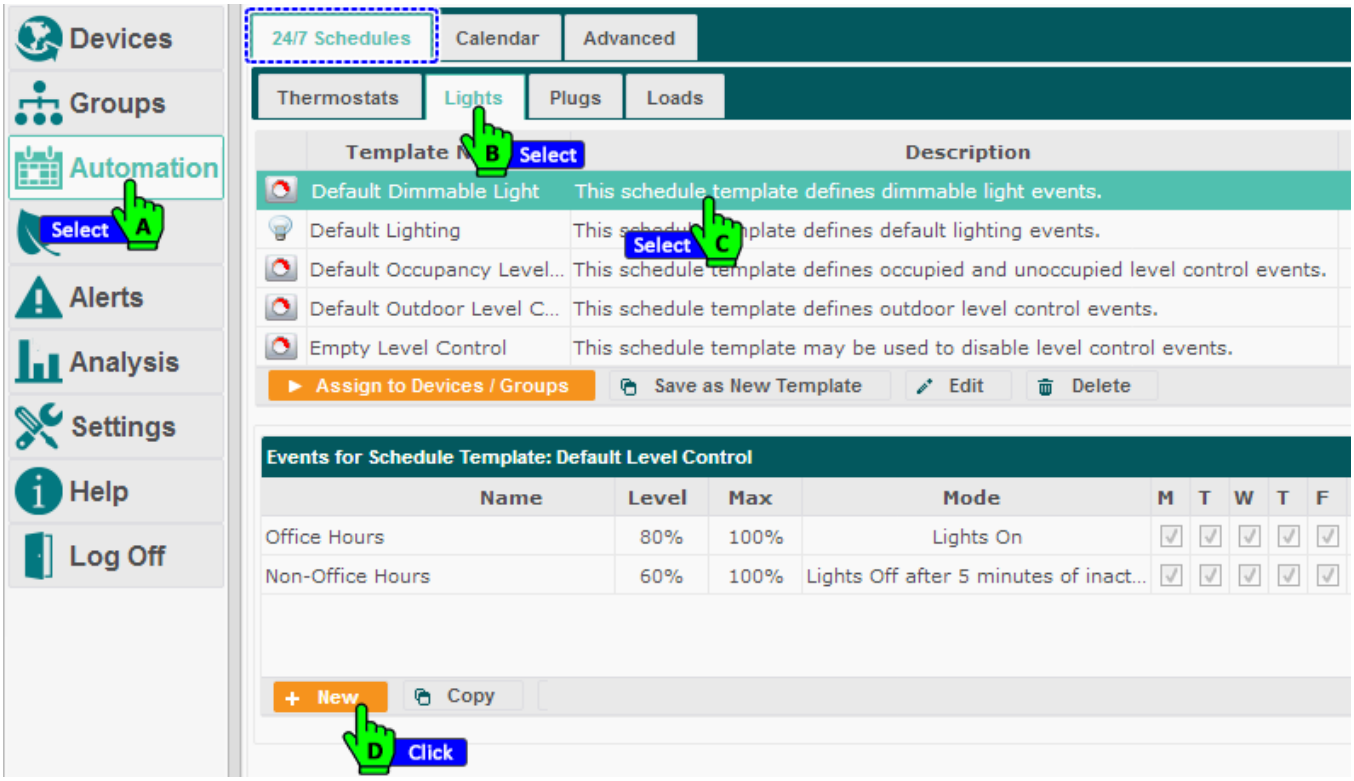
Table 20: Effect of Motion Sensors by Lighting Mode

Setting	Used To	Data from Wired and Associated Motion Sensor(s)	
		Turns Lights On	**Turns Lights Off**
Lights On	Turn lights on at the start of the scheduled event, unless the wall switch for a light in switch mode is in the down or off position	When motion is detected	N/A
Lights Off	Turn lights off at start of the scheduled event	N/A	When no motion is detected Note: If an occupant turns the light on using the wall switch, the light remains on until after: ▪ No motion is detected ▪ Any applicable user- defined occupancy delay time interval ▪ Any third-party sensor preprogrammed delay
Smart On/Off	Turn lights on or off based input from sensors	When motion is detected	Lights turn off after: ▪ Motion is no longer detected ▪ Any applicable user-defined occupancy delay time interval ▪ Any third-party sensor preprogrammed delay
Vacancy	Turn lights on only when the wall switch is flipped up to the "on" position Note: If the lights were turned off by the system, to turn them back on: ▪ While in switch mode, the switch must be flipped down and then up ▪ While in toggle mode, the switch must be flipped twice (up then down or down then up)	N/A	▪ Triggers lights to turn off after: ▪ Motion is no longer detected by any wired or associated sensors associated with the light ▪ Any applicable user-defined occupancy delay time interval ▪ Any third-party sensor preprogrammed delay

6.2. Creating and Assigning Schedules

The steps below are required to create a schedule template and use it to assign a schedule to one or more lights.

1. Create a schedule template by modifying a copy of the default template or another existing template.
2. Create or modify template events as described in the table below.
3. Assign a schedule template to one or more lights or a group of lights.



4. The following graphic and the table will explain the configurations to create a new Event.

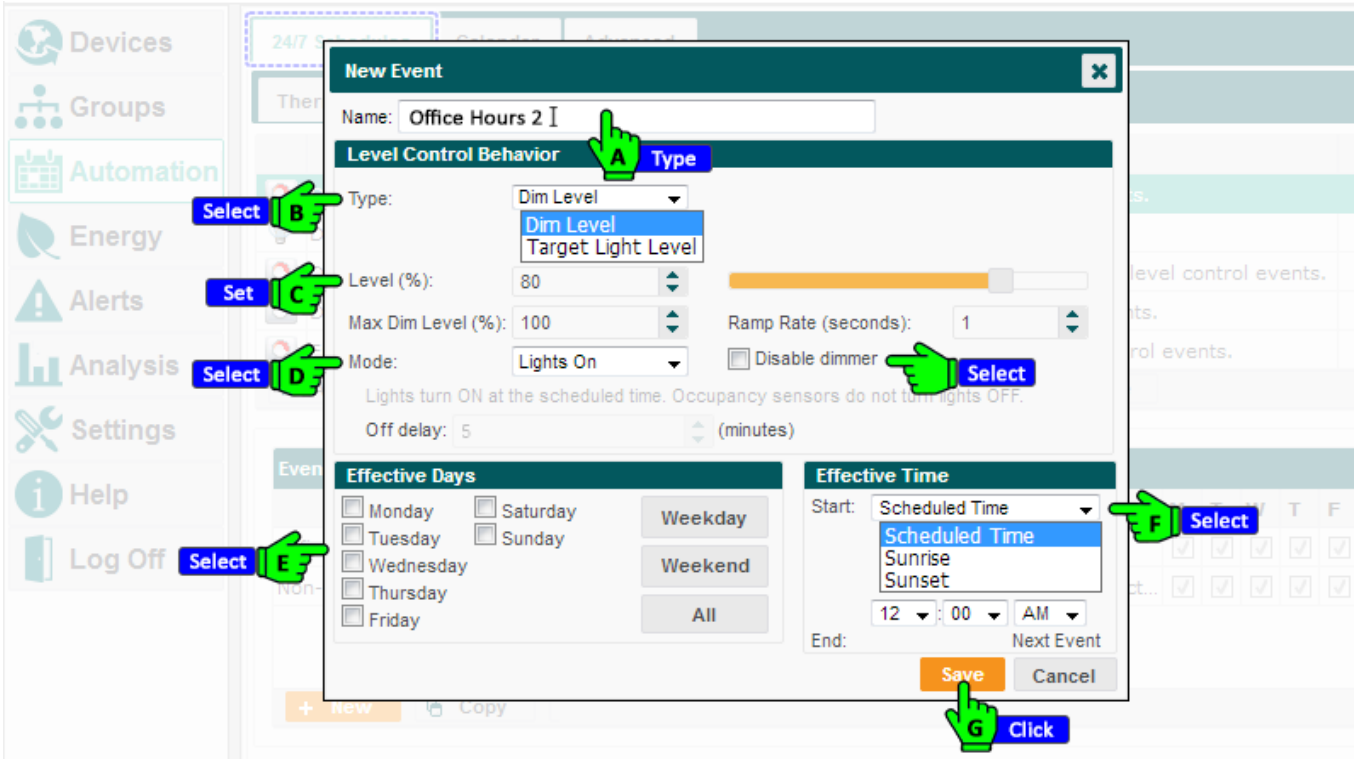


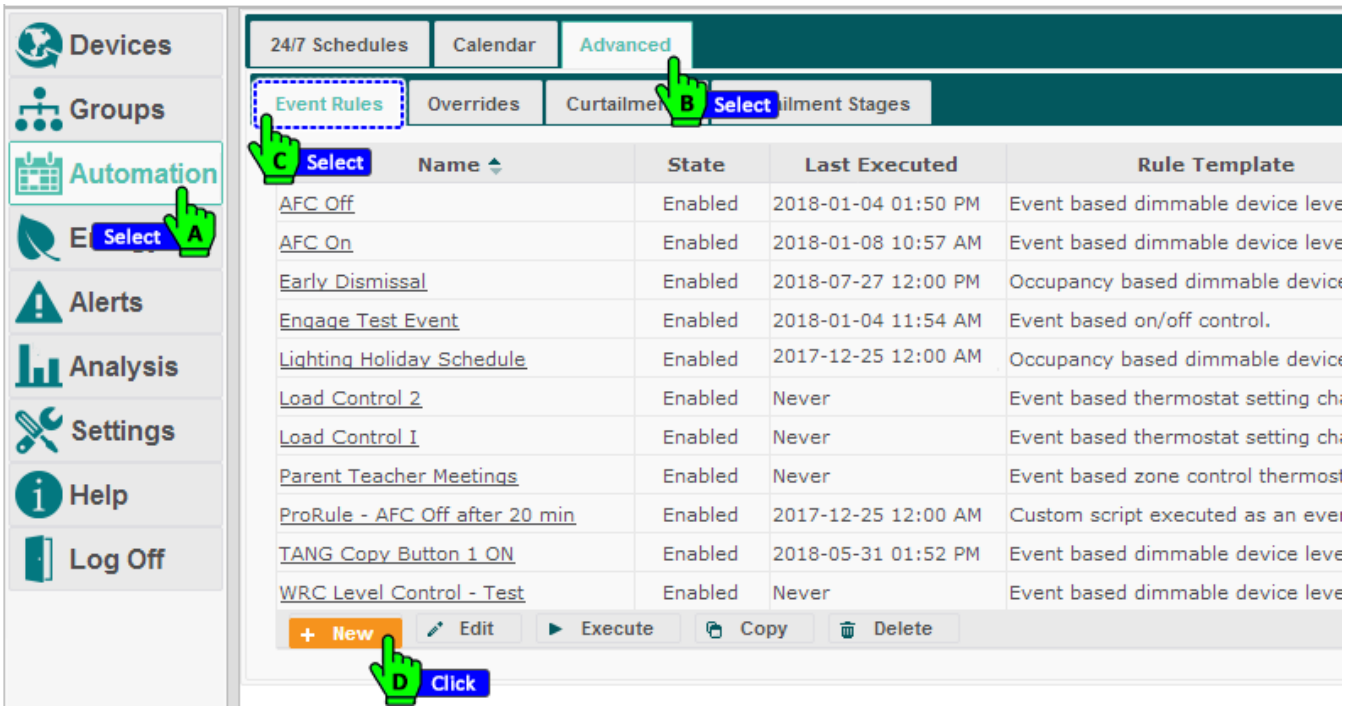
Table 21: Event Configuration Settings

Setting	Used To	Options
Name	Enter a name for the event	▪ User-defined ▪ Alphanumeric characters
Type	Type of Level Controller	▪ Dim Level ▪ Target Light Level
~~Dim~~ Level (%)	If a sensor is being used, define the lowest level of lighting to be allowed	▪ Zero to 100% ▪ Default is 0%
Max Dim Level (%)	If a sensor is being used, define the brightest level of lighting to be allowed. NOTES: ▪ This setting is overridden if a higher Level (%) setting is saved in the software. ▪ If set to a value less than the current dim level, the light level is decreased to this new level. ▪ If the level controller loses contact with the Autani Manager, the maximum dim level is reset to 100%.	▪ 10 to 100% ▪ Default is 100%
Mode	Determine state of light controllers	▪ Lights On ▪ Lights Off ▪ Smart On/Off ▪ Vacancy
Off Delay	If a third-party sensor is being used , define the delay interval before turning off lights when a space becomes unoccupied	1-1440 minutes (24 hours)
Ramp Rate	If a sensor is being used, specify how quickly the intensity of a light should change	Zero to 60, in increments of a tenth of a second
Disable Dimmer	If a photosensor is being used, disable a manually adjustable light level feature	Checkbox to select option
Effective Days	Select days of the week to which the event is to apply	▪ Days of the week ▪ Weekday ▪ Weekend ▪ All
Effective Time	Specify when settings should be implemented	▪ Any hour in one minute increments ▪ AM or PM

For detailed instructions on how to complete each step, and/or create groups, scheduled overrides, or curtailments, refer to the User Guide module entitled 'Tasks Common to All Applications (Zigbee)' in the help section of EnergyCenter® software.

6.3. Selecting Event Rule Settings

Event Rules are used to implement scheduled overrides or on-demand curtailments. Event Rules specific to lights are described in the table below.



NOTE: For information about overrides or curtailments and/or how to create them, refer to the User Guide module entitled 'Tasks Common to All Applications (Zigbee)' in the help section of EnergyCenter® software.

Table 22: Event Rule Settings

Setting	Used To	Options
Name	Enter a name for the event	▪ User defined ▪ Alphanumeric characters
Set State To	Determine light state when space is occupied and/or unoccupied	▪ Smart On/Off ▪ On ▪ Off ▪ Vacancy
Disable switch	Disable control of a light from the associated wall switch	▪ Select checkbox ▪ Deselect checkbox
Off Delay (Available if system includes sensors)	Delay the transition from unoccupied to occupied setpoints	▪ 3-1440 minutes ▪ Default = 5-minute delay

7. Using Lighting Energy Consumption Data

7.1. Understanding Estimated Energy Consumption and Costs

The software Estimation Engine is the default source of consumption data. The Estimation Engine calculates the:

- Total amount and cost of energy consumed for a specified date range
- CO^2 emitted during production of the energy consumed (the carbon footprint)

For a description and example of how lighting data is used by the Estimation Engine, see the table below.

NOTE: For information on defining utility rates and how to select a consumption data source, refer to the User Guide module entitled 'Tasks Common to All Applications (Zigbee)' in the help section of EnergyCenter® software.

Table 23: Estimation Engine Calculation Process

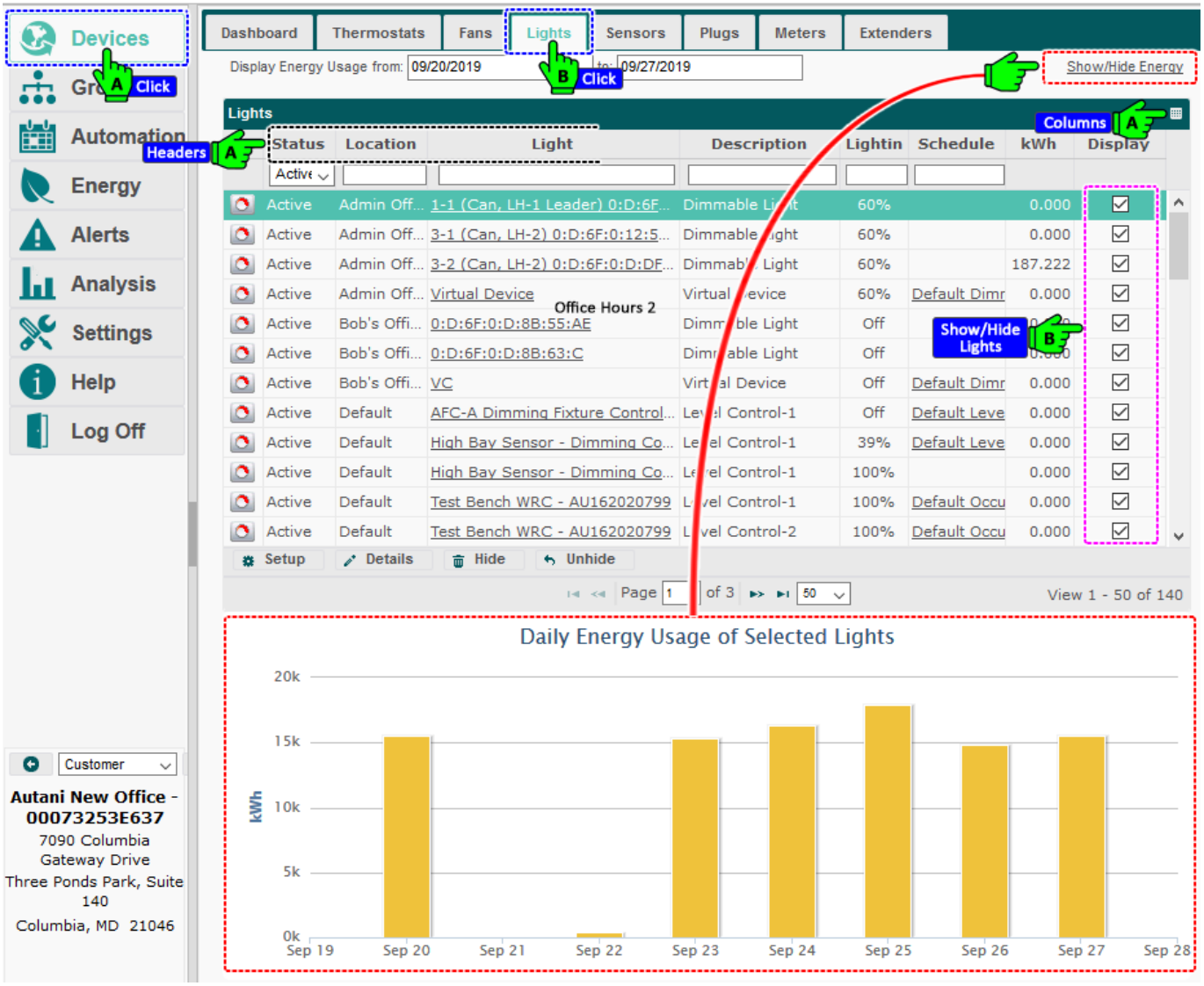
Step	Calculation	Description	Example
1	Energy consumed when lights are on	The relay output for each light is entered during setup in kilowatts for electricity.	▪ Five light fixtures ▪ Each fixture has five light bulbs ▪ Each bulb used five Watts The Estimation Engine calculates consumption to be 0.1250 kWh.
2	Energy consumed by lights for a specific time period	Multiplies the consumption rate calculated in step 1 by the amount of time the lights are on Note: Consumption is calculated beginning at midnight on the first day in the date range.	All five fixtures remain on for two hours. The Estimation Engine calculates total consumption to be 0.25 kWh.
3	Energy cost of lighting	Multiplies the consumption total calculated in step 2 by the electric rate charged by the utility	Utility rate is 10¢ per kWh. The Estimation Engine calculates energy cost of the lights is $0.025 per hour.
4	Carbon footprint	Calculates CO2 emitted during production of the energy calculated in step 2	The default conversion factor for CO2 emissions is 1.393 per kWh. The Estimation Engine calculates the carbon footprint to be 0.35 lbs of CO2.

7.2. Viewing the Daily Energy Usage of Selected Lights Chart

The Charts tab provides a graphical representation of when lights turned on and off during the current day. To view other timeframes, use the Start Date and End Date fields to access the calendars.

To view light status charts:

1. On the left navigation bar, click **Devices**.
2. Click the **Lights** tab.
3. Click the **Show/Hide Energy** link to view a graph of the energy consumed by one or more lights for a specified day or date range.
    - A **kWh** column provides an estimate of the number of kilowatt hours of electricity used by the lighting system from midnight on the first date in the specified date range until the most recent report on the current day.
    - A **Display** column appears with checkboxes that can be selected to view a graph of the energy consumption for more than one light at a time.
        - To view specific time and kWh information, mouse over a bar on the chart.
        - To zoom in on a defined area of the chart, click the mouse and drag it inside the chart, drawing a rectangular box. To return the view to its original size, click Reset Zoom.



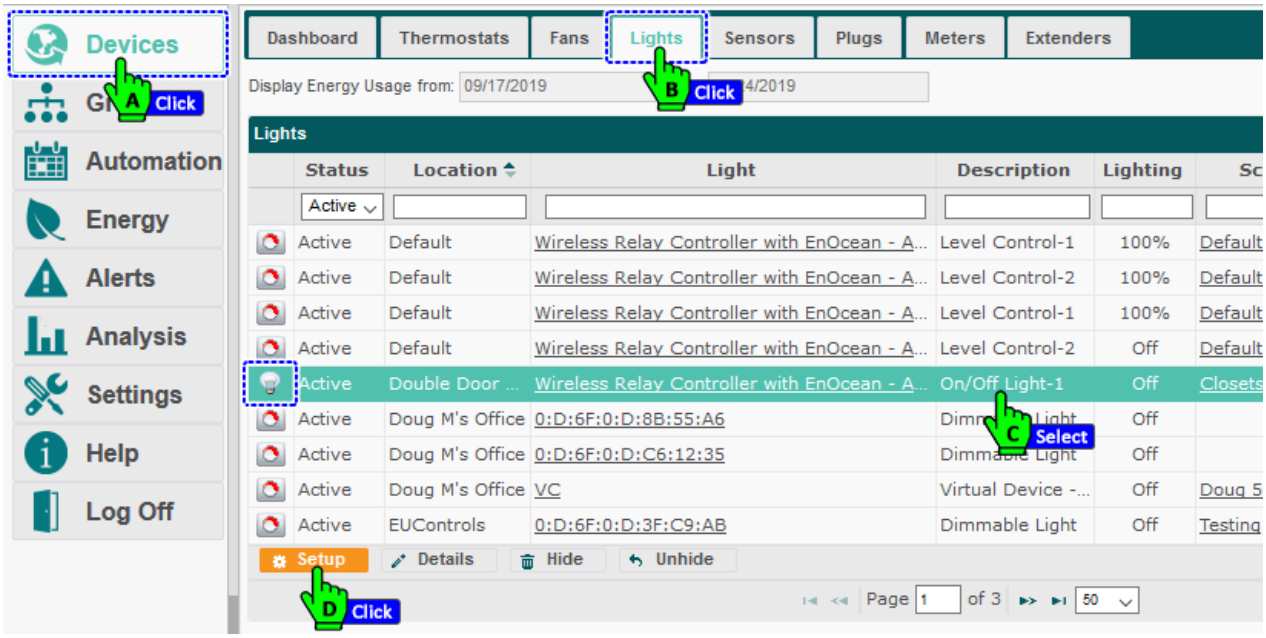
For more information about viewing energy consumption of a light, see Using Lighting Energy Consumption Data.

8. Troubleshooting

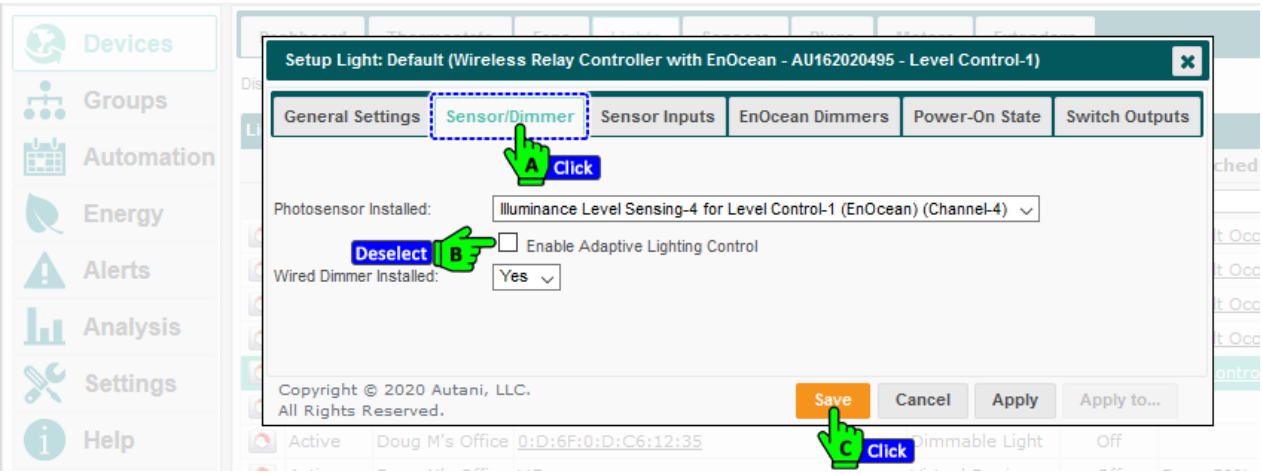
8.1. Lighting Level is Different from Software Setting

There are several reasons why lighting levels can differ from the user-defined level in the software. They include:

- Light changes made using a manually adjustable dimmer control have overridden:
  - The currently scheduled lighting event level
  - The proprietary algorithm used to maintain a constant light level when ambient light levels change
- Light levels maintained by the software were overridden when a user changed the level setting via the interface.
- A photocell sensor is not located close enough to the light fixture being controlled to detect changes in that light's level or ambient light. For example, a sensor may be controlling an area that includes a separate conference room.
- Photocell sensors must be:
  - Mounted in the ceiling close to the light fixture to be controlled in order to detect changes the light's level
  - Pointed at the floor/desk immediately underneath the sensor
  - For additional installation information, refer to the installation instructions that came with the sensor.
- Photocell sensors constantly adjust the lighting level based on ambient light levels, including changes that result from the use of other photocell sensors. To disable the adaptive lighting control feature of one of the sensors:
  i. On the left navigation bar, click **Devices**.
  ii. Click the **Lights** tab.
  iii. Click the row of the light. Click the **Setup** button.



iv. Deselect the **Enable Adaptive Lighting Control** checkbox. Click **Save** or **Apply**.



8.2. Third-Party Occupancy Sensor is Not Working

There are several reasons a sensor may not be working, including:

- Only third-party sensors that output 0-10v are supported.
- Sensors designed to control a ballast's 0-10v input line are not supported.

For more information on third party sensors, contact a sales representative. Contact information is located at www.autani.com on the Sales tab.

8.3. Dimmer Level Controller Acting Erratically

When using a dimmer control, the light level may briefly change in the opposite direction than expected. The unexpected change occurs when a dimmer is changed to a light level that differs from an existing user setting or scheduled event in the software. The unexpected change may last for approximately 0.2 seconds.

For example, moving the dimmer control to a higher lighting level can briefly cause a light level to go down before going up. If a dimmer level is less than the programmed light level, the light level decreases to meet the dimmer level before increasing.

Conversely, moving the dimmer control to a lower lighting level can briefly cause a light level to go up before going down. If a dimmer level is more than the programmed light level, the light level increases to meet the dimmer level before decreasing.

8.4. Energy Consumption Data Does Not Appear

The software uses data entered during commissioning to estimate total lighting consumption, costs, and the related carbon footprint. It is likely that rates were not entered during commissioning.

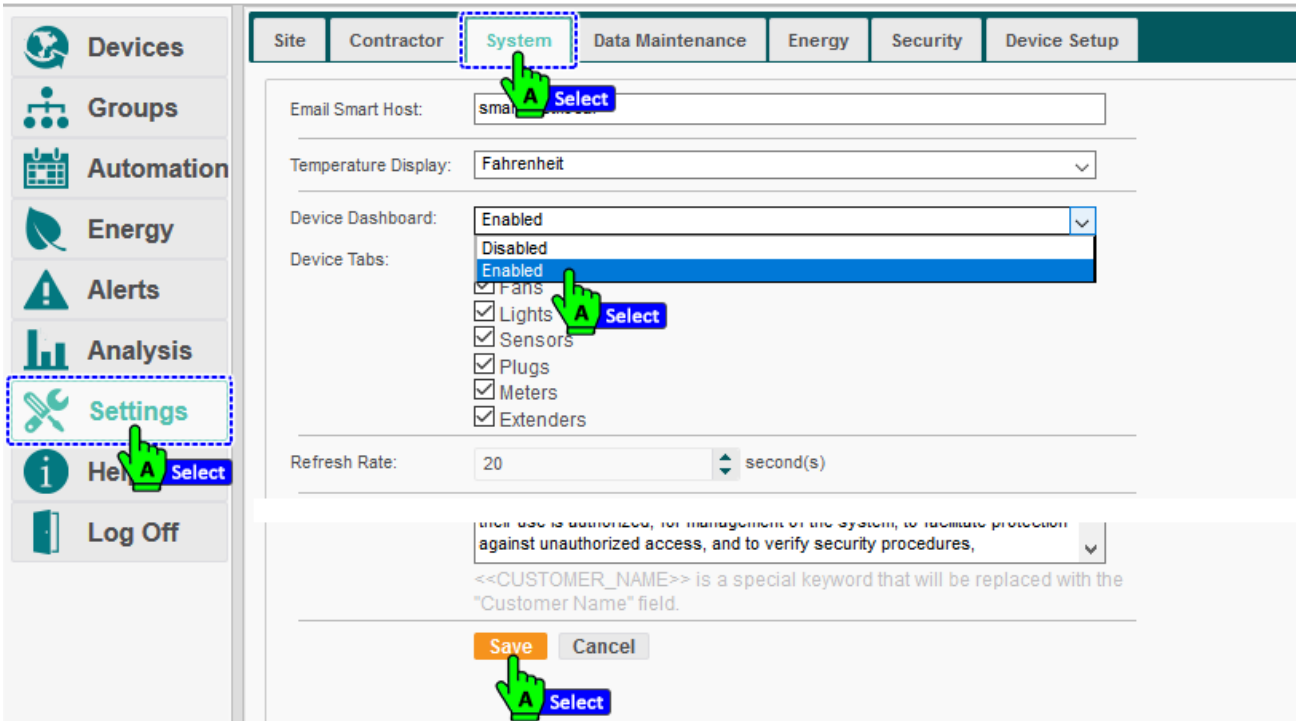
For information on entering:

- Light specific data, see Entering Data on Light Fixtures and Related Energy Use.
- Rates charged by your utility, see the User Guide module entitled 'Tasks Common to All Applications (Zigbee)' in the help section of EnergyCenter® software.

8.5. Dashboard Does Not Appear

To enable the dashboard:

1. On the left navigation bar, click **Settings**.
2. Click the **System** tab.
3. From the **System Device** drop-down list, select **Enabled**. Click **Save**.



8.6. Events Are Not Occurring as Scheduled

There are several reasons why it may appear that scheduled events are not occurring as expected. They include:

- Two events cannot start at the same time on the same day.
- The light is in an error state indicating that it is not communicating with the Autani Manager over the autaniNet network.
- The event was superseded by a scheduled override or by a curtailment. For more information, refer to the User Guide module entitled 'Tasks Common to All Applications (Zigbee)' in the help section of EnergyCenter® software.
- Programmed delays may be affected if the system includes third-party sensors that have their own delay schedules. For more information, refer to the documentation that came with the sensor.
- A light or level controller was added to a group after a Schedule Template was copied to each controller in a group.
- A Schedule Template may have been changed. Schedule template changes are not automatically copied to a light or level controller.

8.7. Event Log Contains Data Outside the Selected Date Range

Event logs include events that began before the selected date range when those events continued during the date range.

The software is programmed to include all data collected during the date range. To ensure that only data collected during a specified period is included in Event Logs, events cannot straddle the specified date range.

8.8. Error Message when Selecting a Date Range

If the desired start date is later than the default start date, set the end date before setting the start date to avoid receiving an error message.

8.9. Contacting Customer Support

For assistance after following the steps in Troubleshooting, contact Customer Support at:

- **Autani Support**

  Phone: 443.320.2233 x2

  Address: 7001 Columbia Gateway Drive, Suite 210, Columbia, MD 21046 USA

  Support/Commissioning Services: support@autani.com

- **Autani Sales**

  Phone: 443.320.2233 x1

  Sales/Quotations: sales@autani.com, quotes@autani.com

  General Inquiries: information@autani.com

Hours of Operation: Monday to Friday, 9am to 5pm, Eastern Standard Time

9. Glossary

Table 24: Glossary

Term	Description
WRC (Wireless Relay Controller)	Proprietary Autani device used to control multiple lights, occupancy sensors, and/or light control sensors **NOTE**: The name of the WRC is the same for all end points (lights and sensors) wired to it.
ARC (Autani Room Controller)	Proprietary Autani device used to control multiple lights, occupancy sensors, and/or light control sensors **NOTE**: The name of the ARC is the same for all end points (lights and sensors) wired to it.
Associated sensors	▪ Sensors must be wired to a device or associated with the device in the software in order for the motion data they report to be used in software control decisions for that device. ▪ The software determines a space to be occupied if any of the sensors wired to or associated with the device in an area reports motion.
Carbon Footprint	▪ Total greenhouse gases emissions during production of the energy used by an organization or to produce a product ▪ In EnergyCenter®, greenhouse gas emissions associated with an event ▪ Estimated for in pounds of carbon dioxide emitted
Curtailment	Used to immediately implement an Event Rule(s) to supersede a regularly scheduled Event or Override
Event	Setting or group of settings used to set the state on a single controllable point of a device at a certain time
Event Rule	Setting or group of settings used to set the state on a single controllable point of a device, or multiple points of the same type, triggered by an event defined in an override or curtailment
Kilowatt Hour (kWh)	▪ Unit of energy equivalent to one kilowatt of power expended for one hour ▪ Billing unit by electric utility company for energy delivered to its consumers
Override	Used to schedule an Event Rule(s) to supersede a regularly scheduled Event
Schedule	Used to implement Events at a specific time, on a recurring basis, or based on conditions reported by sensors
Schedule Template	Schedule that that is used as a pattern to quickly and easily apply the same setting(s) to multiple devices of the same type
Therms	Unit of measurement for energy content a gas or liquid gives off in the form of heat when burned

10. Index

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